



Thursday, October 5, 2023

AGENDA

Regular Business Meeting
SAU 106 Boardroom

Justin Krieger, Interim Superintendent
Katie Knutsen, Chair
Kristin Savage, Vice Chair

1. 7:00 PM Call to Order – Chair
2. Roll Call – Minute Taker
3. Pledge of Allegiance
4. Approval of Minutes
5. Student, Staff & Family Share
6. Delegates and Individuals
7. Student Representative
8. Current Business
 - a. 7:05 PM Curriculum/Competency Revisions - ACTION
 - Second Read – K-12 Science Competency Revisions
 - Second Read – Grades 6 & 7 Social Studies Curriculum Revisions
 - Second Read – High School Math Curriculum Revisions
 - b. 7:15 PM Return to School Plan – ACTION
 - c. 7:20 PM Budget Transfer: Irrigation System – ACTION
 - d. 7:25 PM Policies – ACTION
 - e. 7:35 PM Annual Meeting & Election Calendar – INFORMATIONAL
9. 7:40 PM Administrator's Report
10. 7:45 PM Personnel Report
11. 7:50 PM Committee Reports/Reports of the School Board
12. 7:55 PM Other Business
13. Nonpublic Session

DATE	TIME	LOCATION	TYPE OF MEETING
October 19	7:00 PM	SAU Boardroom	Regular Business
November 2	7:00 PM	SAU Boardroom	Regular Business
November 16	7:00 PM	SAU Boardroom	Regular Business



1-3. Open Meeting

4. Approval of Minutes (3 sets: September 7th regular meeting minutes, September 21st regular meeting minutes, and September 21st nonpublic meeting minutes)

5. Student, Staff, & Family Share

6. Delegates and Individuals

7. Student Representative

8. Current Business

a. Curriculum/Competency Revisions – Second Read/Adoption

i. K-12 Science Competencies Revisions

Motion to act on the second read of Grade 6 Energy, Grade 6 Forces & Interactions, Grade 6 Matter and Its Interactions, Grade 6 Waves and Electromagnetic Radiation, Grade 7 Body Systems, Grade 7 Change Over Time, Grade 7 Characteristics and Needs of Life, Grade 7 Discovering Cells, Grade 7 Ecology, Grade 7 Heredity and Genetics, Grade 8 Weather and Climate, Grade 8 Space Systems, Grade 8 Earth's Systems, and Grade 8 Human Impacts.

ii. Grades 6 & 7 Social Studies Curriculum Revisions

Motion to act on the second read of Grade 6 Intro to Social Studies Skills, Grade 6 Prehistory, Grade 7 Renaissance, Reformation, and the Push for Exploration, Grade 6 India, Grade 6 Mesoamerica (Eliminate), and Grade 6 Greece (Eliminate).

iii. High School Math Curriculum Revisions

Motion to act on the second read of Geometry units:

- Basics of Geometry, Triangles, Similarity and Transformations, Polygons, Surface Area and Volume, and Circles,

Motion to act on the second read of Probability, Statistics, & Trigonometry units:

- Trigonometry, Statistics, Probability, Matrices, Sequences and Series, and Logic

b. Return to School Plan

Every six months, the Return to School Plan is required to be reviewed and updated to be in compliance with the ESSER grant. Motion to approve the October 5, 2023 Revised Return to School Plan.

c. Budget Transfer: Irrigation System

Motion to act on the budget transfer from the Building Improvement account line to the Site Improvement account line.

d. Policies

Motion to act on the second read/adoption of Policies FEH, GDR, BEDG, IHBA, and IC/ICA.

e. Annual Meeting and Election Calendar

Approved by Attorney O'Shaughnessy is the 2024 Annual Meeting and Election Calendar.

9. Administrator's Report

Mr. Krieger and Mrs. Allaire to present.

10. Vacancy Report

- Motion to act on the nomination of Anthony DeSousa, World Language Teacher at TRHS
- Motion to act on the resignation of Celestino Basile, World Language Teacher at TRHS
- Provided is the Vacancy Report for review.

11. Committee Reports/Reports of the School Board

12. Other Business – Board members to provide agenda items for future meeting consideration.

13. Nonpublic Session – If needed.



Upcoming Agenda Items

Description	Month
SAU Organizational Chart	July/August
Audit Update	September/October
School Action Plans	September/October
Facilities Update	October
NHSBA Delegate Assembly	October
Draft Warrants	October
Athletics Annual Report	October
Assessment Calendar	October
Proposed Default Budget	November
Presentation of School Goals	November

DRAFT – NOT APPROVED

Note: When feasible, TRSB meetings are videotaped. These meeting minutes reflect only a basic summary of the meeting topics, discussion, and action. The Vimeo recording of this meeting can be viewed at: <https://vimeo.com/trsd>
Materials presented at the board meeting may be viewed at: [School Board Meeting Agenda Materials](#)

Timberlane Regional School Board Meeting Minutes

**Regular Board Meeting
September 7, 2023
7:00 PM**

**Superintendent's Office
30 Greenough Road
Plaistow, NH**

Call to Order

Board Members Present

Donald Woodworth, Jack Sapia, Brienna Woodworth, Katie Knutsen, Mark Sherwood,
Paul LeCain, Shauna Manthorn Excused Absence: Kim McCormick, Kristin Savage

Seated at the Board Table

Justin Krieger, Interim Superintendent
Sandra Allaire, Acting Assistant Superintendent

Administrators Present

Fran DeCinto, Director of Human Resources
Maria Watkins, CFO/Business Administrator

APPROVAL OF MINUTES

**MOTION: Mrs. Manthorn motioned to approve the August 17, 2023 public minutes.
Seconded by Mr. Sherwood Motion passed: 7-0-0**

**MOTION: Mr. Sapia motioned to approve the August 17, 2023 non-public minutes.
Seconded by Mrs. Manthorn Motion passed: 7-0-0**

DELEGATES & INDIVIDUALS

Mr. Sapia of Atkinson, NH addressed the Board as a private citizen. He referred to Policy KFR as it relates to charging groups for use of the fields and spoke in support of the Tornados. Mr. Sapia believes charging the non-profit groups for use of the fields goes against improving the climate and culture as stated in the Strategic Plan. He asked the Board for support in waiving Policy KFR.

DRAFT – NOT APPROVED

Mr. Lovett from Plaistow, NH spoke as the President of the Timberlane Junior Football Tornados team. He explained how being charged for the fields will impact the kids on the team or the cost will have to be passed off to their parents. Mr. Lovett hoped the School Board would reconsider their decision on this.

There was no further public input.

MOTION: Mrs. Manthorn made a motion to move the last 20 minutes of the 30 minute time to the end of the meeting. Seconded by Mr. Sapia Motion passed 7-0-0)

CURRENT BUSINESS

a. Unassigned Fund Balance

Mrs. Watkins provided her Executive Summary to the Board. She explained the unassigned fund balance at the end of the year was \$2.6 million, from which \$500,000 was retained for the Emergency Contingency Fund. This left a balance of \$2.1 million to be returned to the taxpayers. Mrs. Watkins distributed a handout comparing the tax impact to the towns if they returned \$2.1 million or \$1.6 million. A discussion followed on whether to retain an additional \$500,000 and return \$1.6 million.

MOTION: Mr. Sherwood motioned to return the unassigned fund balance in its entirety to the taxpayers. Seconded by Mr. LeCain Motion passed 7-0-0

b. School Board Budget

The Board reviewed the School Board budget with Mrs. Watkins. They would like to know why the Treasurer line increased. Mrs. Watkins will provide the Board with justification for the increase.

c. Policies

Mrs. Knutsen presented the following policies as a First Read and what the changes and or recommendations are. Policy IIB Class Size has edits to class sizes. Policy IKFC Graduation of Home Education Students is recommended to be repealed because this policy is obsolete based on the existence of IHBG which was revised in 2022. IHBG Home Education Instruction has edits to Section B to make Notice of Withdrawal to be required in writing. JICD Student Discipline and Due Process is the removal of requiring a 24-hour notice to parents of temporary reassignment or detention.

DRAFT – NOT APPROVED

Mrs. Woodworth referred to the very end of Policy IIB, where it states “if a class size is exceeded, the Board will seek approval to add a paraprofessional support.” She suggested replacing Paraprofessional with something more open because she doesn’t think we should designate an exact person and it should be something more open. Mr. Sherwood suggested “additional educational support”.

Mr. Sherwood doesn’t want to pigeon hole us in. He gave an example if they added an additional 7 students, would we then be tied into getting a paraprofessional rather than looking at getting another teacher. Mrs. Manthorn said they can bring this back to the Policy Committee.

Mr. Woodworth said we are talking about something immediate and we are not going to go over the State limit, we are looking at a paraprofessional to give the teacher some added support.

Mrs. Woodworth asked if the job description for a paraprofessional covers any and all people that we could utilize. Mrs. Allaire said it does but on different levels. The general job description is flexible and we would have the capacity to do that. Our current assignments are directly connected to requirements in the IEP’s. This policy will be back before the Board for a Second Read.

Mrs. Allaire also wanted to clarify that the clause states if additional students enroll after the second meeting in August and class size policy is exceeded, the administration will seek the approval of the School Board to add paraprofessional support. It is very specific to that situation. After the second meeting in August, school has already started so the likelihood of a budgeting for posting and hiring a classroom teacher is very minimal. This gives us the ability to support those teachers with a paraprofessional.

Mrs. Manthorn said the Policy Committee wanted paraprofessional because it provided the flexibility and Mrs. Allaire agreed. This is a First Read and it will go back to the Policy Committee.

MOTION: Mrs. Manthorn motioned to accept the policies as a First Read. Seconded by Mr. Sapia. Motion passed 7-0-0

Policy GBED/ADC/JICG Prohibitions Regarding Use and Possession of tobacco products, E-cigarettes and E-liquids in and on school facilities and grounds. There have been no changes since the First Read.

DRAFT – NOT APPROVED

MOTION: Mrs. Manthorn motioned to accept Policy GBED/ADC/JICG as a Second Read. Seconded by Mr. Sapia. Motion passed 7-0-0

d. NHSBA Proposed Resolutions

MOTION: Mrs. Manthorn motioned to table the NHSBA proposed resolutions presentation to the next school board meeting on September 21, 2023. Seconded by Mrs. Woodworth. Motion passed 7-0-0

e. Retirement Celebration

Mr. Krieger let the Board know that the Retirement Committee has planned a retirement celebration for retirees from 2021-2023. This celebration is scheduled for Wednesday, September 27, 2023 at 4:30 PM at Zorvino Vineyards.

ADMINISTRATOR’S REPORT

Mr. Krieger spoke on the bus transportation throughout the District. Letters went out to parents and the Principals are submitting daily transportation reports. A couple of things that remain issues are staffing and the training of the new drivers. Moving forward, they will explore the opening of the contract that currently exists, they will have more input on formation of the routes, and they are reaching out to communicate with other transportation companies.

Mr. Krieger explained they are in the year of implementation of ALICE and described how they plan to roll it out.

Mr. Krieger announced the Budget Committee walk-through of the facilities is open to the public. They will be visiting Sandown schools and Danville on September 12, 2023 and Pollard and Atkinson on September 14, 2023.

Mr. Krieger mentioned that every school reported in excess of 96% student attendance on Opening Day.

Mrs. Allaire announced that High School P.E. Teacher, Helena Bird, has been recognized as the 2023 NH Adaptive Teacher of the Year by the NH Association of Health, P.E., Recreation and Dance.

Mrs. Allaire informed the Board that this week, the 6th graders have started their annual trip to Camp Lincoln. She described how this program helps with their transition.

DRAFT – NOT APPROVED

PERSONNEL REPORT

MOTION: Mrs. Manthorn motioned to approve the Professional Nomination of Jacob Wilcox, Science Teacher at Timberlane Regional High School. Seconded by Mr. Woodworth. Motion passed 7-0-0

Mrs. Manthorn read the following professional nomination into the record that was approved electronically on 8/18/23.

- Celestino Basile, Spanish Teacher at TRHS

Mrs. Manthorn read the following resignation into the record that was approved electronically on 8/18/23.

- Gail Pellegrino, Music Teacher at Atkinson Academy

Mrs. Manthorn read the following professional nomination into the record that was approved electronically on 8/22/23.

- Mandy Schisler, Grade 5 Teacher, Pollard Elementary

Mrs. Manthorn read the following professional nomination into the record that was approved electronically on 8/25/23.

- Catherine Bannister, Grade 4 Teacher at Sandown North Elementary School

Mrs. DeCinto presented her vacancy report to the Board.

COMMITTEE REPORTS/REPORTS OF THE SCHOOL BOARD

Mrs. Woodworth remarked there has been no date set at this time for the Strategic Planning Committee to meet.

Mr. Sherwood encouraged people to attend the facility tours with the BudComm. This group also met earlier this week involving the TTA negotiations to get things in line to try to make certain this can be as smooth a process as possible.

Mrs. Manthorn will be attending the first Wellness Committee meeting on October 11, 2023 with Mrs. McCormick. The Policy Committee met today and they were able to get through the entire agenda.

Mrs. Knutsen stated the Safety Committee will be meeting again next week on Tuesday.

DRAFT – NOT APPROVED

Mr. LeCain attended the Curriculum and Assessment Committee with Mr. Woodworth.

Mr. Woodworth attended the Curriculum and Assessment Committee. He spoke on the amount of work the teachers have done on this. This is a culmination of a lot of work.

Mrs. Woodworth asked about the Energy Committee. She feels that the Energy Committee could be dissolved and asked if there is any reason that committee needs to stay. Mr. Sapia said that committee was formed at least 10 years ago. Mr. Woodworth suggested making it a subcommittee of the Facilities Committee.

OTHER BUSINESS

MOTION: Mr. Sapia motioned to waive Policy KFR for the Tornados for this year until we have a chance to review the policy in its totality and make some good decisions around it. Seconded by Mr. Woodworth

Mr. Sapia said in looking at the Strategic Plan, he agrees with everything as it speaks to getting people in here participating and volunteerism and doesn't like the way this was done. He doesn't think the timing of implementing a fee, when the Tornados are already into their season, was appropriate. They do an incredible service to this District. He said this is the least we can do. He also stated it has been suggested that other teams require custodians during the weekends, but his son played baseball here for three years and never had a custodian. This is probably a total of only four weeks. They play every other weekend here. That is a very small price to pay for people who are current taxpayers, 100% students of the District. This campus has always been perceived as being for everybody in the District. He further stated we have an \$83 million budget and it has been suggested that stipend is to deflect the cost to the District, but it shouldn't come at the cost of Third Graders wanting to play or cheer on a Saturday afternoon.

Mrs. Manthorn asked to hear from the administration to listen to their rationale and reasoning for putting this policy into place.

Mr. Krieger explained through the policy conversations and getting it into print, one of the things talked about here, and felt strongly about, was that anyone who serves our kids should not be charged a fee to come use the facilities. However, he stated when there are organizations who are accessing a facility during a time when we already don't employ someone managing the facilities, like the custodian, that we would not want to pass that cost on to the District. This isn't just for this organization; it is for all organizations across the board. There should not be an incurred cost to the District to host these types of events. He added that we are just looking to recoup the cost that it costs us to have that person on site.

DRAFT – NOT APPROVED

Mrs. Knutsen spoke to Mr. Sapia's motion which specifically cited the Tornados. She explained this can't be done for only one group and if it is going to be done, it should be for all or none. This fee is only for the weekends or later in the evening when we wouldn't have a person contracted to work. The cost is \$35 per hour for weekends and after school. The District is still paying them time and a half and the \$35 is for straight time and the District is subsidizing that.

Mr. Sherwood said we have a 55-year precedent of not charging them. It seems ill advised to do so and I can understand why a lot of folks are upset. We are trying to generate good will in our community and being a community.

Mrs. Knutsen asked if the Timberlane Tornados are for profit because they get \$250 from the parents.

Mr. Sapia stated 110% they are always scraping for money. The coaches don't get a dime. Nobody gets a dime.

Mrs. Knutsen explained the motion Jack made was just for the Tornados and if we want to be fair and equitable, what about everyone else using those facilities.

Mr. Sapia withdrew his Motion. Mr. Woodworth withdrew his Second.

MOTION: Mr. Sherwood motioned to leave Policy KFR status quo, the way it has been done for all of them, with all fees levied, until the Board has a chance to review the policy in its' entirety. Seconded by Mr. Sapia. Motion passed 6-1-0 (Mrs. Knutsen opposed)

This topic will be on the next agenda.

NON-PUBLIC SESSION

MOTION: Mrs. Manthorn motioned to enter non-public under 91-A:3, Paragraph II (a) The dismissal, promotion, or compensation of any public employee or the disciplining of such employee, or the investigation of any charges against him or her, unless the employee affected (1) has a right to a meeting and (2) requests that the meeting be open, in which case the request shall be granted. Seconded by Mr. Sherwood. Motion passed 7-0-0

The Board was polled:

Mr. Woodworth – yes Knutsen – yes Mrs. Woodworth – yes McCormick – yes
LeCain – yes Sapia – yes Sherwood – yes

DRAFT – NOT APPROVED

Mrs. Knutsen announced the School Board will not be returning to Public Session. The Board entered nonpublic session at 8:19 pm.

Respectfully submitted,

Linda Mahoney
Recording Secretary

Approved by the School Board on

DRAFT – NOT APPROVED

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Timberlane Regional School Board Meeting Minutes

**Regular Board Meeting
September 21, 2023
7:00 PM**

**Superintendent's Office
30 Greenough Road
Plaistow, NH**

Call to Order

Board Members Present

Donald Woodworth, Jack Sapia, Brienna Woodworth, Katie Knutsen, Mark Sherwood,
Paul LeCain, Shauna Manthorn, Kim McCormick Excused Absence: Kristin Savage

Seated at the Board Table

Justin Krieger, Interim Superintendent
Sandra Allaire, Acting Assistant Superintendent

Administrators Present

Lucy Canotas, Director of Elementary Education
Karl Ingoldsby, Director of Plant Operations
Mark Pedersen, Director of Secondary Education

APPROVAL OF MINUTES – September 7, 2023

Mr. Sapia would like to have more detail included in the public minutes.

MOTION: Mr. Sapia motioned to push the acceptance of the public minutes off to the next meeting. Seconded by Mr. Sherwood Motion passed: 5-0-3 (Mrs. McCormick, Mr. Woodworth, Mrs. Knutsen abstained)

MOTION: Mrs. Manthorn motioned to accept the non-public minutes. Seconded by Mr. Sherwood Motion passed: 7-0-1 (Mrs. McCormick abstained)

DRAFT – NOT APPROVED

DELEGATES & INDIVIDUALS

Bill Keane of Atkinson, NH said it is his understanding they are looking to charge the non profit Timberlane Tornados to use the fields and asked if that is a correct statement. Mrs. Knutsen said they do have a current policy for field usage which has charges in it. Right now, she said that policy has been suspended so currently the Tornados are not being charged. They are willing to look at that policy on October 2, 2023 at a workshop. Mr. Keane cautioned the Board not to be penny wise and pound foolish. The value that this program provides to the Town and the community is a small price to pay to support that.

Aram Zakian of Plaistow, NH voiced his concern and opposition to the consideration being given to revising the Use of Facilities Policy that was recently in place. He spoke in support of all the programs who use the facilities. Without these programs, they jeopardize the sense of community that these programs built. He believes this Board has more significant challenges to discuss. He urged the Board to consider ways to support after school programs rather than to impose additional challenges.

Jess Hudgins of Sandown, NH said she has been involved with the Timberlane Tornados for about 9 years. She would like to understand what has happened to prompt a change to the policy. She asked the Board to think this over and what they are trying to accomplish with this and hopes they do the right thing.

Ben Sharpe of Sandown, NH is the president of Sandown softball and baseball. He asked the Board not to charge the youth in the District to use the fields that we pay taxes on, we built them, and we paid for them and we should be able to use them.

Sheila Lowes of Sandown, NH doesn't believe this entire discussion should have ever taken place. There is no reason why we should be charging these non-profits. She said the bigger problem we are going to have is you have to charge everyone or nobody. The fee will trickle down to these parents. She referred to the \$750,000 surplus they had on July 1st and she doesn't understand why they feel they need to do this. She said this can be stopped with a motion stating we will not be charging non-profits. That is how this stops.

**MOTION: Mr. Sapia made a motion to move the remaining 18 minutes of Delegates and Individuals to the end of the meeting. Seconded by Mrs. Manthorn.
(Motion passed 7-0-0)**

DRAFT – NOT APPROVED

STUDENT REPRESENTATIVE

Armaan Anthony provided his report remotely. He highlighted events happening throughout the District. Some of these included PTA meetings that were held in the District. The Middle School 6th graders participated in outdoor activities at Camp Lincoln. The High school held an Activities Fair and a College Fair.

CURRENT BUSINESS

a. Curriculum/Competency Revisions

Mrs. McCormick explained when revisions in curriculum come before the Board, it is sometimes a culmination of years worth of work. Sometimes the teachers feel there could be more streamlined ways to get the same information across to the students or they need more skill building in certain areas. Those teachers meet with curriculum coordinators and work in PLC's or committees with their colleagues. The teachers and curriculum leaders are well versed in state competencies and state and national standards. They work as teams and put their ideas together before they start revisions. Those revisions then go before Curriculum and Assessment and are reviewed and discussed. All revised documents you see tonight were unanimously approved by the Committee.

i. K-12 Science Competencies Revisions

Mr. Pedersen explained they have come to the Board with some science curriculum changes. Tonight is just a First Read and then it will be back for a Second Read. This is looking at changing some of the K-12 curriculum competencies to more streamlined K-12 articulation that is the same K-12. He referred the Board to the Executive Summary in their packet that talks about where we started and where we got to where we are now. They decided to come to the Board first with the competencies and if those are approved, they will change all the curriculum units using the same grid in the packet and then bring those curriculum documents forward as sort of the next round of approval.

Mrs. Canotas explained that as they change competencies for elementary, it was to hone in on what the expectations are for that unit and create some "I can" statements. Those will flow and adapt as we move forward over the year and years.

MOTION: Mr. Sapia motioned to approve these as a first read. Seconded by Mrs. Manthorn. Motion passed 8-0-0

DRAFT – NOT APPROVED

ii. Grades 6 & 7 Social Studies Curriculum Revisions

Mr. Pedersen referred to the Executive Summary and the curriculum documents that go with that in your packet. Teachers believe there are some improvements that can be made with this. We are competency focused.

Competencies aren't lost, they are just rearranged where it is so we can do better job at how all these are taught.

This is the First Read and it went through the Curriculum and Assessment.

Mrs. Woodworth asked do they ever get student driven topics where they are teaching skill set and building competencies in an area that is interesting to them. Mr. Pedersen said the teachers are urged to be really student focused.

Mr. Pederson explained there are some content we have to get through but sometimes there is some opportunity within that content for student choice and voice and we really encourage that so we try to balance the two.

iii. High School Math Curriculum Revisions

Mr. Pedersen explained that since it is the teachers who are teaching those classes, we felt strongly there are some competency changes that need to be made and they are finding better ways to do things.

Mrs. Woodworth asked if there would ever be a possibility of a life application math curriculum.

Mr. Pedersen stated they have a life skills math for the students who are not taking the traditional math classes. They try to incorporate real life applications in math in all of our courses.

b. Policies

i. Motion to act on the First Read of Policies FEH, GDR, BEDG, IHBA, and IC/ICA

The school board reviewed the following policies for First Read:

Policy FEH – Supervision of Construction – Section D was added

Policy GDR – Work Rules for Staff – Recommended to repeal – obsolete

Policy BEDG – Minutes – Replaced with NHSBA's policy which reflects 2021 amendments to RSA 91-A:3

Policy IHBA – Programs for Pupils with Disabilities – New language added in the last paragraph to reflect 2022's SB 394 and HB 1513 language

DRAFT – NOT APPROVED

Policy IC/ICA – School Year and School Year Calendar – Replace TRSD’s policy with NHSBA’s policy and withdraw Policy ICA.

Mrs. Woodworth wants to remove “his/her” and replace it with “they/them”.

There are some other grammatical changes that should be changed.

Mrs. Woodworth asked if we have a Clerk of the Works.

Mr. Sapia explained if you are doing a project, he thinks it is fair to say that EEI, even though they are the contractor and engineer and we have back up engineers for them, there are all kinds of coverage as far as things being done correctly.

Mr. Ingoldsby stated they have not used a Clerk of the Works for anything they have done while he has been here. EEI can provide oversight, engineering, architectural and construction management duties and we have a construction committee to oversee that.

MOTION: Mrs. McCormick motioned to accept these as a first read. Seconded by Mrs. Manthorn. Motion passed 8-0-0

ii. Motion to act on the Second Read/Adoption of Policies IIB, IKFC, IHBG, and JICD

The Board reviewed the following policies as Second Read:

Policy IIB – Class Size – Change since first read: “Paraprofessional” to “support”.

Policy IKFC – Graduation of Home Education Students – No changes since first read.

Policy IHBG – Home Education Instruction – No changes since first read

Policy JICD – Student Discipline and Due Process – No changes since first read.

Mrs. Allaire referred to the Executive Summary for Policy IIB, Class Size, which summarizes the recommended changes. She wanted to bring information to the Board on what the sub-committee looked at. She referred to the summary of the recommended changes to class size.

Mr. Woodworth commented that his recollection from the work session they had was that we were trying to move in the direction of making class sizes meet a standard but be a modest change that wouldn’t necessarily break the bank. Overtime, they would continue this work to try to improve the overall opportunities for all kids.

Mr. Sapia would like to see a bigger spread on how much would, for example, going from 22 to 23 students or 23 to 22 students, how much does that really impact the learning going on by just that one number. He said if he could, he would have class sizes at 10.

DRAFT – NOT APPROVED

Mrs. Woodworth asked if this went into effect, would we have the space.

Mrs. Allaire said yes. The one building that might be potentially challenging if they were to looking at increases would be Sandown North. In Pollard and Danville, they would be OK.

Mrs. Knutsen asked if we implemented this, would the way in which the teachers taught the students change. Mrs. Allaire said they looked extensively at the research. A difference of one is not necessarily going to make or break or completely change someone's instructional practice but teacher efficacy is shown to have the largest potential impact on student learning outcomes.

Mrs. Manthorn was on the subcommittee. It was with the thought of being fiscally responsible, allowing administration to plan an appropriate amount of time and done in the constraints of our current budget and while planning for the next budget. She believes the Board should consider, if we are going to consider implementing this policy, that it should be done for the next academic year.

Mr. Sapia said this policy gets us further down the road. We should do everything we can do to make it as efficient and productive as possible for the education of the students.

Mr. Krieger commented to the Board that if you move ahead and do this, it will have some impact on some of our schools and some of our areas. It is not going to cover the complete picture so he encouraged the Board to look at this as a step toward a larger push to move in a direction that is more equitable across all four of our schools than just doing a stop gap and then stopping there. That doesn't move the Board to a direction they want to get to.

Mrs. Knutsen read IKFC – Graduation of Home Education Students - no changes from first read, IHBG - no changes from first read, JICD – Student Discipline and Due Process - no change from first read.

Mr. Sherwood referred to a section of Policy JICD with regards to the “Removal from the Classroom”. He is concerned with this being interpreted in a way that could tie a teachers' hands too much.

Mr. Krieger explained that what he is reading is a general outlook at outlining due process and principle. There are many things that would happen in schools that would cause serious concern to the health, safety and wellness that those pieces of due process apply, but just not at that exact moment. They would get there but there is nothing withholding an administrator from removing a student from the classroom if they are making a judgement that it is a safety, health or wellness piece that is at stake.

Mrs. Knutsen understands what Mr. Krieger is saying, however, she can also see there is potential for which way to look at it.

DRAFT – NOT APPROVED

MOTION: Mr. Sherwood motioned to return Policy JICD to look at the verbiage in the Removal of the Class back to the Policy Committee. Seconded by Mr. Sapia Motion passed: 8-0-0

Mrs. Woodworth said the only area in the policy where it says the principal will talk to the student's parents is only under Restriction from School Activities and nowhere else. She is hoping that if a student is in detention, a parent is going to be notified. She realizes they took out the "at least 24 hours prior" but asked if they can leave in "they will be notified".

MOTION: Mrs. Woodworth motioned for Policy JICD to look at including verbiage for parent notification in all aspects. Seconded by Mr. Sapia Motion passed: 8-0-0

MOTION: Mr. Sapia motioned to approve Policy IKFC and Policy IHGB for a Second Read. Seconded by Mr. Sherwood Motion passed: 8-0-0

MOTION: Mrs. Manthorn motioned for the Board to approve Policy IIB Class Size to be implemented in the 2024-2025 academic school year. Seconded by Mrs. McCormick Motion passed: 8-0-0

c. Facilities Update & Irrigation RFP

Mr. Ingoldsby referred to his Executive Summary. Mr. Sapia asked if the irrigation failure around the long jump pit was caused by the ton of work that was done down there or was it just a failure. Mr. Ingoldsby said this is the second time that part of the line has had a leak.

Mr. Sapia stated the lines will get blown out in November and stated the fields are very green. He mentioned the cabinetry is incomplete and since the irrigation system is working, to reallocate that \$150,000 into things that have a direct impact on the students in the classroom as it relates to facilities. He said it isn't that he doesn't want to do the irrigation, it is just that the season is pretty much over and he would like a budget on how far they could go with the cabinetry and fix some of those issues.

Mr. Ingoldsby said he is currently working with a cabinet maker and will be getting quotes. He is not ready to go with that yet. The irrigation system is something they are ready to go with and something that is needed.

Mr. Ingoldsby reviewed other upcoming projects with the Board. There was an Add Alternate to the RFP to move the irrigation lines from under the new jump areas to behind the area to prevent

DRAFT – NOT APPROVED

any damage to the new pads. The original estimate to the CIP and approved by the board was \$125,000. He explained the bid result was \$158,000 and he is looking for approval to move forward with this project for the additional cost of \$33,000 as part of the irrigation upgrade. Mr. Ingoldsby described the work that needs to be done. The permit process is part of the bid.

**MOTION: Mr. Sherwood motioned to approve the additional funds of \$33,000.
Seconded by Mr. LeCain Motion passed: 8-0-1 (Mr. Sapia abstained)**

ADMINISTRATOR’S REPORT

Mr. Krieger mentioned the retirement celebration next Wednesday. He wanted to present to the Board on how do we continue to tap some of these people who are retiring who still want to participate at whatever level they could. They are a good resource. He is looking forward to meeting and talking with them next Wednesday.

Mr. Krieger announced Mark Vien, who has been teaching for 25 years at the high school, was honored by NHIAA for his commitment and progress he has made over there. Mim Ryan, a retired teacher, was inducted into their Hall of Fame for her work in Field Hockey.

Mr. Krieger welcomed the new Plaistow Chief of Police, John Santoro.

They have attended PTA meetings across the District talking about ALICE and received positive feedback.

Mrs. Allaire talked about the ropes course they have on campus which was built with some grant funding. Included in the grant funding was preliminary training. For the past three days, they had six staff members from the Middle School and High School go through training.

Mrs. Allaire informed the Board that next week and the following week, they are sending just under 20 staff across elementary and middle school to the Universal Design for Learning and Innovation Network up in Concord, NH which is sponsored by the State of New Hampshire.

VACANCY REPORT

The Board reviewed the vacancy report and there were no questions.

COMMITTEE REPORTS/REPORTS OF THE SCHOOL BOARD

Mrs. Woodworth stated the Strategic Planning Committee is meeting October 19, 2023,

DRAFT – NOT APPROVED

Mr. Sherwood said Mr. Ingoldsby covered a great deal of the CIP. CIP will be meeting again on October 10, 2023 and one of the things they talked about was prioritizing funds. The Budget Committee held tours of all the facilities. One of the other things they looked at were the buckets for other school board expenses and wondered if it would be possible to use some of the school board expenses to offset the cost and encourage any school board members who want to go to the upcoming retirement celebration.

MOTION: Mr. Sherwood motioned to allow the approval of those funds to offset the cost for school board members who want to attend. Seconded by Mr. Sapia Motion passed: 8-0-0

Mrs. Knutsen said the Policy Committee has some reviewing to do on October 5, 2023 and the Wellness Committee is meeting on October 11, 2023. There is an Early Release Day on September 27, 2023.

Mr. Woodworth gave a shout out to the middle school cross country team for their show of incredible sportsmanship during their competition in Windham.

Mrs. Knutsen said the Facility Usage workshop will be held at the SAU on October 2, 2023 at 5:00 pm.

OTHER BUSINESS

Mr. Sapia asked if they could get all their committee meetings on the calendar of events because some are and some are not.

Mr. Sherwood mentioned to Mr. Krieger that at the last Budget Committee meeting, they were asking about the one or two items they passed on to us that the schoolboard voted against. They would like to have an official notification, email form is fine, to let them know the reasons for the altering or changing any recommendations they made.

Mr. LeCain visited the two Sandown schools which were very clean. He mentioned he met the new administration at Sandown North, Mrs. Yacek and Mrs. Rivers. From a cultural perspective, they were very engaging and represented very well.

DRAFT – NOT APPROVED

NON-PUBLIC SESSION

MOTION: Mrs. Manthorn motioned to enter non-public under 91-A:3, Paragraph II (c) Matters which, if discussed in public, would likely affect adversely the reputation of any person, other than a member of the public body itself, unless such person requests an open meeting. This exemption shall extend to any application for assistance or tax abatement or waiver of a fee, fine, or other levy, if based on inability to pay or poverty of the applicant. Seconded by Mr. Sapia Motion passed 8-0-0

The Board was polled:

Mr. Woodworth – yes Knutsen – yes Mrs. Woodworth – yes McCormick – yes
LeCain – yes Sapia – yes Sherwood – yes Manthorn - yes

Mrs. Knutsen announced the School Board will not be returning to Public Session. The Board entered nonpublic session at 9:13 pm.

Respectfully submitted,

Linda Mahoney
Recording Secretary

Approved by the School Board on



EXECUTIVE SUMMARY

September 21, 2023

K-12 Science Competency Revisions

Subtopic

This executive summary describes the proposed changes to our K-12 science competencies. Numerous TRSD teachers and administrators spent time through the spring and summer working to ensure a consistent and aligned competency progression in all grades. These new proposed competencies align with the pre-existing curriculum, as they embody the intent of the pre-existing competencies, and therefore do not change the heart of the curriculum. Additionally, these new competencies are the adopted NH state model competencies, based on the Next Generation Science Standards (NGSS), which are the national standards.

For background and context, TRSD originally wrote our curriculum based on NGSS. This was prior to NH officially adopting these standards, and therefore NH had yet to write model competencies in science. Although the original TRSD science competencies were written aligned K-12, their language varied from level to level, and there was not a consistent model of how exactly they were written. Now that NH has officially adopted NGSS, written model competencies, and our teachers have been teaching and assessing the science curriculum for a number of years, it has become evident that a change was needed to ensure consistency.

These new competencies span all grade levels and the three major science domains (Life Science, Physical Science, and Earth/Space Science), and are focused on having students demonstrate their ability to actively “do” science at their appropriate grade level. The following two documents list both the competencies and where in the curriculum units each of those competencies can be found. One can see the spiraling nature of the competencies as well as how some competencies are more appropriately linked with certain content.

Respectfully submitted,

Mark Pedersen, Director of Secondary Education
Lucy Canotas, Director of Elementary Education

Science Competency Descriptions

Patterns

Students will demonstrate the ability to observe and describe patterns in natural and human designed phenomena and use those patterns to support claims about the observed or predicted relationships among phenomena.

Cause & Effect

Students will demonstrate the ability to investigate, explain, and evaluate potential causal relationships by using evidence to support claims and predictions about the mechanisms that drive those relationships.

Scale, Proportion, & Quantity

Students will demonstrate the ability to describe and represent the significance of changes in observable and non-observable phenomena in terms of relative scale, proportion, and quantity.

Systems & System Models

Students will demonstrate the ability to investigate and analyze a natural or human designed system in terms of its boundaries, inputs, outputs, interactions, and behaviors and use this information to develop a system model that can be used to understand and empirically evaluate the accuracy of models in terms of representing the underlying system.

Energy & Matter in Systems

Students will demonstrate the ability to analyze evidence from a variety of sources (investigations, models) to predict, connect and/or evaluate the cycling of matter and flow of energy within and between systems in order to understand, describe, or predict possibilities and limitations of systems.

Structure & Function

Students will demonstrate the ability to use evidence to support claims about the relationship among structure and function of natural and human designed objects.

Stability & Change in Systems

Students will demonstrate the ability to investigate and analyze static and dynamic conditions of natural and human designed systems in order to explain and predict changes over time.

Nature of Science

Student will demonstrate the ability to work collaboratively and individually to generate testable questions or define problems, plan and conduct investigations using a variety of research methods in a various settings, analyze and interpret data, reason with evidence to construct explanations in light of existing theory and previous research, and effectively communicate the research processes and conclusions.

Grade/Course	Science Competency	Patterns [1]	Cause & Effect [2]	Scale, Proportion, & Quantity [3]	Systems & System Models [4]	Energy & Matter in Systems [5]	Structure & Function [6]	Stability & Change in Systems [7]	Nature of Science [8]	
Human A&P ACC	Structure and Function: Movement	☐	☐	☐	☐	☐	☒	☒	☒	
	Structure and Function: Transport	☐	☐	☐	☐	☐	☒	☒	☒	
	Structure and Function: Communication	☐	☐	☐	☐	☐	☒	☒	☒	
	Structure and Function: Reproduction and Excretion	☐	☐	☐	☐	☐	☒	☒	☒	
Forensic Science	Unit 1 History and Crime Scenes	☒	☒	☐	☒	☐	☐	☒	☒	
	Unit 2: Biotic	☒	☒	☐	☒	☐	☐	☒	☒	
	Unit 3 Abiotic	☒	☒	☐	☒	☐	☐	☒	☒	

- [1] Students will demonstrate the ability to observe and describe patterns in natural and human designed phenomena and use those patterns to support claims about the observed or predicted relationships among phenomena.
- [2] Students will demonstrate the ability to investigate, explain, and evaluate potential causal relationships by using evidence to support claims and predictions about the mechanisms that drive those relationships.
- [3] Students will demonstrate the ability to describe and represent the significance of changes in observable and non-observable phenomena in terms of relative scale, proportion, and quantity.
- [4] Students will demonstrate the ability to investigate and analyze a natural or human designed system in terms of its boundaries, inputs, outputs, interactions, and behaviors and use this information to develop a system model that can be used to understand and empirically evaluate the accuracy of models in terms of representing the underlying system.
- [5] Students will demonstrate the ability to analyze evidence from a variety of sources (investigations, models) to predict, connect and/or evaluate the cycling of matter and flow of energy within and between systems in order to understand, describe, or predict possibilities and limitations of systems.
- [6] Students will demonstrate the ability to use evidence to support claims about the relationship among structure and function of natural and human designed objects.
- [7] Students will demonstrate the ability to investigate and analyze static and dynamic conditions of natural and human designed systems in order to explain and predict changes over time.
- [8] Student will demonstrate the ability to work collaboratively and individually to generate testable questions or define problems, plan and conduct investigations using a variety of research methods in a various settings, analyze and interpret data, reason with evidence to construct explanations in light of existing theory and previous research, and effectively communicate the research processes and conclusions.

Grade 6: Energy

Stage 1 Desired Results

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Scale, Proportion and Quantity- Students will apply reasoning and modeling to determine the proportional relationships in observable and non-observable phenomena in terms of relative scale and quantity. - Systems and System Models- Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and behaviors). - Energy and Matter in Systems- Students will analyze evidence (e.g., investigations, models, theories, scenarios) to predict and track changes in the cycling of matter and flow of energy within and between systems in order to identify their possibilities and limitations. <u>Content Standards:</u> - MS-PS3-1. Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object. - MS-PS3-2. Develop a model to describe that when the arrangement of objects interacting at a distance changes, different amounts of potential energy are stored in the system. - MS-PS3-3. Apply scientific principles to design, construct, and test a device that either minimizes or maximizes thermal energy transfer - MS-PS3-4. Plan an investigation to determine the relationships among the energy transferred, the type of matter, the mass, and the change in the average kinetic energy of the particles as measured by the temperature of the sample. - MS-PS3-5. Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the	Transfer Students will be able to independently use their learning to apply the concepts of energy and its various forms to real-life situations and everyday phenomena.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - proportional relationships (e.g. speed as the ratio of distance traveled to time taken) among different types of quantities provide information about the magnitude of properties and processes. - models can be used to represent systems and their interactions – such as inputs, processes, and outputs – and energy and matter flows within systems. - energy may take different forms (e.g. energy in fields, thermal energy, energy of motion). - the transfer of energy can be tracked as energy flows through a designed or natural system.	ESSENTIAL QUESTIONS - How can we use our knowledge of energy to improve the world around us?
	Acquisition	

object.	<i>Students will know...</i> - that motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed. - that a system of objects may also contain stored (potential) energy, depending on their relative positions. - that temperature is a measure of the average kinetic energy of particles of matter. - that the relationship between the temperature and the total energy of a system depends on the types, states, and amounts of matter present. - that when the motion energy of an object changes, there is inevitably some other change in energy at the same time. - that the amount of energy transfer needed to change the temperature of a matter sample by a given amount depends on the nature of the matter, the size of the sample, and the environment. - that energy is spontaneously transferred out of hotter regions or objects and into colder ones. - that when two objects interact, each one exerts a force on the other that can cause energy to be transferred to or from the object. <u>vocabulary:</u> kinetic energy, potential energy, temperature, thermal energy, heat, conductor, insulator, conduction, convection, radiation	<i>Students will be skilled at...</i> - constructing and interpreting graphical displays of data to describe the relationships. - developing models. - applying scientific principles to design, construct, and test a device. - planning investigations. - constructing, using, and presenting arguments to support a claim.
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RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. WHST.6-8.1 Write arguments focused on <i>discipline-specific content</i>. WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST.6-8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	• <i>access information</i> • <i>implement innovations</i> • <i>think creatively</i> • <i>make judgments and decisions</i> • <i>manage goals and time</i>
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Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan
Summary of Key Learning Events and Instruction

<i>Science and Engineering Practices</i>	<i>Mathematics Integration</i>
• S&EP 2. Developing and using Models • SE&P 4. Analyzing and interpreting data • S&EP 8. Obtaining, evaluating, and communicating information	• MP.2 Reason abstractly and quantitatively. • 6.RP.A.1 Understand the concept of ratio and use ratio language to describe a ratio relationship between two quantities. • 6.RP.A.2 Understand the concept of a unit rate a/b associated with a ratio $a:b$ with $b \neq 0$, and use rate language in the context of a ratio relationship. • 7.RP.A.2 Recognize and represent proportional relationships between quantities. • 8.EE.A.1 Know and apply the properties of integer exponents to generate equivalent numerical expressions. • 8.EE.A.2 Use square root and cube root symbols to represent solutions to equations of the form $x^2 = p$ and $x^3 = p$, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational. • 8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear. • 6.SP.B.5 Summarize numerical data sets in relation to their context.
<i>Technology Integration</i>	<i>District Materials</i>
• 1.OA.1 Use	

Grade 6: Forces and Interactions

Stage 1 Desired Results			
ESTABLISHED GOALS: <u>Competencies:</u> - Cause and Effect- Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships. - Systems and System Models- Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and behaviors). - Stability and Change of Systems- Students will analyze and evaluate the stability of natural and human designed systems in order to develop evidence-based explanations and predictions of changes over time. <u>Content Standards:</u> - MS-PS2-1. Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects. - MS-PS2-2. Plan an investigation to provide evidence that the change in an object’s motion depends on the sum of the forces on the object and the mass of the object. - MS-PS2-3. Ask questions about data to determine the factors that affect the strength of electric and magnetic forces. - MS-PS2-4. Construct and present arguments using evidence to support the claim that gravitational interactions are attractive and depend on the masses of interacting objects. - MS-PS2-5. Conduct an investigation and evaluate the experimental design to provide evidence that fields exist between objects exerting forces on each other even though the objects are not in contact.	Transfer Students will be able to independently use their learning to identify causal relationships in the physical environment.		
	Meaning		
	ENDURING UNDERSTANDINGS Students will understand that... - cause and effect relationships may be used to predict phenomena in natural or designed systems. - models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy and matter flows within systems. - explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and forces at different scales.	ESSENTIAL QUESTIONS - If Newton's Third Law didn’t exist, would it change how we interact with the world?	
	Acquisition		

Students will know...

- that for any pair of interacting objects, the force exerted by the first object on the second object is equal in strength to the force that the second object exerts on the first, but in the opposite direction.
- that the motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change.
- that the greater the mass of the object, the greater the force needed to achieve the same change in motion.
- that for any given object, a larger force causes a larger change in motion.
- that electric and magnetic (electromagnetic) forces can be attractive or repulsive, and their sizes depend on the magnitudes of the charges, currents, or magnetic strengths involved and on the distances between the interacting objects. that gravitational forces are always attractive.
- that there is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass—e.g., Earth and the sun.
- forces that act at a distance (electric, magnetic, and gravitational) can be explained by fields that extend through space and can be mapped by their effect on a test object (a charged object, or a ball, respectively).

vocabulary: force, mass, gravity, electromagnetic, inertia, field, net force

Students will be skilled at...

- applying *Newton's Third Law*.
- planning and conducting investigations.
- asking questions about data.
- using evidence to support a claim.
- evaluating experimental designs.
- constructing and presenting an argument.

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Content Area Literacy Standards		21st Century Skills
• RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. • RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. • RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. • RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. • RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. • WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. • WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. • WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. • WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.		• <i>think creatively</i> • <i>be self-directed learners</i> • <i>use and manage information</i> • <i>manage goals and time</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence

	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
Science and Engineering Practices	Mathematics Integration
S&EP 1. Asking questions and defining problems S&EP 3 Planning and carrying out investigations S&EP 6 Constructing explanations and designing solutions S&EP 8 Obtaining, evaluating and communicating information	• MP.2 Reason abstractly and quantitatively. • 6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values; use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation. • 6.EE.A.2 Write, read, and evaluate expressions in which letters stand for numbers. • 7.EE.B.3 Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form, using tools strategically. Apply properties of operations to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. • 7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
Technology Integration	District Materials
• 1.OA.1 Use	

Grade 6: Matter and Its Interactions

Stage 1 Desired Results			
ESTABLISHED GOALS: <u>Competencies:</u> - Nature of Science- Students will work collaboratively and individually to generate testable questions or define problems in terms of given constraints and criteria; plan and conduct investigations or apply engineering design practices to analyze and interpret data, and construct and communicate evidence-based explanations or possible optimal solutions. - Patterns- Students will observe, predict, and analyze patterns in order to support evidence-based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic). - Cause and Effect- Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships. - Structure and Function- Students will analyze the relationship among structure and function of natural or human designed objects, using evidence to redesign or support claims about survival and/or improved performance <u>Content Standards:</u> - MS-PS1-1. Develop models to describe the atomic composition of simple molecules and extended structures. - MS-PS1-2. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. - MS-PS1-3. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. - MS-PS1-4. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed. - MS-PS1-5. Develop and use a model to describe how the total number of atoms does not change in a	Transfer		
	<i>Students will be able to independently use their learning to investigate causal relationships in order to explain change.</i>		
	Meaning		
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - cause and effect relationships may be used to predict phenomena in natural or designed systems. - time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. - structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used. - engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems. - macroscopic patterns are related to the nature of microscopic and atomic-level structure. - matter is conserved because atoms are conserved in physical and chemical processes. - that the transfer of energy can be tracked as energy flows through a designed or natural system.	ESSENTIAL QUESTIONS - Which state of matter is more important for survival? - Which reactions are the most important in everyday life?	

chemical reaction and thus mass is conserved. - MS-PS1-6. Undertake a design project to construct, test, and modify a device that either releases or absorbs thermal energy by chemical processes.	Acquisition <i>Students will know...</i> - that substances are made from different types of atoms, which combine with one another in various ways. - that atoms form molecules that range in size from two to thousands of atoms. - that each pure substance has characteristic physical and chemical properties that can be used to identify it. - that gases and liquids are made of molecules or inert atoms that are moving about relative to each other. - that in a liquid, the molecules are constantly in contact with others; in a gas, they are widely spaced except when they happen to collide; that in a solid, atoms are closely spaced and may vibrate in position but do not change relative locations. - that solids may be formed from molecules, or they may be extended structures with repeating subunits (e.g., crystals). - that the changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. - that substances react chemically in characteristic ways. - that in a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. - that the term “heat” as used in everyday language refers both to thermal energy (the motion of atoms or molecules within a substance) and the transfer of that thermal <i>Students will be skilled at...</i> - analyzing and interpreting data. - gathering and making sense of information. - developing and using models. - designing a project to construct, test, and modify a device.
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	energy from one object to another. - that in science, heat is used only for this second meaning; it refers to the energy transferred due to the temperature difference between two objects. - that the temperature of a system is proportional to the average internal kinetic energy and potential energy. - that temperature is not a direct measure of a system's total thermal energy. - that each pure substance has characteristic physical and chemical properties that can be used to identify it. - that substances react chemically in characteristic ways. - that in a chemical process, the atoms that make up the original substances are regrouped into different molecules, and these new substances have different properties from those of the reactants. - that the total number of each type of atom is conserved, and thus the mass does not change. - that some chemical reactions release energy, others store energy. <u>vocabulary:</u> atoms, compound, element, molecule, state of matter. phase change, solid, liquid, gas, thermal energy, temperature, heat, potential energy, kinetic energy, exothermic, endothermic, products, reactants, chemical change, physical change, physical property, chemical property, electron, proton, neutron, nucleus	
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Content Area Literacy Standards	21st Century Skills
RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	• <i>use systems thinking</i> • <i>think creatively</i> • <i>work creative with others</i> • <i>implement innovations</i> • <i>be self-directed learners</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Science and Engineering Practices

S&EP 2. Developing and using models
S&EP 3 Planning and carrying out investigations
S&EP 7 Engaging in argument from evidence

Mathematics Integration

- MP.2 Reason abstractly and quantitatively.
- MP.4 Model with mathematics.
- 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems. • 6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- 8.EE.A.3 Use numbers expressed in the form of a single digit times an integer power of 10 to estimate very large or very small quantities, and to express how many times as much one is than the other.

Technology Integration

- 1.OA.1 Use

District Materials

Grade 6: Waves and Electromagnetic Radiation

Stage 1 Desired Results	
ESTABLISHED GOALS: <u>Competencies:</u> - Nature of Science- Students will work collaboratively and individually to generate testable questions or define problems in terms of given constraints and criteria; plan and conduct investigations or apply engineering design practices to analyze and interpret data, and construct and communicate evidence-based explanations or possible optimal solutions. - Patterns- Students will observe, predict, and analyze patterns in order to support evidence-based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic). - Structure and Function- Students will analyze the relationship among structure and function of natural or human designed objects, using evidence to redesign or	Transfer
	<i>Students will be able to independently use their learning to interpret and respond to sensory information produced by sound and light waves.</i>
	Meaning

support claims about survival and/or improved performance. <u>Content Standards:</u> - MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. - MS-PS4-2. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials - MS-PS4-3. Integrate qualitative scientific and technical information to support the claim that digitized signals are a more reliable way to encode and transmit information than analog signals.	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - graphs and charts can be used to identify patterns in data. - structures can be designed to serve particular functions by taking into account properties of different materials, and how materials can be shaped and used. - structures can be designed to serve particular functions.	ESSENTIAL QUESTIONS - Which has contributed more to today's world: light energy or sound energy?
Acquisition		
	<i>Students will know...</i> - that a sound wave needs a medium through which it is transmitted. - that when light shines on an object, it is reflected, absorbed, or transmitted through the object, depending on the object's material and the frequency (color) of the light. - that the path that light travels can be traced as straight lines, except at surfaces between different transparent materials (e.g., air and water, air and glass) where the light path bends. - that because light can travel through space, it cannot be a matter wave, like sound or water waves. - that digitized signals (sent as wave pulses) are a more reliable way to encode and transmit information. <u>vocabulary</u>: compression, rarefaction, crest, trough, wavelength, amplitude, frequency, refraction, reflection, digital, analog, opaque, transparent, translucent	<i>Students will be skilled at...</i> - using mathematical representations. - developing and using models. - integrating qualitative scientific and technical information to support claims.

Content Area Literacy Standards	21st Century Skills
RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. RST.6-8.8 Distinguish among facts, reasoned judgment based on research findings, and speculation in a text. RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. WHST.6-8.1 Write arguments focused on <i>discipline-specific content</i>. WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	• <i>reason effectively</i> • <i>adapt to change</i> • <i>access and evaluate information</i> • <i>use systems thinking</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Science and Engineering Practices

- S&EP 1 Asking questions and defining problems
- S&EP 4 Analyzing and interpreting data
- S&EP 7 Engaging in argument from evidence
- S&EP 8 Obtaining, evaluating and communicating information

Mathematics Integration

- MP.2 Reason abstractly and quantitatively.
- MP.4 Model with mathematics.
- 6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
- 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems. • 7.RP.A.2 Recognize and represent proportional relationships between quantities. • 8.F.A.3 Interpret the equation $y = mx + b$ as defining a linear function, whose graph is a straight line; give examples of functions that are not linear.

Technology Integration

- 1.OA.1 Use

District Materials

Grade 7: Body Systems

Stage 1 Desired Results			
<u>Science Competencies:</u> ● Structure and Function- Students will analyze the relationship among structure and function of natural or human designed objects, using evidence to redesign or support claims about survival and/or improved performance. ● Systems and System Models- Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and behaviors). ● Energy and Matter in Systems- Students will analyze evidence (e.g., investigations, models, theories, scenarios) to predict and track changes in the cycling of matter and flow of energy within and between systems in order to identify their possibilities and limitations. <u>Content Standards:</u> ● MS-LS1-3 Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells. ● MS-LS1-7 Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support ● MS-LS1-8 Gather and synthesize information that sensory receptors respond to stimuli by sending messages to the brain for immediate behavior or storage as memories. <u>Literacy Competencies:</u> ● Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline specific materials. ● Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. ● Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.	Transfer		
	<i>Students will be able to independently apply their understanding of body systems to a variety of organisms.</i>		
	Meaning		
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> ● a multicellular organism is a complex unit made up of interacting subsystems. ● body systems work together to help organisms maintain homeostasis.	ESSENTIAL QUESTIONS ● Is any one living thing more important than another? ● Is any one body system more important than another?	
	Acquisition		
<i>Students will know that...</i> ● systems may interact with other systems; they may have sub-systems and be a part of larger complex systems. ● complex structures and systems can be visualized, modeled, and used to describe how their function depends on the relationships among its parts, therefore complex natural structures/systems can be analyzed to determine how they function. ● all living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of many different numbers and types of cells (multicellular). ● cells form tissues and tissues form organs specialized for particular body functions. ● there is a particular structure and function of the	<i>Students will be skilled at...</i> ● describing the structure and interactions of systems that may exist independently, or be composed of subsystems, or be part of a larger complex system. ● determining the limitations of a model when it represents only certain aspects of the system under study. ● modeling systems and their interactions including inputs, processes, and outputs. ● modeling complex structures and systems. ● analyzing complex natural structures/systems to determine how they function. ● demonstrating how the transfer of energy drives the motion and/or cycling of matter with a natural system.		

	circulatory, excretory, digestive, respiratory, muscular, and nervous systems. ● cellular respiration in animals involves chemical reactions with oxygen that release stored energy. In these processes, complex molecules containing carbon react with oxygen to produce carbon dioxide and other materials. ● within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy. ● each sense receptor responds to different inputs (electromagnetic, mechanical, chemical), transmitting them as signals that travel along nerve cells to the brain. The signals are then processed in the brain, resulting in immediate behaviors or memories.	● predicting possible changes within the system by tracking the transfer of energy flow through a natural system.
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Grade 7: Change Over Time

Stage 1 Desired Results		
<u>Science Competencies:</u> ● Patterns- Students will observe, predict, and analyze patterns in order to support evidence based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic). ● Nature of Science- Students will work collaboratively and individually to generate testable questions or define problems in terms of given constraints and criteria; plan and conduct investigations or apply engineering design practices to analyze and interpret data, and construct and communicate evidence-based explanations or possible optimal solutions. <u>Content Standards:</u> ● MS-LS4-1 Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past. ● MS-LS4-2 Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships. ● MS-LS4-3 Analyze displays of pictorial data to compare patterns of similarities in the embryological development across multiple species to identify relationships not evident in the fully formed anatomy. ● MS-LS4-4 Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment. ● MS-LS4-6 Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. <u>Literacy Competencies:</u> ● Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning	Transfer	
	<i>Students will be able to independently analyze and interpret evolutionary relationships.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> ● there are multiple pieces of evidence that support the theory of evolution. ● populations change due to natural selection; speciation can occur over a long period of time. ● there are patterns in common ancestry.	ESSENTIAL QUESTIONS ● Why do species evolve? ● How do human traits show connection to other life forms?
	Acquisition	
	<i>Students will know that...</i> ● the collection of fossils and their placement in chronological order (e.g., through the location of the sedimentary layers in which they are found or through radioactive dating) is known as the fossil record. It documents the existence, diversity, extinction, and change of many life forms throughout the history of life on Earth. ● anatomical similarities and differences between various organisms living today and between them and organisms in the fossil record, enable the reconstruction of evolutionary history and the inference of lines of evolutionary descent. ● comparison of the embryological development of different species also reveals similarities that show	<i>Students will be skilled at...</i> ● analyzing and interpreting data for past patterns to predict future patterns. ● using theories to objectively explore and describe the natural world. ● investigating changes over time and revising or reinterpreting knowledge based on new evidence. ● drawing conclusions and developing scientific explanations.

of discipline specific materials. ● Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. ● Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.	relationships not evident in the fully-formed anatomy. ● natural selection leads to the predominance of certain traits in a population, and the suppression of others. ● adaptation by natural selection acting over generations is one important process by which species change over time in response to changes in environmental conditions. Traits that support successful survival and reproduction in the new environment become more common; those that do not become less common. Thus, the distribution of traits in a population changes.	
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Grade 7: Characteristics and Needs of Life

Stage 1 Desired Results

<u>Science Competencies:</u> ● Nature of Science- Students will work collaboratively and individually to generate testable questions or define problems in terms of given constraints and criteria; plan and conduct investigations or apply engineering design practices to analyze and interpret data, and construct and communicate evidence-based explanations or possible optimal solutions. <u>Science Content Standards:</u> ● MS-LS1-4 Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively. ● MS-LS1-5 Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. ● MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. <u>Literacy Competencies:</u> ● Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline specific materials. ● Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. ● Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.	Transfer	
	<i>Students will be able to independently determine if something is alive.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> ● living things are made of cells, reproduce, grow and develop, maintain homeostasis, respond to their environment, and use energy. ● living things have certain needs for survival including food, water, and shelter.	ESSENTIAL QUESTIONS ● How do you know if something is alive? ● What do living things need to survive? ● How do living things meet their needs?
	Acquisition	
	<i>Students will know that...</i> ● certain conditions are needed for seed germination. ● local conditions affect the growth of the adult plant. ● plants use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. ● the chemical reaction by which plants produce complex food molecules (sugars) requires an energy input (i.e., from sunlight) to occur. In this reaction, carbon dioxide and water combine to form carbon based organic molecules and release oxygen.	<i>Students will be skilled at...</i> ● developing testable questions, making logical predictions, collecting and analyzing data, and using specific evidence to interpret and draw conclusions, communicate findings, and develop scientific explanations. ● applying the engineering design process to optimally improve or solve problems using evidence. ● using scientific hypotheses, theories and laws to objectively explore and describe the natural and engineered world, investigate changes over time and revise or reinterpret knowledge based on new evidence.

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| | <ul style="list-style-type: none">● all living things are made up of cells, which is the smallest unit that can be said to be alive.● plants reproduce in a variety of ways, sometimes depending on animal behavior and specialized features for reproduction.● in sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. | <ul style="list-style-type: none">● analyzing structures to determine function. |
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Grade 7: Discovering Cells

Stage 1 Desired Results		
<u>Science Competencies:</u> ● Structure and Function- Students will analyze the relationship among structure and function of natural or human designed objects, using evidence to redesign or support claims about survival and/or improved performance. ● Systems and System Models- Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and behaviors). ● Scale, Proportion, and Quantity- Students will apply reasoning and modeling to determine the proportional relationships in observable and non-observable phenomena in terms of relative scale and quantity. <u>Content Standards:</u> ● MS-LS1-1. Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells. ● MS-LS1-2. Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. ● MS-LS1-6. Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. ● MS-LS1-7. Develop a model to describe how food is rearranged through chemical reactions forming new molecules that support growth and or/release energy as this matter moves through an organism. <u>Literacy Competencies:</u> ● Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline specific materials. ● Students will demonstrate the ability to produce coherent and supported writing in order to communicate	Transfer	
	<i>Students will be able to independently apply their understanding of cell structure and function to both unicellular and multicellular life.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> ● the smallest unit of life is a cell. ● organisms can be unicellular or multicellular. ● there are a variety of cell types. ● cells have organelles that carry out specific functions; these organelles work together to help cells meet their needs.	ESSENTIAL QUESTIONS ● Is any one living thing more important than another? ● How can something so small meet its basic needs for survival?
	Acquisition	
	<i>Students will know that...</i> ● systems may interact with other systems; they may have sub-systems and be a part of larger complex systems. ● complex and microscopic structures and systems can be visualized, modeled, and used to describe how their function depends on the relationships among its parts, therefore complex natural structures/systems can be analyzed to determine how they function. ● all living things are made up of cells, which is the smallest unit that can be said to be alive. An organism may consist of one single cell (unicellular) or many different numbers and types of cells (multicellular). ● within cells, special structures are responsible for	<i>Students will be skilled at...</i> ● describing the structure and interactions of systems that may exist independently, or be composed of subsystems, or be part of a larger complex system. ● determining the limitations of a model when it represents only certain aspects of the system under study. ● modeling systems and their interactions including inputs, processes, and outputs. ● modeling complex and microscopic structures and systems that are quite small. ● analyzing complex natural structures/systems to

effectively for a range of discipline-specific tasks, purposes, and audiences. ● Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.	particular functions, and the cell membrane forms the boundary that controls what enters and leaves the cell. ● cellular respiration in plants and animals involve chemical reactions with oxygen that release stored energy. In these processes, complex molecules containing carbon react with oxygen to produce carbon dioxide and other materials. ● the chemical reaction by which plants produce complex food molecules (sugars) requires an energy input (i.e., from sunlight) to occur. In this reaction, carbon dioxide and water combine to form carbon-based organic molecules and release oxygen. ● plants, algae (including phytoplankton), and many microorganisms use the energy from light to make sugars (food) from carbon dioxide from the atmosphere and water through the process of photosynthesis, which also releases oxygen. These sugars can be used immediately or stored for growth or later use. ● within individual organisms, food moves through a series of chemical reactions in which it is broken down and rearranged to form new molecules, to support growth, or to release energy.	determine how they function. ● using a variety of methods and tools to make measurements and observations.
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Grade 7: Ecology

Stage 1 Desired Results		
<u>Science Competencies:</u> ● Patterns- Students will observe, predict, and analyze patterns in order to support evidence based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic). ● Cause and Effect- Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships ● Energy and Matter in Systems- Students will analyze evidence (e.g., investigations, models, theories, scenarios) to predict and track changes in the cycling of matter and flow of energy within and between systems in order to identify their possibilities and limitations. ● Stability and Change of Systems- Students will analyze and evaluate the stability of natural and human designed systems in order to develop evidence-based explanations and predictions of changes over time. <u>Content Standards:</u> ● MS-LS1-6 Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms. ● MS-LS2-1 Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. ● MS-LS2-2 Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. ● MS-LS2-3 Develop a model to describe the cycling of matter and flow of energy among living and nonliving parts of an ecosystem. ● MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. ● MS-LS2-5. Evaluate competing design solutions for	Transfer	
	<i>Students will be able to independently evaluate the health of an ecosystem.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> ● organisms have interdependent relationships in ecosystems. ● matter cycles through ecosystems. ● energy flows through ecosystems. ● ecosystems are dynamic. ● humans impact biodiversity and ecosystem stability.	ESSENTIAL QUESTIONS ● Is any one type of relationship between organisms more important than another? ● How do limiting factors influence the carrying capacity of an ecosystem? ● Why is it important for matter to cycle and energy to flow in ecosystems? ● Will the environment be able to rebound from natural disturbances and/or human impact?
	Acquisition	
	<i>Students will know that...</i> ● predatory interactions may reduce the number of organisms or eliminate whole populations of organisms. ● mutually beneficial interactions, in contrast, may become so interdependent that each organism requires the other for survival. ● although the species involved in these competitive, predatory, and mutually beneficial interactions vary across ecosystems, the patterns of interactions of organisms with their environments. ● biodiversity describes the variety of species found in	<i>Students will be skilled at...</i> ● creating models to predict trends and explain patterns in data that support claims. ● identifying patterns of interactions that provide information about natural systems. ● investigating cause and effect relationships in order to explain the mechanism driving change. ● predicting phenomena in natural systems. ● developing a model and from it drawing evidence that matter is conserved in physical and chemical processes.

maintaining biodiversity and ecosystem services.

Literacy Competencies:

- Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline specific materials.
- Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences.
- Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.

Earth's terrestrial and oceanic ecosystems.

- the completeness or integrity of an ecosystem's biodiversity is often used as a measure of its health.
- changes in biodiversity can influence humans' resources, such as food, energy, and medicines, as well as ecosystem services that humans rely on.
- organisms, and populations of organisms, are dependent on their environmental interactions both with other living things and with nonliving factors.
- in any ecosystem, organisms and populations with similar requirements for food, water, oxygen, or other resources may compete with each other for limited resources, access to which consequently constrains their growth and reproduction.
- growth of organisms and population increases are limited by access to resources.
- food webs are models that demonstrate how matter and energy is transferred between producers, consumers, and decomposers as the three groups interact within an ecosystem.
- transfer of matter into and out of the physical environment occurs at every level.
- decomposers recycle nutrients from dead plant or animal matter back to the soil in terrestrial environments or to the water in aquatic environments.
- the atoms that make up the organisms in an ecosystem are cycled repeatedly between the living and nonliving parts of the ecosystem.
- ecosystems are dynamic in nature; their characteristics can vary over time.
- disruptions to any physical or biological component of an ecosystem can lead to shifts in all its populations.

- demonstrating how the transfer of energy drives the cycling of matter within a natural system.
- predicting possible changes within the system by tracking the transfer of energy flow through a natural system.
- using evidence to analyze and evaluate the stability and change of natural systems.
- examining changes over time to explain and predict the stability of a system.
- using evidence to predict how small changes in one part of a system may influence large changes in another part.
- using evidence to construct an argument of how stability might be disturbed either by sudden events or gradual changes that accumulate over time.
- demonstrating, using evidence, that a system in dynamic equilibrium is stable due to a balance of feedback mechanisms.

Grade 7: Heredity and Genetics

Stage 1 Desired Results		
<u>Science Competencies:</u> ● Cause and Effect- Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships ● Structure and Function- Students will analyze the relationship among structure and function of natural or human designed objects, using evidence to redesign or support claims about survival and/or improved performance. <u>Content Standards:</u> ● MS-LS1-5 Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms. ● MS-LS3-1 Develop and use a model to describe why structural changes to genes (mutations) located on chromosomes may affect proteins and may result in harmful, beneficial, or neutral effects to the structure and function of the organism. ● MS-LS3-2 Develop and use a model to describe why asexual reproduction results in offspring with identical genetic information and sexual reproduction results in offspring with genetic variation. ● MS-LS4-5 Gather and synthesize information about technologies that have changed the way humans influence the inheritance of desired traits in organisms. <u>Literacy Competencies:</u> ● Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline specific materials. ● Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. ● Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about	Transfer	
	<i>Students will be able to independently use their learning to evaluate advances in genetics.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> ● cause and effect relationships may be used to predict phenomena in natural systems. ● phenomena that can be observed at one scale may not be observable at another scale. ● engineering advances have led to important discoveries in virtually every field of science, and scientific discoveries have led to the development of entire industries and engineered systems. ● some cause and effect relationships in systems can only be described using probability.	ESSENTIAL QUESTIONS ● Which is more important, nature or nurture? ● Should there be limits to advances in genetics based on ethics? ● How does the creation of proteins impact the organism?
	Acquisition	
	<i>Students will know that...</i> ● organisms reproduce, either sexually or asexually, and transfer their genetic information to their offspring. ● in sexually reproducing organisms, each parent contributes half of the genes acquired (at random) by the offspring. Individuals have two of each chromosome and hence two alleles of each gene, one acquired from each parent. These versions may be identical or may differ from each other. ● genes are located in the chromosomes of cells, with	<i>Students will be skilled at...</i> ● describing cause and effect relationships using probability concepts. ● using Punnett Squares to predict the inheritance of traits. ● modeling complex and microscopic structures and systems. ● visualizing and modeling how function depends on the shapes, composition, and relationships among its parts.

content, language use, and discourse style.	each chromosome pair containing two variants of each of many distinct genes. Each distinct gene chiefly controls the production of specific proteins, which in turn affects the traits of the individual. Changes (mutations) to genes can result in changes to proteins, which can affect the structures and functions of the organism and thereby change traits. ● variations of inherited traits between parent and offspring arise from genetic differences that result from the subset of chromosomes (and therefore genes) inherited. ● in addition to variations that arise from sexual reproduction, genetic information can be altered because of mutations. Though rare, mutations may result in changes to the structure and function of proteins. Some changes are beneficial, others harmful, and some neutral to the organism. ● in <i>artificial</i> selection, humans have the capacity to influence certain characteristics of organisms by selective breeding. One can choose desired parental traits determined by genes, which are then passed onto offspring. ● DNA is too small to see and study without the use of special tools.	
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Grade 8: Weather and Climate

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Cause and Effect- Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships. - Systems and system Models- Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and behaviors). - Energy and Matter in Systems- Students will analyze evidence (e.g., investigations, models, theories, scenarios) to predict and track changes in the cycling of matter and flow of energy within and between systems in order to identify their possibilities and limitations. - Stability and Change- Students will analyze and evaluate the stability of natural and human designed systems in order to develop evidence-based explanations and predictions of changes over time. <u>Content Standards:</u> - MS-ESS2-4. Develop a model to describe the cycling of water through Earth’s systems driven by energy from the sun and the force of gravity. - MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions. - MS-ESS2-6. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates. - MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	Transfer Students will be able to independently use their learning to understand climate factors and predict weather.	
	Meaning ENDURING UNDERSTANDINGS Students will understand that... - cause and effect relationships may be used to predict phenomena in natural or designed systems. - models can be used to represent systems and their interactions—such as inputs, processes and outputs—and energy, matter, and information flows within systems. - stability might be disturbed either by sudden events or gradual changes that accumulate over time. ESSENTIAL QUESTIONS - How can we predict weather accurately when its complexity requires using probabilities?	
	Acquisition	

Students will know...

- climate is influenced by latitude, elevation, proximity to large bodies of water, and geography
- that variations in density due to variations in temperature and salinity drive a global pattern of interconnected ocean currents.
- that local and global winds form as a result of variations in air pressure, temperature, and the Earth's rotation, leading to the movement of air masses on both small and large scales.
- that air masses interact, leading to the formation of weather systems and the influence of factors such as temperature, humidity, and pressure gradients on atmospheric circulation patterns.
- that weather and climate are influenced by interactions involving sunlight, the ocean, the atmosphere, ice, landforms, and living things.
- that water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation, as well as downhill flows on land.
- that global movements of water and its changes in form are propelled by sunlight and gravity.
- that the ocean exerts a major influence on weather and climate by absorbing energy from the sun, releasing it over time, and globally redistributing it through ocean currents.
- rising global temperatures are contributing to the intensification of severe weather events, alterations in weather patterns, and shifts in long-term climate conditions.
- that because these patterns are so complex,

Students will be skilled at...

- developing and using models.
- interpreting data to carry out investigations.
- supporting scientific arguments using evidence.
- asking questions to clarify evidence.

	weather can only be predicted probabilistically. <u>vocabulary</u>: climate, continental, maritime, polar, tropical, latitude, altitude, elevation, density, salinity, convection, conduction, radiation, fronts, occluded, stationary, local wind, global wind, current, infrared radiation, electromagnetic radiation, thermal energy transfer, temperature, albedo, meteorologist	
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Content Area Literacy Standards	21st Century Skills
• RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. • RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. • RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. • RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. • RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. • WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. • WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. • WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. • WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	• <i>interact effectively with others</i> • <i>solve problems</i> • <i>communicate clearly</i> • <i>make judgments and decisions</i> • <i>use systems thinking</i>

Stage 2 - Evidence

Evaluative Criteria

Assessment Evidence

PERFORMANCE TASK(S):

OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Science and Engineering Practices

S&EP 1. Asking questions and defining problems
S&EP 2. Developing and using models
S&EP 4. Analyzing and interpreting data
S&EP 6. Constructing explanations (for science) and designing solutions (for engineering)
S&EP 8. Obtaining, evaluating, and communicating information

Mathematics Integration

- MP.2 Reason abstractly and quantitatively.
- 6.NS.C.5 Understand that positive and negative numbers are used together to describe quantities having opposite directions or values (e.g., temperature above/below zero, elevation above/below sea level, credits/debits, positive/negative electric charge); use positive and negative numbers to represent quantities in real-world contexts, explaining the meaning of 0 in each situation.
- 6. EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- 7. EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

Technology Integration

District Materials

• 1.OA.1 Use	
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Grade 8: Space Systems

Stage 1 Desired Results			
ESTABLISHED GOALS: <u>Competencies:</u> - Nature of Science- Students will work collaboratively and individually to generate testable questions or define problems in terms of given constraints and criteria; plan and conduct investigations or apply engineering design practices to analyze and interpret data, and construct and communicate evidence-based explanations or possible optimal solutions. - Patterns- Students will observe, predict, and analyze patterns in order to support evidence-based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic). - Scale, Proportion and Quantity- Students will apply reasoning and modeling to determine the proportional relationships in observable and non-observable phenomena in terms of relative scale and quantity. - Systems and System Models- Students will investigate and analyze a natural or human designed system in order to develop and justify a model that accurately represents the system or aspects of the system (e.g., boundaries, inputs, outputs, interactions, and behaviors). <u>Content Standards:</u> - MS-ESS1-1 Develop and use a model of the Earth-sun-moon systems to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons. - MS-ESS1-2 Develop and use a model to describe the role of gravity in the motions within galaxies and the solar system. - MS-ESS1-3 Analyze and interpret data to determine scale properties of objects in the solar system.	Transfer Students will be able to independently use their learning to analyze celestial objects and motions in order to predict cyclical patterns and resulting phenomena.		
	Meaning		
	ENDURING UNDERSTANDINGS Students will understand that... - patterns can be used to identify cause and effect relationships. - time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small. - models can be used to represent systems and their interactions.	ESSENTIAL QUESTIONS - How does the motion of celestial objects influence phenomena on Earth?	
	Acquisition		

	<i>Students will know...</i> - that patterns of the apparent motion of the sun, the moon, and stars in the sky can be observed, described, predicted, and explained with models. - that Earth and its solar system are part of the Milky Way galaxy, which is one of many galaxies in the universe. - that the solar system consists of the sun and a collection of objects, including planets, their moons, and asteroids that are held in orbit around the sun by its gravitational pull on them. - that this model of the solar system can explain eclipses of the sun and the moon. Earth's spin axis is fixed in direction over the short term but tilted relative to its orbit around the sun. The seasons are a result of that tilt and are caused by the differential intensity of sunlight on different areas of Earth across the year. - that the solar system appears to have formed from a disk of dust and gas, drawn together by gravity. - that tides occur as a result of the gravitational pull of the Moon and the Sun on Earth's oceans <u>vocabulary</u>: star, nebula, fusion, accretion, inertia, gravity, solar system, galaxies, celestial, satellite, planet, asteroid, meteoroid, comet, constellation, universe, equinox, solstice, axis, rotation, revolution, phases, eclipses, tides, orbit, ellipse	<i>Students will be skilled at...</i> - developing and using models. - analyzing and interpreting data. - supporting scientific arguments using evidence.
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• RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. • RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. • RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. • RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. • RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. • WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. • WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. • WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. • WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. • WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	• <i>reason effectively</i> • <i>make judgments and decisions</i> • <i>solve problems</i> • <i>use systems thinking</i>
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Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Science and Engineering Practices

S&EP 2. Developing and using models
S&EP 4. Analyzing and interpreting data
S&EP 5. Using mathematics and computational thinking
S&EP 6. Constructing explanations (for science) and designing solutions (for engineering)

Mathematics Integration

- MP.2 Reason abstractly and quantitatively.
- MP.4 Model with mathematics.
- 6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
- 7.RP.A.2 Recognize and represent proportional relationships between quantities. • 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- 7. EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.

Technology Integration

- 1.OA.1 Use

District Materials

Grade 8: Earth's Systems

Stage 1 Desired Results

ESTABLISHED GOALS:

Competencies:

- **Cause and Effect-** Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships.
- **Scale, Proportion and Quantity-** Students will apply reasoning and modeling to determine the proportional relationships in observable and non-observable phenomena in terms of relative scale and quantity.
- **Energy and Matter in Systems-** Students will analyze evidence (e.g., investigations, models, theories, scenarios) to predict and track changes in the cycling of matter and flow of energy within and between systems in order to identify their possibilities and limitations.
- **Stability and Change-** Students will analyze and evaluate the stability of natural and human designed systems in order to develop evidence-based explanations and predictions of changes over time.

Content Standards:

- MS-ESS1-4. Construct a scientific explanation based on evidence from rock strata for how the geologic time scale is used to organize Earth's 4.6-billion-year-old history.
- MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.
- MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales.
- MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.
- MS-ESS2-4. Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.
- MS-ESS3-1. Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

Transfer

*Students will independently apply their learning to **predict, analyze, interpret, and model natural and designed systems***

Meaning

ENDURING UNDERSTANDINGS

Students will understand that...

- cause and effect relationships may be used to predict phenomena in natural or designed systems.
- within a natural or designed system, the transfer of energy drives the motion and/or cycling of matter.
- explanations of stability and change in natural or designed systems can be constructed by examining the changes over time and processes at different scales.
- patterns in rates of change and other numerical relationships can provide information about natural systems.
- time, space, and energy phenomena can be observed at various scales using models to study systems that are too large or too small.

ESSENTIAL QUESTIONS

- How do the processes shaping Earth's surface, the distribution of natural resources, and the passage of time reveal the history of our planet?

Acquisition

Students will know...

- that all Earth processes are the result of energy flowing and matter cycling within and among the planet's systems. This energy is derived from the sun and Earth's hot interior. The energy that flows and matter that cycles produce chemical and physical changes in Earth's materials and living organisms.
- that global movements of water and its changes in form are propelled by sunlight and gravity. Movement in water throughout Earth's spheres contributes to the changing of Earth's surface through processes such as weathering and erosion.
- that humans depend on Earth's land, ocean, atmosphere, and biosphere for many different resources. Minerals, fresh water, and biosphere resources are limited, and many are not renewable or replaceable over human lifetimes. These resources are distributed unevenly around the planet as a result of past geologic processes.
- that the geologic time scale interpreted from rock strata provides a way to organize Earth's history.
- that analyses of rock strata and the fossil record provide only relative dates, not an absolute scale.
- that tectonic processes continually generate new ocean seafloor at ridges and destroy old seafloor at trenches.
- that the planet's systems interact over scales that range from microscopic to global in size, and they operate over fractions of a second to billions of years. These interactions have shaped Earth's history and will determine its future.
- that maps of ancient land and water patterns, based on investigations of rocks and fossils, make clear how Earth's plates have moved great distances, collided, and spread apart.

Students will be skilled at...

- developing and using models.
- planning and carrying out investigations by collecting and interpreting data.
- supporting scientific arguments with evidence.

	<u>vocabulary</u>: plate tectonics, crust, core, mantle (asthenosphere, lithosphere), convection, density subduction, convergent, divergent, transform, fault minerals, rock, igneous, metamorphic, sedimentary, compaction, cementation, weathering (physical, chemical), erosion, deposition, crystallization, evaporation, condensation, precipitation, sublimation, transpiration, strata, uniformitarianism, superposition, cross cutting, intrusion, tilt, uplift	
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Content Area Literacy Standards	21st Century Skills
• RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. • RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. • RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks. • RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. • RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. • WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. • WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task,	• <i>reason effectively</i> • <i>make judgments and decisions</i> • <i>solve problems</i> • <i>use systems thinking</i>

purpose, and audience. • WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. • WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	
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Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
<i>Summary of Key Learning Events and Instruction</i>	
Science and Engineering Practices	Mathematics Integration
S&EP 1. Asking questions and defining problems S&EP 2. Developing and using models S&EP 4. Analyzing and interpreting data S&EP 6. Constructing explanations (for science) and designing solutions (for engineering) S&EP 8. Obtaining, evaluating, and communicating information	• 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set. • 7. EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities.
Technology Integration	District Materials
• 1.OA.1 Use	

Grade 8: Human Impacts

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Patterns- Students will observe, predict, and analyze patterns in order to support evidence-based claims about relationships (e.g., cause and effect, structure and function, macroscopic and microscopic). - Cause and Effect: Students will investigate, explain, and evaluate potential causal relationships, using evidence to support claims and predictions about the mechanisms that drive those relationships. <u>Content Standards:</u> - MS-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. - MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment. - MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. - MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.	Transfer	
	<i>Students will independently apply their learning to make informed decisions regarding the reciprocal relationship between human activities and the environment, recognizing the vulnerability of both humans and other living things to climate changes.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - graphs, charts, and images can be used to identify patterns in data. - relationships can be classified as causal or correlational, and correlation does not necessarily imply causation. - cause and effect relationships may be used to predict phenomena in natural or designed systems.	ESSENTIAL QUESTIONS - In what ways can the reciprocal relationship between human activities and the environment be sustained as the human population grows?
	Acquisition	

Students will know...

- that mapping the history of natural hazards in a region, combined with an understanding of related geologic forces can help forecast the locations and likelihoods of future events.
- that human activities have significantly altered the biosphere, sometimes damaging or destroying natural habitats and causing the extinction of other species. But changes to Earth's environments can have different impacts (negative and positive) for different living things.
- that typically as human populations and per-capita consumption of natural resources increase, so do the negative impacts on Earth unless the activities and technologies involved are engineered otherwise.
- that human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and applying that knowledge wisely in decisions and activities.

vocabulary: environment, catastrophe, extinction, biosphere, per capita consumption, natural resources, technology, economic, consequences, fossil fuels, greenhouse gases, climate change, global warming

Students will be skilled at...

- analyzing and interpreting data.
- applying scientific principles of design.
- constructing an argument supported by evidence.
- asking questions to clarify evidence.

Content Area Literacy Standards	21st Century Skills
• RST.6-8.1 Cite specific textual evidence to support analysis of science and technical texts. • RST.6-8.2 Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions. • RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 6-8 texts and topics</i>. • RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually. • RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic. • WHST.6-8.1 Write arguments focused on <i>discipline-specific content</i>. • WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. • WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. • WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. • WHST.6-8.7 Conduct short research projects to answer a question drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. • WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. • WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	• <i>collaborate with others</i> • <i>manage goals and time</i> • <i>solve problems</i> • <i>communicate clearly</i> • <i>work creatively with others</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Science and Engineering Practices

S&EP 1. Asking questions and defining problems
S&EP 7. Engaging in argument from evidence
S&EP 8. Obtaining, evaluating, and communicating information

Mathematics Integration

- MP.2 Reason abstractly and quantitatively.
- 6.RP.A.1 Understand the concept of a ratio and use ratio language to describe a ratio relationship between two quantities.
- 7.RP.A.2 Recognize and represent proportional relationships between quantities.
- 6.EE.B.6 Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set.
- 7.EE.B.4 Use variables to represent quantities in a real-world or mathematical problem, and construct simple equations and inequalities to solve problems by reasoning about the quantities

Technology Integration

- 1.OA.1 Use

District Materials



EXECUTIVE SUMMARY

TRMS Social Studies Curriculum Revisions

Courses: 6th and 7th Grade

The TRMS Social Studies department is proposing curriculum revisions that take place in the 6th and 7th grades Social Studies curriculum. The majority of the proposed revisions are in the 6th grade Social Studies curriculum units, with a few minor revisions to the 7th grade Social Studies curriculum units.

In summary, the 6th grade changes are as follows: the addition of a unit of study on India, an elimination of units/relocation of some content on Greece and MesoAmerica, and the breaking up of one curriculum unit into two units: Introduction to Social Studies Skills and Prehistory. The remaining approved units will not be revised: Egypt, China, Mesopotamia.

The 6th grade Social Studies curriculum will still begin with Introduction to Social Studies Skills and Prehistory, but with the proposed change of breaking these topics into two units, students will have a more thorough experience delving into these skills and background knowledge elements prior to the other themed units. With India's civilization preceding Greece and MesoAmerica, the Social Studies teachers feel it necessary to cover this material and its themes as one of the areas of study in 6th grade. In collaboration amongst grade levels, Greece and MesoAmerican unit materials were analyzed for existing overlap between 6th and 7th grade. Some additions were made to current units in the 7th grade curriculum, where students are looking at these topics through a more governmental lens.

Thank you to the TRMS Social Studies Department, in particular the TRMS 6th and 7th Grade Social Studies teachers, for all of their thoughtful work and collaboration on these curriculum revisions.

Respectfully submitted,

Jennifer Puchlopek, Secondary Curriculum Coordinator

Grade 6: Intro to Social Studies Skills

ESTABLISHED GOALS:		
<u>Competencies:</u> - Students will demonstrate the ability to analyze the reciprocal relationships among human and physical systems by evaluating geospatial data, historical evidence, economic activity, and political decisions. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - Geo.1.6-8. Construct maps to represent and explain the spatial patterns of cultural and environmental characteristics - Geo.2.6-8. Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions, and changes in their environmental characteristics. - Geo.3.6-8. Use paper based and electronic mapping and graphing techniques to represent and analyze spatial patterns of different environmental and cultural characteristics. - Geo.5.6-8. Analyze the combinations of cultural and environmental characteristics that make places both similar to and different from other places. - Geo.6.6-8. Explain how the physical and human characteristics of places and regions are connected to human identities and cultures. - Geo.12.6-8. Explain how global changes in population distribution patterns affect changes in land use in particular places.	Transfer	
	<i>Students will be able to independently use their learning to organize and understand information on a map and timeline as well as become familiar with the elements of a civilization.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - Understanding a map and its features is essential for understanding the world - Time is organized in a particular order - Every civilization has certain elements that define it	ESSENTIAL QUESTIONS - Why does time need to be organized? - Is any civilization better than the other? - Why are geography and maps important in our world?
Acquisition		
	<i>Students will know...</i> - the important components of a map and how they work (key, compass rose, latitude/longitude, hemispheres); - How a river works - How time is organized (BC/AD); - The 6 elements of a civilization and examples of each - G: Geography - R: Religion - A: Achievements - P: Politics - E: Economics - S: Social Structure	<i>Students will be skilled at...</i> - Working with maps to explain spatial patterns; - using geographic representations to explain relationships; - using mapping and graphing techniques to analyze spatial patterns; - explaining the relationship between environment and identity;

	<u>vocabulary:</u> <i>timeline, archaeology, artifact, geography, location, relative location, absolute location, place, region, movement, human environment interaction, continent, ocean, physical feature, mountain, river, source, mouth, delta, peninsula, sea, desert, harbor, isthmus, plateau, canyon, plain, lake, county, island, valley, strait, map, key, compass rose, scale, hemispheres, quadrant, Equator, Prime Meridian, lines of latitude, lines of longitude</i>	
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Content Area Literacy Standards	21st Century Skills
● RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. ● RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. ● RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. ● RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts. ● RH.6-8.9 Analyze the relationship between a primary and secondary source on the same topic. ● WHST.6-8.1 Write arguments focused on discipline-specific content. ● WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. ● WHST.6-8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed. ● WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. ● WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. ● WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	● <i>communicate clearly</i> ● <i>collaborate with others</i> ● <i>manage goals and time</i> ● <i>be self-directed learners</i>

<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Summary of Key Learning Events and Instruction		
<i>Science Integration</i>	<i>College, Career, and Civic Life Integration</i>	<i>Technology Integration</i>
<i>District Materials</i>	<i>Distance Learning/Field Trips</i>	<i>Technology Resources</i>

Grade 6: Prehistory

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to evaluate causal relationships in order to analyze change and continuity over time. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - Civ.14.6-8. Compare historical and contemporary means of changing societies, and promoting the common good. - His.1.6-8. Analyze connections among events and developments in broader historical contexts. - His.2.6-8. Classify series of historical events and developments as examples of change and/or continuity. - His.10.6-8. Detect possible limitations in the historical record based on evidence collected from different kinds of historical sources. - His.14.6-8. Explain multiple causes and effects of events and developments in the past.	Transfer	
	Students will be able to independently use their learning to analyze an aspect of life today and connect it to a time in history.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - Each place on Earth has a unique set of local conditions and connections to other places. - Human-environment interactions are essential aspects of human life in all societies and they occur at local-to-global scales.	ESSENTIAL QUESTIONS Will humans stop evolving?
	Acquisition	
	Students will know... - that different types of historical evidence include primary sources, secondary sources, and artifacts; - that humans have developed ways to adapt to their environment; - that early humans made many important advancements in prehistoric times; - that the Agricultural Revolution changed the way people lived; - of the following key players, places, events, and/or ideas: - Otzi the Iceman, Agricultural Revolution <u>vocabulary:</u> Prehistory, Paleolithic, nomad, technology, cave drawings, stone age, Neolithic, Agricultural (Farming Revolution), domestication, specialization	Students will be skilled at... - comparing means of changing society over time; - constructing maps to explain spatial patterns; - comparing and contrasting cultural and environmental characteristics; - explaining the relationship between environment and identity; - explaining cause and effect relationships; - analyzing connections in history; - classifying events;
Content Area Literacy Standards		21st Century Skills
RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources.		make judgments and decisions

- RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions.
- RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.
- RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
- RH.6-8.9 Analyze the relationship between a primary and secondary source on the same topic.
- WHST.6-8.1 Write arguments focused on discipline-specific content.
- WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- WHST.6-8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
- WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.
- WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.

- *communicate clearly*
- *collaborate with others*
- *manage goals and time*
- *be self-directed learners*

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

Grade 7: Renaissance, Reformation, and the Push for Exploration

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to analyze the roles of individuals, laws, institutions, and social mechanisms in order to justify the existence of social and political systems. - Students will demonstrate the ability to analyze causal relationships in an economic system by explaining the roles of buyers/sellers, innovation, and entrepreneurship in a market economy. - Students will demonstrate the ability to analyze the reciprocal relationships among human and physical systems by evaluating geospatial data, historical evidence, economic activity, and political decisions. - Students will demonstrate the ability to evaluate causal relationships in order to analyze change and continuity over time. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - Civ.6.6-8. Describe the roles of political, civil, and economic organizations in shaping people's lives. - Civ.9.6-8. Compare deliberative processes used by a wide variety of groups in various settings. - Civ.10.6-8. Explain the relevance of personal interests and perspectives, civic virtues, and democratic principles when people address issues and problems in government and civil society. - Civ.14.6-8. Compare historical and contemporary means of changing societies, and promoting the common good. - Geo.2.6-8. Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions, and changes in their environmental characteristics. - Geo.3.6-8. Use paper based and electronic mapping and graphing	Transfer	
	<i>Students will be able to independently use their learning to make informed decisions based upon their understanding of the individual's impact in a society influenced by powerful forces.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - the ideals of a society are reflected in its artistic expression. - no historical event or development occurs in a vacuum; each one has prior conditions and causes, and each one has consequences. - each place on Earth has a unique set of local conditions and connections to other places. - economic decision making involves setting goals, identifying the resources available to achieve those goals, and weighing the additional benefit of an action against the additional cost.	ESSENTIAL QUESTIONS - Does technology change world views? - Does it matter what a society believes is important? - How much power should one person have?
	Acquisition	
	<i>Students will know...</i> - that the wealth and independence of the Italian city-states cleared the way for the Renaissance - that there were Greek/Roman, secular, and humanistic ideals of the Renaissance as reflected in Italian Renaissance art - that diplomacy and systems of banking began under the Medici and others - that the Renaissance ideas were able to spread into Western Europe following the 100 Years' War along with the rise of Ferdinand and Isabella - that there were concerns about Church practice voiced by Martin Luther and others. - that there are differences in belief and practice between the Roman Catholic Church and the new Protestant denominations. - that economic factors led to exploration, including for example, the closing of the Silk Road. - that there was a rise in the practice of mercantilism by Western Europe's new powerful nations.	<i>Students will be skilled at...</i> - describing the impact of organizations on people. - comparing varied deliberative processes. - explaining the relevance of personal interests and perspectives. - comparing means of changing society over time. - explaining the impact of economic decisions. - explaining the roles of buyers and sellers. - analyzing the role of innovation in an economy. - using mapping and graphing techniques to analyze spatial patterns. - explaining how innovation impacts cultural practices. - explaining how environment influences trade. - analyzing connections in history, and classifying

techniques to represent and analyze spatial patterns of different environmental and cultural characteristics. • Geo.7.6-8. Explain how changes in transportation and communication technology influence the spatial connections among human settlements and affect the diffusion of ideas and cultural practices. • Geo.10.6-8. Analyze the ways in which cultural and environmental characteristics vary among various regions of the world. • Geo.11.6-8. Explain how the relationship between the environmental characteristics of places and production of goods influences the spatial patterns of world trade. • Geo.12.6-8. Explain how global changes in population distribution patterns affect changes in land use in particular places. • His.1.6-8. Analyze connections among events and developments in broader historical contexts. • His.2.6-8. Classify series of historical events and developments as examples of change and/or continuity. • His.3.6-8. Use questions generated about individuals and groups to analyze why they, and the developments they shaped, are seen as historically significant. • His.4.6-8. Analyze multiple factors that influenced the perspectives of people during different historical eras. • His.5.6-8. Explain how and why perspectives of people have changed over time. • His.11.6-8. Use other historical sources to infer a plausible maker, date, place of origin, and intended audience for historical sources where this information is not easily identified. • His.12.6-8. Use questions generated about multiple historical sources to identify further areas of inquiry and additional sources. • His.14.6-8. Explain multiple causes and effects of events and developments in the past. • His.15.6-8. Evaluate the relative influence of various causes of events and developments in the past. • His.16.6-8. Organize applicable evidence into a coherent argument about the past. • Eco.1.6-8. Explain how economic decisions affect the well-being of individuals, businesses, and society. • Eco.3.6-8. Explain the roles of buyers and sellers in product, labor, and financial markets. • Eco.7.6-8. Analyze the role of innovation and entrepreneurship in a market economy.	• that commerce in Western Europe began during this time. • that the search for a water route to Asia led to the beginnings of exploration by Europeans. • that important new technologies arose after the Middle Age including, for example, the printing press, the caravel, and the astrolabe. • that Christianity, like all religions, is multi-faceted. • that the Renaissance began in the Italian city-states and spread throughout Europe. It sparked an age of exploration and discovery. • that European nations sought direct trade routes to Asia in order to bypass Turkish traders. They set sail to the Americas and along western Africa to India. As a result, the West African gold and slave trade developed. • that European nation-states competed for power based on wealth. Portugal, Spain, England, France, and the Netherlands explored North American and set up colonies to provide raw materials, markets, and trade goods. • technological advances and economic gains go hand in hand. • that Mesoamerica's geography had an impact on their history. • that the Mesoamericans had a very advanced civilization. • that indigenous people were greatly impacted by the arrival of the Europeans. vocabulary: renaissance, humanism, secular, diplomat, ambassador, vernacular, printing press, protest, denomination, mercantilism, colony, invest, joint-stock, cottage industry, import, export, commerce, Henry the Navigator, Vasco da Gama, Christopher Columbus, Ferdinand Magellan	events. • explaining and analyzing influences on historical perspectives. • using multiple historical sources. • explaining and evaluating cause and effect relationships. • organizing evidence into a coherent argument.
Content Area Literacy Standards		21st Century Skills
• RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. • RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. • RH.6-8.3 Identify key steps in a text's description of a process related to history/social studies (e.g., how a bill becomes law, how interest rates are raised or lowered). • RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.		• <i>make judgements and decisions</i> • <i>communicate clearly</i> • <i>access and evaluate information</i> • <i>think creatively</i> • <i>collaborate with others</i>

- RH.6-8.5 Describe how a text presents information (e.g., sequentially, comparatively, causally).
- RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.
- RH.6-8.8 Distinguish among fact, opinion, and reasoned judgment in a text.
- WHST.6-8.1 Write arguments focused on *discipline-specific content*.
- WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.
- WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
- WHST.6-8.5 With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.
- WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.
- WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.
- WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

G6: India

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> <i>Students will demonstrate the ability to analyze the reciprocal relationships among human and physical systems by evaluating geospatial data, historical evidence, economic activity, and political decisions.</i> <i>Students will demonstrate the ability to evaluate causal relationships in order to analyze change and continuity over time.</i> <i>Students will demonstrate the ability to analyze the roles of individuals, laws, institutions, and social mechanisms in order to justify the existence of social and political systems.</i> <i>Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials.</i> <i>Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences.</i> <i>Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.</i> <u>Content Standards:</u> Civ.6.6-8. Describe the roles of political, civil, and economic organizations in shaping people's lives. Civ.12.6-8. Assess specific rules and laws (both actual and proposed) as means of addressing public problems. Civ.14.6-8. Compare historical and contemporary means of changing societies, and promoting the common good. Geo.5.6-8. Analyze the combinations of cultural and environmental characteristics that make places both similar to and different from other places. Geo.6.6-8. Explain how the physical and human characteristics of places and regions are connected to human identities and cultures. Geo.10.6-8. Analyze the ways in which cultural and environmental characteristics vary among various regions of the world.	Transfer	
	<i>Students will be able to independently use their learning to analyze how a society's rules, systems, and culture are shaped by various social aspects, geography and natural resources available to its people over time.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> • Earth's human systems and physical systems are in constant interaction and have reciprocal influences flowing among them. • All individuals are impacted by social change, which refers to the transformation of culture, social institutions, and social structure over time. • Individual and group identity is socially constructed through relationships with significant individuals, groups, and society as a whole.	ESSENTIAL QUESTIONS • Why are societies divided into different social classes? • Under what circumstances do religions develop?
Acquisition		
<i>Students will know...</i> • India's caste system has a specific structure, multiple causes, and a significant impact on the society. • there are differing religious beliefs that are found in India that spread across the society		<i>Students will be skilled at...</i> • the impact of organizations on people • comparing means of changing society over time • comparing and contrasting cultural and environmental characteristics

His.1.6-8. Analyze connections among events and developments in broader historical contexts. His.3.6-8. Use questions generated about individuals and groups to analyze why they, and the developments they shaped, are seen as historically significant. His.14.6-8. Explain multiple causes and effects of events and developments in the past. Geo.2.6-8. Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions, and changes in their environmental characteristics. Geo.4.6-8. Explain how cultural patterns and economic decisions influence environments and the daily lives of people in both nearby and distant places. Geo.8.6-8. Analyze how relationships between humans and environments extend or contract spatial patterns of settlement and movement. His.2.6-8. Classify series of historical events and developments as examples of change and/or continuity. His.4.6-8. Analyze multiple factors that influenced the perspectives of people during different historical eras. His.5.6-8. Explain how and why perspectives of people have changed over time. His.6.6-8. Analyze how people’s perspectives influenced what information is available in the historical sources they created. His.10.6-8. Detect possible limitations in the historical record based on evidence collected from different kinds of historical sources.	over time. - throughout history, people in a society are divided into social structures. - religions develop for various reasons and spread to different regions over time. - the Indus River, Ganges River, Himalayas, Arabian Sea, Indian Ocean, Bay of Bengal, Mohenjo-Daro, Harappa, and Nepal are significant geographical features in/around India. - around 600 BC, Siddhartha Gautama was a religious leader who awakened Buddhism as a religion in India. - the Aryans settled in India 3000 years ago (around 1500 BC) and contributed to the foundation of India’s culture today. <u>vocabulary:</u> <i>subcontinent, monsoon, caste, jati, Brahmin, Sudras, Vaisyas, Kshatriyas, Untouchables, Hinduism, Dharma, Karma, reincarnation, Buddhism, nirvana, theocracy.</i>	- explaining the relationship between environment and identity - explaining and analyzing cause and effect relationships - analyzing connections in history - using questioning techniques to analyze historical significance - using geographic representations to explain relationships - explaining the impact of decisions on humans and the environment - analyzing the relationships between humans and their environment - analyzing cause and effect relationships - analyzing connections in history - classifying events - explaining and analyzing influences on historical perspectives - analyzing the influence of perspective on the historical record - evaluating the limitations of historical evidence - explaining cause and effect relationships
Content Area Literacy Standards - RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. - RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. - RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. - RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts - WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. - WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. - WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. - WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.	21st Century Skills <i>make judgments and decisions</i> <i>communicate clearly</i> <i>collaborate with others</i> <i>manage goals and time</i> <i>be self-directed learners</i>	

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Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

Grade 6: Mesoamerica

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to evaluate causal relationships in order to analyze change and continuity over time. - Students will demonstrate the ability to analyze historical evidence in order to evaluate the influence and impact of perspective. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - Civ.14.6-8. Compare historical and contemporary means of changing societies, and promoting the common good. - Eco.14.6-8. Explain barriers to trade and how those barriers influence trade among nations. - Geo.2.6-8. Use maps, satellite images, photographs, and other representations to explain relationships between the locations of places and regions, and changes in their environmental characteristics. - Geo.4.6-8. Explain how cultural patterns and economic decisions influence environments and the daily lives of people in both nearby and distant places. - Geo.5.6-8. Analyze the combinations of cultural and environmental characteristics that make places both similar to and different from other places. - Geo.6.6-8. Explain how the physical and human characteristics of places and regions are connected to human identities and cultures. - Geo.8.6-8. Analyze how relationships between humans and environments extend or contract spatial patterns of settlement and movement. - Geo.10.6-8. Analyze the ways in which cultural and environmental characteristics vary among various regions of the world. - His.1.6-8. Analyze connections among events and developments in broader historical contexts. - His.2.6-8. Classify series of historical events and developments as examples of change and/or continuity. - His.3.6-8. Use questions generated about individuals and groups to analyze why they, and the developments they shaped, are seen as historically significant. - His.4.6-8. Analyze multiple factors that influenced the perspectives of	Transfer	
	<i>Students will be able to independently use their learning to analyze the effects of various perspectives of historical events.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - history is interpretive; and people construct different accounts of the same event, which are shaped by their perspectives—their ideas, attitudes, and beliefs. - there are genetic predispositions to behavioral patterns, but human behavior is also influenced by the environment. - individual and group identity is socially constructed through relationships with significant individuals, groups, and society as a whole.	ESSENTIAL QUESTIONS <i>Is there one right way to view an event?</i>
	Acquisition	
	<i>Students will know...</i> - that Mesoamerica's geography had an impact on their history; - that the Mesoamericans were master builders; - that the Mesoamericans had a very advanced civilization; - that the Mesoamericans were creative innovators; - that the Mesoamerican civilizations came to an end with the arrival of the Europeans; - that the Mesoamericans viewed the European explorers differently; - that the interactions between the Mesoamericans and Europeans became hostile - of the following key players, places, events, and/or ideas: <i>Aztec, Maya, Inca, Cuzco, Machu Pichu, Tenochtitlan, Lake Texcoco, Montezuma, Atahualpa, Hernan Cortes, Francisco Pizarro</i>	<i>Students will be skilled at...</i> - analyzing the impact of societal change over time; - explaining the influences that impact trade; - using geographic representations to explain relationships; - explaining the impact of decisions on humans and the environment; - comparing and contrasting cultural and environmental characteristics; - explaining the relationship between environment and identity; - analyzing the relationships between humans and their environment; - analyzing cause and effect relationships; - analyzing connections in history; - classifying events; - using questioning techniques to analyze historical significance;

people during different historical eras. ● His.5.6-8. Explain how and why perspectives of people have changed over time. ● His.6.6-8. Analyze how people's perspectives influenced what information is available in the historical sources they created. ● His.10.6-8. Detect possible limitations in the historical record based on evidence collected from different kinds of historical sources. ● His.14.6-8. Explain multiple causes and effects of events and developments in the past.	<u>vocabulary</u>: quipu, conquistadors	● explaining and analyzing influences on historical perspectives; ● analyzing the influence of perspective on the historical record; ● evaluating the limitations of historical evidence; ● explaining cause and effect relationships.
Content Area Literacy Standards ● RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. ● RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. ● RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. ● RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts ● WHST.6-8.1 Write arguments focused on discipline-specific <i>content</i>. ● WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. ● WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. ● WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.		21st Century Skills ● <i>make judgments and decisions</i> ● <i>communicate clearly</i> ● <i>collaborate with others</i> ● <i>manage goals and time</i> ● <i>be self-directed learners</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

Grade 6: Greece

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to analyze the reciprocal relationships among human and physical systems by evaluating geospatial data, historical evidence, economic activity, and political decisions. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - Civ.6.6-8. Describe the roles of political, civil, and economic organizations in shaping people's lives. - Civ.12.6-8. Assess specific rules and laws (both actual and proposed) as means of addressing public problems. - Civ.14.6-8. Compare historical and contemporary means of changing societies, and promoting the common good. - D4.6.6-8. Draw on multiple disciplinary lenses to analyze how a specific problem can manifest itself at local, regional, and global levels over time, identifying its characteristics and causes, and the challenges and opportunities faced by those trying to address the problem. - D4.7.6-8. Assess their individual and collective capacities to take action to address local, regional, and global problems, taking into account a range of possible levers of power, strategies, and potential outcomes. - D4.8.6-8. Apply a range of deliberative and democratic procedures to make decisions and take action in their classrooms and schools, and in out-of-school civic contexts. - Geo.5.6-8. Analyze the combinations of cultural and environmental characteristics that make places both similar to and different from other places. - Geo.6.6-8. Explain how the physical and human characteristics of places and regions are connected to human identities and cultures. - Geo.10.6-8. Analyze the ways in which cultural and environmental characteristics vary among various regions of the world. - His.1.6-8. Analyze connections among events and developments in broader historical contexts. - His.3.6-8. Use questions generated about individuals and groups to analyze why they, and the developments they shaped, are seen as	Transfer	
	<i>Students will be able to independently use their learning to analyze how a civilization's culture shapes its people, landscape, and events.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - Earth's human systems and physical systems are in constant interaction and have reciprocal influences flowing among them. - major social and historical events can be a force in socializing entire generational groups. - social structure and culture work in tandem to shape societies, but are not completely rigid.	ESSENTIAL QUESTIONS <i>Is there such a thing as a "perfect culture?"</i>
	Acquisition	
	<i>Students will know...</i> - that Greece's geography had an impact on their history; - that Greece was made up of many independent city-states; - that Greek city-states were known as a polis; - that only certain people were considered citizens in the polis; - that these city-states had rivalries (Athens vs Sparta); - that the Olympics provided the Greeks an opportunity to come together; - of the following key players, places, events, and/or ideas: <i>Athens, Sparta, Olympia, Leonidas, Persia, Marathon, Thermopylae, Themistocles, Xerxes, Salamis</i> <u>vocabulary:</u> polis, helot, citizen, oligarchy, tyrant	<i>Students will be skilled at...</i> - describing the impact of organizations on people; - comparing means of changing society over time; - drawing on multiple disciplinary lenses to analyze a problem; - assessing capacities to take action; - considering options for addressing a problem; - comparing and contrasting cultural and environmental characteristics; - explaining the relationship between environment and identity; - explaining and analyzing cause and effect relationships; - analyzing connections in history; - using questioning techniques to analyze historical significance

historically significant. ● His.14.6-8. Explain multiple causes and effects of events and developments in the past.		
Content Area Literacy Standards		21st Century Skills
● RH.6-8.1 Cite specific textual evidence to support analysis of primary and secondary sources. ● RH.6-8.2 Determine the central ideas or information of a primary or secondary source; provide an accurate summary of the source distinct from prior knowledge or opinions. ● RH.6-8.4 Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies. ● RH.6-8.7 Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts ● WHST.6-8.1 Write arguments focused on discipline-specific <i>content</i>. ● WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes. ● WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. ● WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently. ● WHST.6-8.7 Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. ● WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation. ● WHST.6-8.9 Draw evidence from informational texts to support analysis, reflection, and research.		● <i>make judgments and decisions</i> ● <i>communicate clearly</i> ● <i>collaborate with others</i> ● <i>manage goals and time</i> ● <i>be self-directed learners</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	



EXECUTIVE SUMMARY

TRHS Math Curriculum Revisions

Course: Geometry

TRHS Math Department is proposing curriculum revisions for Geometry. The only change is to the course competencies. The current five course competencies (some of which are unit specific) are revised to two course competencies that repeat in every unit. The new competencies will be measured over time with each unit's specific content elements. Please see below. The "apply" and "solve" competencies are consolidated into one competency called "solve" that includes the language of both "apply" and "solve." The "congruence," "similarity," and "circles" competencies will be replaced with one "reason" competency that can be applied to each specific unit's content of "congruence," "similarity," and "circles." All other aspects of the curriculum units remain the same.

(PROPOSED NEW) Geo.Solve: *Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas.*

Geo.Apply: Students will demonstrate the ability to apply algebraic models to express geometric relationships.

Geo.Solve: Students will demonstrate the ability to model with geometric formulas in order to solve problems involving one- two- and three dimensional objects.

(PROPOSED NEW) Geo.Reason: *Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements.*

Geo.Congruence: Students will demonstrate the ability to reason with the definitions and theorems of geometry in order to create conjectures and prove statements about congruence.

Geo.Similarity: Students will demonstrate the ability to reason with the definitions and theorems of geometry in order to construct, apply, and prove statements about similarity.



Geo.Circles: Students will demonstrate the ability to reason with the definitions and theorems of geometry in order to create conjectures and prove statements about circles.

Thank you to the TRHS Geometry PLC and TRHS Math Department for their coordination and collaboration on these comprehensive competency revisions.

TRHS Math Curriculum Revisions cont'd

Course: Probability Statistics Trigonometry

The TRHS Math Department is proposing curriculum revisions for Probability Statistics Trigonometry. The only change is to the course competencies. All other aspects of the curriculum documents remain the same. The current 12 course competencies are revised to 8 course competencies, some that repeat in several units and some that are specific to one unit's content. Of the 12 original, 5 are remaining the same and the other 7 are either merged by competency wording or eliminated but merged by curriculum skill.

In the new curriculum documents, the "graphing," "modeling," and "logic" competencies repeat in multiple units as they are skills/mathematical practices that apply to various contents (display data, functions, and patterns; use real world problems; and reason abstractly and quantitatively). The new "apply trigonometry," "apply statistics," "apply probability," "matrices," "sequences and series," competencies are embedded in the units in which the skills/content matches.

Here is a breakdown of the units and their competencies:

The Trigonometry unit competencies include: apply trigonometry, graphing, and modeling.

The Statistics unit competencies include: apply statistics, graphing, modeling, and logic.

The Probability unit competencies include: apply probability, graphing, modeling, and logic.

The Matrices unit competencies include: matrices, modeling, and graphing.

The Sequences and Series unit competencies include: sequences and series, modeling, graphing, and logic.

The Logic unit competencies include: logic and modeling.



ORIGINAL Competencies

Students will demonstrate the ability to apply trigonometric functions to solve for unknown quantities.
(Competency merged and all “I can statements” in the rubric remain in the APPLY TRIG rubric)

Students will demonstrate the ability to reason with the definitions, laws, and identities of trigonometry in order to create conjectures and prove statements

(Competency merged and 3 “I can statements” from the REASON TRIG rubric were moved to the APPLY TRIG rubric and 3 “I can statements” to the MODELING rubric)

Students will demonstrate the ability to graph functions by using tables and analyzing equations.
(No change to this competency)

Students will demonstrate the ability to solve for missing quantities by applying the law of sines, law of cosines and vectors.

(Competency eliminated and “I can statements” on the rubric moved to the GRAPHING and the MODELING rubrics.)

Students will demonstrate the ability to apply statistical methods in order to collect, organize, and interpret data.

(No change to this competency)

Students will demonstrate the ability to apply regression/ correlation techniques in order to determine relationships that exist between two variables.

(Competency eliminated and “I can statements” on the rubric added to the APPLY STATS competency rubric)

Students will demonstrate the ability to apply the principles of experimental and theoretical probability in order to determine the likelihood of a given outcome, make inferences, and justify or critique conclusions
(Competency merged and the “I can statements” on the rubric moved to APPLY PROB rubric)

Students will demonstrate the ability to apply matrices to solve problems in a variety of contexts. **(No change to this competency)**

Students will demonstrate the ability to simplify algebraic expressions and equations by applying the properties of operations and arithmetic of complex numbers.

(Competency eliminated and all of the “I can statements” on the rubric were moved to the SOLVED SEQUENCES rubric and renamed to SEQUENCES AND SERIES).

Students will demonstrate the ability to apply functions to solve problems in a variety of contexts by interpreting and analyzing multiple representations of functions.

(Competency merged)



Students will demonstrate the ability to model real world problems by building and analyzing the appropriate expression, equation, or function.

(No change to this competency)

Students will demonstrate the ability to use mathematical reasoning in order to comprehend and construct mathematical arguments

(No change to this competency)

NEW Competencies

APPLY PROBABILITY = Students will demonstrate the ability to apply functions and the principles of experimental and theoretical probability in order to determine the likelihood of a given outcome, make inferences, and justify or critique conclusions in a variety of contexts by interpreting and analyzing multiple representations of functions.

APPLY STATS = Students will demonstrate the ability to apply statistical methods in order to collect, organize and interpret data.

APPLY TRIG = Students will demonstrate the ability to apply trigonometric functions, definitions, laws, and identities to solve for unknown quantities, create conjectures, and prove statements.

GRAPH = Students will demonstrate the ability to graph functions by using tables and analyzing equations.

LOGIC = Students will demonstrate the ability to use mathematical reasoning in order to comprehend and construct mathematical arguments.

MATRICES = Students will demonstrate the ability to apply matrices to solve problems in a variety of contexts.

MODELING = Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function.

SEQUENCES AND SERIES = Students will demonstrate the ability to apply functions to solve problems in a variety of contexts by interpreting and analyzing multiple representations of functions.



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Thank you to the TRHS Probability Statistics Trigonometry PLC and TRHS Math Department for their time and effort in collaborating on the thoughtful reflection of the implementation of the course competencies and all proposed revisions.

Respectfully submitted,

Jennifer Puchlopek, Secondary Curriculum Coordinator

Geometry: Basics of Geometry

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas. - Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc. - G.CO.9 Prove theorems about lines and angles. Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints. - G.CO.12 Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). Copying a segment; copying an angle; bisecting a segment; bisecting an angle; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line. - G.GPE.6 Find the point on a directed line segment between two given points that partitions the segment in a given ratio. - G.GPE.5 Prove the slope criteria for parallel and perpendicular lines and uses them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point). - MP2 Reason abstractly and quantitatively. - MP3 Construct viable arguments and critique the reasoning of others. - MP6 Attend to precision. - MP7 Look for and make use of structure.	Transfer	
	Students will be able to independently use their learning to make logical arguments that are supported by evidence.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - a proof goes beyond supporting or justifying; it proves for all cases. - the tools of geometry allow us to study real-world situations.	ESSENTIAL QUESTIONS - How can you know when a conclusion is valid? - What would civilization be like without an understanding of geometry?
	Acquisition	
	Students will know... - that 2 points define a line and that 3 noncollinear points define a plane. - that 2 planes intersect in a line. - that if three (or more) parallel lines cut off congruent segments on one transversal, then they cut off congruent segments on every transversal. - the Angle Pair Relationships including those formed by transversals and/or parallel lines (and their converses). - that a counterexample disproves a conjecture, but that an example does not prove a conjecture. - why we call points, lines and planes the "Essentials of Geometry". - the following properties, proofs, formulas, and postulates: - Properties of Equality - Properties of Congruence 2-column Proofs - Paragraph Proofs - Flow Proofs - Segment Addition Postulate - Angle Addition Postulate - Midpoint Formula - Distance Formula	Students will be skilled at... - using undefined terms (points, lines, and planes) to describe and analyze relationships. - using symbolic notation. - applying angle and segment addition postulates (leading to proofs) to solve for unknown values to determine angle/segment measures. - observing patterns to make conjectures. - creating and analyzing conjectures and determining their truth values. - justifying the steps involved in solving equations using properties of equality. - creating formal geometric constructions using a variety geometric tools and methods. - finding the midpoint given two endpoints and finding an endpoint given an endpoint and midpoint using the midpoint formula. - finding the length of a segment given two coordinate points using the distance formula. - identifying angle-pair relationships. - proving geometric relationships through 2-column, paragraph and flow proofs. - using given information, definitions, properties, postulates, and theorems in proofs.

MP8 Look for and express regularity in repeated reasoning.	<i>vocabulary:</i> <i>point, line, plane, collinear points, coplanar, space, segment, ray, opposite rays, postulate, axiom, intersection, congruent segments, midpoint, segment bisector, congruent angles, adjacent angles, vertical angles, complementary angles, supplementary angles, linear pair, angle bisector, perpendicular bisector, equidistant, inductive reasoning, conjecture, counterexample, conditional, hypothesis, conclusion, truth value, negation, converse, inverse, contrapositive, equivalent statements, biconditional, deductive reasoning, reflexive, symmetric, transitive, proof, skew lines, transversal, alternate interior angles, consecutive (same-side) interior angles, corresponding angles, alternate exterior angles, exterior angle of a polygon, remote interior angle</i>	<i>proving that parallel lines have the same slope and that perpendicular lines have opposite reciprocal slopes.</i> <i>proving that vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.</i>
Content Area Literacy Standards		21st Century Skills
- RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. - RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text. - RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. - RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 9-10 texts and topics</i>. - RST.9-10.5 Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force, friction, reaction force, energy</i>). - RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.		<i>reason effectively</i> <i>use systems thinking</i> <i>think creatively</i> <i>be flexible</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Language Arts Integration

- 1.OA.1 Use

Mathematics Integration

- 1.OA.1 Use

Technology Integration

- 1.OA.1 Use

District Materials

Geometry: Triangles

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas. - Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - G.CO.7 Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent. - G.CO.8 Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions. - G.CO.10 Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. - G.CO.13 Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle. - G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. - G.SRT.7 Explain and use the relationship between the sine and cosine of complementary angles. - G.SRT.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. - G.SRT.8 Use trigonometric ratios and the Pythagorean Theorem to	Transfer	
	Students will be able to independently use their learning to identify the relevant information required to draw a valid conclusion.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - triangles are the basic building blocks of polygons. - relationships between the components of triangles can be used to determine the measures of other components.	ESSENTIAL QUESTIONS How do you know when you have enough relevant information?
	Acquisition	
	Students will know... - that if a line bisects the vertex angle of an isosceles triangle, then the line is also the perpendicular bisector of the base. - that if two sides of a triangle are not congruent, then the larger angle lies opposite the longer side. - that if two angles of a triangle are not congruent, then the longer side lies opposite the larger angle. - that if the square of the length of the longest side of a triangle is greater (less) than the sum of the squares of the lengths of the other two sides, then the triangle is obtuse (acute). - that corresponding parts of congruent triangles are congruent. (CPCTC) - the following theorems, postulates, ratios, and properties: - Third Angles Theorem - Triangle Congruence Postulates/Theorem 45-45-90 Triangle Theorem 30-60-90 Triangle Theorem - Trigonometric ratios - Hypotenuse-Leg (HL) Theorem - Triangle Midsegment Theorem - Perpendicular Bisector Theorem and its converse - Angle Bisector Theorem and its converse - Concurrency Theorems	Students will be skilled at... - labeling diagrams. - applying properties of a triangle midsegment, perpendicular bisector, and angle bisector. - proving triangles congruent using SSS, SAS, ASA, AAS, and HL congruence theorems/postulates. - creating points of concurrency along with inscribed and circumscribed circles. - applying the properties of the points and lines of concurrency. - proving conclusions using indirect reasoning and proof. - applying the inequality properties of an individual triangle. - applying the inequality properties of two triangles. - using Pythagorean Theorem to solve for the missing side of a triangle. - classifying triangles as acute, obtuse, or right using the Pythagorean Theorem and its converse. - applying the properties of special right triangles to find missing side lengths. - identifying the relationships and properties

solve right triangles in applied problems. • MP2 Reason abstractly and quantitatively. • MP3 Construct viable arguments and critique the reasoning of others. • MP4 Model with mathematics. • MP7 Look for and make use of structure. • MP8 Look for and express regularity in repeated reasoning.	○ <i>Isosceles Triangle Theorem, its converse, and its corollaries</i> ○ <i>Comparison Property of Inequality</i> ○ <i>Corollary to Triangle Exterior Angle Theorem</i> ○ <i>Triangle Inequality Theorem</i> ○ <i>The Hinge Theorem (SAS Inequality Theorem) and its converse (SSS Inequality)</i> ○ <i>Pythagorean Theorem and its converse</i> <u>vocabulary:</u> congruent figures, congruent triangles, corollary, triangle, midsegment, concurrent, points of concurrency, circumcenter, circumscribed about, incenter, inscribed in, median, centroid, altitude, orthocenter, Pythagorean triple, sine, cosine, tangent, angle of elevation, angle of depression, corresponding parts	within overlapping triangles. • <i>applying trigonometric properties to find missing angle and side measures of right triangles.</i> • <i>applying coordinate geometry to find relationships within triangles.</i>
Content Area Literacy Standards		21st Century Skills
• RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions. • RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. • RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 9-10 texts and topics</i>. • RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.		• <i>reason effectively</i> • <i>use systems thinking</i> • <i>access and evaluate information</i> • <i>use and manage information</i> • <i>think creatively</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan
<i>Summary of Key Learning Events and Instruction</i>

<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
• 1.OA.1 Use	• 1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
• 1.OA.1 Use	

Geometry: Similarity and Transformations

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas. - Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - G.SRT.1ab Verify experimentally the properties of dilations given by a center and a scale factor. - A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged. - The dilation of a line segment is longer or shorter in the ratio given by the scale factor. - G.SRT.2 Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. - G.SRT.3 Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar. - G.SRT.4 Prove theorems about triangles. Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity. - G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. - G.CO.2 Represent transformations in the plane using, e.g. transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g.. translation versus horizontal stretch). - G.CO.3 Given a rectangle, parallelogram, trapezoid, or regular	Transfer	
	Students will be able to independently use their learning to manipulate objects to create a desired outcome.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - if similarity is maintained, the relationships between the components stay constant. - similarity is an important tool in indirect measurement. - similarity can be proven through geometric transformations.	ESSENTIAL QUESTIONS - What consequences can result from manipulation? - How do geometric transformations uncover the relationships in similar figures?
	Acquisition	
	Students will know... - that equality refers to values and measurements whereas congruence refers to objects. - that polygons can be proven similar using proportions. - that the distance from the center of dilation to each corresponding vertex of similar figures retains the scale factor between the figures. - that special segments will split a triangle proportionally. - that an angle bisector cuts an angle into two equal halves. - that the altitude drawn to the hypotenuse of a right triangle creates two similar right triangles, each similar to the original right triangle and similar to each other. - that similar triangles can create a geometric mean. - the following postulates and theorems: - AA, SAS, SSS Triangle postulates - Side-splitter Theorem and its corollary - Triangle-Angle-Bisector Theorem	Students will be skilled at... - writing and solving proportions based on given information. - applying similarity theorems to prove triangle similarity. - transforming pre-images to their images both on and off the coordinate plane using translations, reflections, rotations, and dilations for figures. - determining new coordinates after any given transformation. - identifying congruence transformations and proving congruence using isometries. - identifying similarity transformations and verifying properties of similarity. - using triangle similarity to prove the Pythagorean Theorem. - using congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

polygon, describe the rotations and reflections that carry it onto itself. - G.CO.4 Develop definitions of rotations, reflections, and lines, parallel lines, and line segments. - G.CO.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another. - G.CO.6 Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent. - MP1 Make sense of problems and persevere in solving them. - MP2 Reason abstractly and quantitatively. - MP6 Attend to precision. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	<i>vocabulary:</i> extremes of a proportion, geometric mean, indirect measurement, means of a proportion, ratio, extended ratio, proportion, extended proportion, scale, scale drawing, scale factor, similar, similar polygons, indirect measurement, congruence transformation, dilation, image, isometry, preimage, reflection, rigid motion, rotation, similarity transformation, translation, compositions of transformations	
Content Area Literacy Standards		21st Century Skills
- RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. - RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.		- reason effectively - use systems thinking - make judgments and decisions - solve problems - communicate clearly - access and evaluate information

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan
Summary of Key Learning Events and Instruction

<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
• 1.OA.1 Use	• 1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
• 1.OA.1 Use	

Geometry: Polygons

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas. - Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - G.CO.11 Prove theorems about parallelograms - G.SRT.5 Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. - G.GPE.4 Use coordinates to prove simple geometric theorems algebraically - G.GPE.7 Use coordinates to compute perimeters of polygons and areas of triangles and rectangles - G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc - G.MG.1 Use geometric shapes, their measures, and their properties to describe objects - MP2 Reason abstractly and quantitatively. - MP3 Construct viable arguments and critique the reasoning of others. - MP5 Use appropriate tools strategically. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	Transfer	
	Students will be able to independently use their learning to make determinations about an object based on how it is categorized.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - quadrilaterals inherit their properties from a hierarchy of other quadrilaterals. - the area formulas for a triangle and rectangle can be applied to find the area formulas for all quadrilaterals.	ESSENTIAL QUESTIONS When is it appropriate to make a generalization about a group?
	Acquisition	
	Students will know... - that if a quadrilateral is a parallelogram, then its - opposite sides are congruent. - consecutive angles are supplementary. - opposite angles are congruent. - diagonals bisect each other. - that if both pairs of opposite sides of a quadrilateral are congruent, then the quadrilateral is a parallelogram. - that if an angle of a quadrilateral is supplementary to both of its consecutive angles, then the quadrilateral is a parallelogram. - that if both pairs of opposite angles of a quadrilateral are congruent, then the quadrilateral is a parallelogram. - that if the diagonals of a quadrilateral bisect each other, then the quadrilateral is a parallelogram. - that if one pair of opposite sides of a quadrilateral is both congruent and parallel, then the quadrilateral is a parallelogram. - that if a parallelogram is a rhombus, then - its diagonals are perpendicular. - each diagonal bisects a pair of opposite angles.	Students will be skilled at... - determining angle measures using diagonals. - writing coordinate proofs using slope and distance formulas to prove sides/diagonals congruent/parallel/perpendicular. - writing proofs using properties of polygons and special parallelograms . - applying formulas to find area of parallelograms, triangles, trapezoids, rhombuses, kites, and regular polygons. - using trigonometric ratios to find area of regular polygons and any triangle. - using area and perimeter ratios of similar figures to determine unknown values .

	• <i>that if a parallelogram is a rectangle, then its diagonals are congruent.</i> • <i>that if the diagonals of a parallelogram are perpendicular, then the parallelogram is a rhombus.</i> • <i>that if one diagonal of a parallelogram bisects a pair of opposite angles, then the parallelogram is a rhombus.</i> • <i>that if the diagonals of a parallelogram are congruent, then the parallelogram is a rectangle.</i> • <i>that if a quadrilateral is a trapezoid, then the</i> - o <i>midsegment is parallel to the bases.</i> - o <i>length of the midsegment is half the sum of the lengths of the bases.</i> • <i>that if a quadrilateral is an isosceles trapezoid, then</i> - o <i>each pair of base angles is congruent.</i> - o <i>its diagonals are congruent.</i> • <i>that if a quadrilateral is a kite, then its diagonals are perpendicular.</i> • <i>the area formulas for rectangles, parallelograms, triangles, trapezoids, rhombuses, kites, and regular polygons.</i> • <i>the ratios for the perimeters and areas of similar figures.</i> • <i>the following theorems:</i> - o <i>Polygon Angle-Sum Theorem and its corollary</i> - o <i>Polygon Exterior Angle-Sum Theorem</i> <i><u>vocabulary:</u> equiangular polygon, equilateral polygon, regular polygon, consecutive angles, rectangle, rhombus, trapezoid, isosceles trapezoid, kite, coordinate proof, apothem</i>	
Content Area Literacy Standards		21st Century Skills
• RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. • RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 9-10 texts and topics</i>. • RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.		• <i>reason effectively</i> • <i>make judgements and decisions</i> • <i>solve problems</i> • <i>communicate clearly</i>

Stage 2 - Evidence

<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

Geometry: Surface Area and Volume

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas. - Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). - G.MG.2 Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot). - G.MG.3 Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios). - G.GMD.1 Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. Use dissection arguments, Cavalieri's principle, and informal limit arguments. - G.GMD.3 Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems. - G.GMD.4 Identify the shapes of two-dimensional cross-sections of three dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects. - MP2 Reason abstractly and quantitatively. - MP3 Construct viable arguments and critique the reasoning of others. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	Transfer	
	Students will be able to independently use their learning to apply their understanding of two- and three-dimensional space to create models that most efficiently utilize resources.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... three dimensional figures are created from two dimensional figures; therefore the formulas for finding the surface area of three dimensional figures are based on the formulas of finding the area of two dimensional figures.	ESSENTIAL QUESTIONS What are the relationships between finding area, surface area, and volume of two- and three-dimensional figures?
	Acquisition	
	Students will know... - that mapping three dimensions onto two (or two onto three) may introduce distortions. - the following formulas and principles: - Euler's Formula - Cavalieri's Principle - lateral and surface area formulas of a prism, cylinder, pyramid, and cone - volume formulas of a prism, cylinder, pyramid, and cone. - surface area and volume formulas of a sphere. <u>vocabulary:</u> face, polyhedron, cross section, lateral area, surface area, prism, right prism, oblique prism, bases, lateral faces, altitude, height, cylinder, right cylinder, oblique cylinder, pyramid, lateral faces, vertex, regular pyramid, slant height, cone, right cone, volume, similar solids, sphere, great circle, hemispheres, composite space figures, density	Students will be skilled at... - examining and describing cross sections. - using dissection arguments, Cavalieri's principle, and limit arguments to create the following formulas informally: - circumference of a circle - area of a circle - volume of a cylinder, pyramid, and cone - calculating lateral area of prisms, pyramids, cylinders, and cones. - calculating surface area of prisms, pyramids, cylinders, cones, and spheres. - calculating volume of prisms, pyramids, cylinders, cones, and spheres. - using Cavalieri's Principle to compare volumes. - using ratios of similar solids to compare area and volumes of similar solids. - applying concepts of density based on area and volume in modeling situations.
Content Area Literacy Standards		21st Century Skills

• RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. • RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	• <i>reason effectively</i> • <i>use systems thinking</i> • <i>communicate clearly</i> • <i>make judgments and decisions</i>
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Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
• 1.OA.1 Use	• 1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
• 1.OA.1 Use	

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Geometry: Circles

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to solve problems involving one- two- and three-dimensional objects by applying algebraic models and geometric formulas. - Students will demonstrate the ability to reason with definitions, properties, and theorems of geometry to create conjectures and to prove or analyze statements. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - G.C.A.1 Prove that all circles are similar. - G.CA.2 Identify and describe relationships among inscribed angles, radii, and chords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle. - G.CA.3 Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. - G.CA.5 Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector. - G.GPE.1 Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation. - G.CO.1 Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc - G.MG.1 Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). - MP2 Reason abstractly and quantitatively. - MP5 Use appropriate tools strategically. - MP6 Attend to precision. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	Transfer	
	Students will be able to independently use their learning to apply their knowledge of circles to model and solve problems.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... - circles can be used to describe angles and prove a variety of geometric theorems. - all circles are similar.	ESSENTIAL QUESTIONS Why have cultures throughout history considered circles to be the perfect shape?
	Acquisition	
	Students will know... - that if a line is tangent to a circle, then the line is perpendicular to the radius at the point of tangency (and the converse). - that if two tangent segments in a circle share a common endpoint outside the circle, then the two segments are congruent. - that, within a circle or in congruent circles, - congruent central angles have congruent arcs (and the converse). - congruent central angles have congruent chords (and the converse). - congruent chords have congruent arcs (and the converse). - chords equidistant from the center or centers are congruent (and the converse). - that, in a circle, - if a diameter is perpendicular to a chord, then it bisects the chord and its arc. - if a diameter bisects a chord (that is not a diameter), then it is perpendicular to the chord. - the perpendicular bisector of a chord contains the center of the circle. - the inscribed Angle Theorem and its corollaries. - the measure of an angle formed by a tangent and	Students will be skilled at... - applying the properties of chords, tangents, secants, and radii as they relate to each other and their corresponding circles. - proving that all circles are similar. - finding and using measures of angles formed by chords/ tangents/secants/radii and arcs. - writing the equation of a circle. - deriving the equation for a circle using the Pythagorean Theorem. - describing a circle given the equation, including completing the square to find the center and radius of a circle given by an equation. - deriving the formula for the area of a sector. - determining the measures of angles, arcs, and segments from lines intersecting (or within) a circle.

	<i>a chord is half the measure of the intercepted arc.</i> • <i>the measure of an angle formed by two lines that intersect inside a circle (secants) is half the sum of the measures of the intercepted arcs.</i> • <i>the measure of an angle formed by two lines that intersect outside a circle (2 secants, 2 tangents, 1 secant and 1 tangent) is half the difference of the measures of the intercepted arcs.</i> • <i>that, for a given point and a circle, the product of the lengths of the two segments from the point to the circle is constant along any line through the point and circle (3 cases).</i> • <i>the standard equation of a circle.</i> • <i>the radian as a unit of measure.</i> • <i>the relationships between angles and arcs in a circle.</i> <u>vocabulary:</u> sector, tangent to a circle, point of tangency, chord, inscribed angle, intercepted arc, secant, minor arc, major arc	
Content Area Literacy Standards		21st Century Skills
• RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. • RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 9-10 texts and topics</i>. • RST.9-10.5 Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., <i>force, friction, reaction force, energy</i>). • RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.		• reason effectively • use systems thinking • solve problems • communicate clearly

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Language Arts Integration

- 1.OA.1 Use

Mathematics Integration

- 1.OA.1 Use

Technology Integration

- 1.OA.1 Use

District Materials

Probability, Statistics & Trigonometry: Trigonometry

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to apply trigonometric functions, definitions, laws, and identities to solve for unknown quantities, create conjectures, and prove statements. - Students will demonstrate the ability to graph functions by using tables and analyzing equations. - Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - HSG.SRT.C.6 Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. - HSG.SRT.C.7 Explain and use the relationship between the sine and cosine of complementary angles. - HSG.SRT.C.8 Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. - HSG.SRT.D.9 (+) Derive the formula $A = \frac{1}{2} ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite - HSN.VM.A.1 (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., $\mathbf{v}$, $\mathbf{v}$, $\mathbf{v}$, v). - HSN.VM.A.2 (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.	Transfer	
	Students will be able to independently use their learning to understand and make predictions involving periodic phenomena.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... in order to solve problems involving physical phenomena which carry a direction, the mathematics must consider both the magnitude and the direction.	ESSENTIAL QUESTIONS - How can we use trigonometry to solve problems with real world applications? - How can we use trigonometry as a tool to describe the world around us?
	Acquisition	
	Students will know... - that trig definitions describe a specific ratio between two sides of a right triangle and are unitless. - that right triangles can be used to solve problems that would be impossible to solve using direct measure. - six trig definitions from two contexts - coordinate standpoint x, y, r - geometric standpoint opposite leg length, adjacent leg length, hypotenuse length - exact and decimal values of trig ratios for the construction triangles: 45°-45°-90° and 30°-60°-90° - the basic trig identities. - the cofunction theorem. - that 1 degree = 60 minutes and 1 minute = 60 seconds $r@\theta^\circ$ format for vector quantities - that approximately 6 radians exist on the edge of a given circle relative to its size - that radians are unitless but a more accurate measure than degrees. - the difference between linear and angular velocities	Students will be skilled at... - calculating exact and decimal values of six trig functions given one. (x,y) point on the terminal side of theta ϑ in standard position. - calculating exact and decimal values of six trig functions given one angle and one side of a right triangle. - calculating exact and decimal values of six trig functions given only an angle that is an increment of 30° or 45°. - calculating exact and decimal values of remaining trig functions given one trig ratio in any quadrant. - calculating and interpreting a reference angle given a trig ratio. - using trig identities to prove equivalencies. - converting angle measure between decimal degrees and degrees, minutes, seconds formats. - determining the measurements of missing sides and angles in a right triangle, including multiple right triangles in a single situation. - calculating the height of an object indirectly - representing vectors accurately using graph paper, ruler, protractor to scale as well as abstractly. - drawing and labeling an accurate representation of

- CCSS.MATH.CONTENT.HSN.VM.A.3 (+) Solve problems involving velocity and other quantities that can be represented by vectors. - HSN.VM.B.4 (+) Add and subtract vectors. - Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes. - HSN.VM.B.5 (+) Multiply a vector by a scalar. - Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$. - MP1 Make sense of problems and persevere in solving them. - MP2 Reason abstractly and quantitatively. - MP4 Model with mathematics. - MP6 Attend to precision. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	<i>how unit analysis can assist to solve for missing information and to interpret given information.</i> <i>how the graphs of sine, cosine and tangent connect</i> <i>the criteria needed to determine which Law to apply when trying to find missing information given an oblique triangle.</i> <i>Law of Sines and Law of Cosines</i> <i>Vocabulary: initial side or ray, terminal side or ray, standard position, positive angle, negative angle, rotation, coterminal angles, sine, cosine, tangent, cosecant, secant, cotangent, reference angle, reciprocal identities, ratio identities, Pythagorean identities, odd-even identities,, refined angular measurement: degrees, minutes, seconds, angle of elevation, angle of depression, bearing vs. course, vector, scalar, vector components, resultant vector</i>	<i>a vector equation(i.e. $\vec{r}=3\vec{u}+2\vec{v}$ if $\vec{u}=3\text{cm}@20^\circ$ and $\vec{v}=7\text{cm}@52^\circ$).</i> <i>adding and subtracting vectors.</i> <i>multiplying a scalar by a vector.</i> <i>modeling navigation by using vectors.</i> <i>sketching angles of rotation in standard position given a radian or degree measure.</i> <i>converting angles between degree and radian measure.</i> <i>determining the reference angle for a given theta of rotation (in degrees or radian form)</i> <i>interpreting and using all values labeled on the unit circle.</i> <i>calculating and interpreting arc length in context</i> <i>calculating and interpreting area sector in context</i> <i>calculating and interpreting linear and angular velocities given a real life context.</i> <i>solving equations using inverse functions.</i> <i>graphing sine, cosine and tangent functions.</i> <i>applying Law of Cosines depending on the given information</i> <i>calculating the area of an oblique triangle given only SAS or SSS information.</i>
Content Area Literacy Standards		21st Century Skills
- RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. - RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. - RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. - RST.11-12.5 Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas. - RST.11-12.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved. - RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. - RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.		<i>reason effectively</i> <i>use systems thinking</i> <i>solve problems</i> <i>be flexible</i>

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):

	OTHER EVIDENCE:
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Stage 3 – Learning Plan <i>Summary of Key Learning Events and Instruction</i>	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

Probability, Statistics & Trigonometry: Statistics

Stage 1 Desired Results		
Competencies: - Students will demonstrate the ability to apply statistical methods in order to collect, organize and interpret data. - Students will demonstrate the ability to graph functions by using tables and analyzing equations. - Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function. - Students will demonstrate the ability to use mathematical reasoning in order to comprehend and construct mathematical arguments. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. Content Standards: - HSS.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots). - HSS.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. - HSS.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). - HSS.ID.B.5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. - HSS.ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. - HSS.IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population. - HSS.IC.A.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model? - HSS.IC.B.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each. - HSS.IC.B.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling. - HSS.IC.B.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between	Transfer	
	Students will be able to independently use their learning to construct and defend a well thought out conclusion.	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - statistical representations are beneficial for either studying certain characteristics or influencing certain interpretations of the data. - just because there is a correlation between two things, that there is causation between them.	ESSENTIAL QUESTIONS - Can you ever be sure that a conclusion is correct? - How can we determine if our understandings of a relationship are correct?
	Acquisition	
	<i>Students will know...</i> - that a parameter describes the entire population, whereas a statistic describes only a sample of the population. - that the sample size is an important feature of any empirical study in which the goal is to make inferences about a population from a sample. - that frequency distribution tables can be used for both categorical and numeric variables. - a line of best fit can be used to determine the linear relationship between two quantities. - a linear correlation does not mean that there is a causation between the two sets of data. vocabulary: statistics, population, census, sample, data, parameter, statistic, quantitative data, qualitative data, discrete data, continuous data, nominal level of measure, ordinal level of measure, interval level of measure, ratio level of measure, self-selected survey, loaded question, observational study, experiment, placebo effect, blinding, double blind, confounding, random sample, systematic sampling, convenience sampling, stratified sampling, cluster sampling, frequency table, lower class limits, upper class limits,	<i>Students will be skilled at...</i> - identifying a value as a statistic or parameter. - identifying abuses of statistics. - identifying observational study/experiment. - identifying sampling method. - identifying class width/midpoint/boundary. - constructing a cumulative frequency table. - constructing a frequency table given data. - analyzing histograms. - constructing histograms. - constructing scatter diagrams. - constructing pie charts. - constructing dot plots. - constructing Pareto charts. - constructing stem and leaf plots. - finding mean, median, mode, and midrange. - finding mean of a frequency table. - finding range, standard deviation, and variance. - finding standard deviation of a frequency table. - finding the value of a percentile/decile/quartile - constructing a box plot. - testing for linear correlation. - constructing and interpreting a scatter diagram.

- parameters are significant. - HSS.IC.B.6 Evaluate reports based on data. - HSS.CP.A.1 Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not"). - MP2 Reason abstractly and quantitatively. - MP3 Construct viable arguments and critique the reasoning of others. - MP4 Model with mathematics - MP5 Use appropriate tools strategically. - MP6 Attend to precision. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	<i>class boundaries, class midpoints, class width, relative frequency table, cumulative frequency table, histogram, relative frequency histogram, dotplot, stem and leaf plot, pareto chart, pie chart, scatter diagram, measure of center, mean, median, mode, bimodal, multimodal, midrange, range, standard deviation, variance, range rule of thumb, empirical rule, Chebyshev's theorem, z-score, quartiles, deciles, percentiles, exploratory data analysis, outlier, 5-number summary, boxplot, correlation, scatterplot, linear correlation, coefficient, regression equation/line</i>	- finding the value of the linear correlation coefficient. - identifying correlation errors. - finding the equation of a regression line. - finding the best predicted value.
Content Area Literacy Standards		21st Century Skills
- RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. - RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. - RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.		- reason effectively - use systems thinking - make judgments and decisions - solve problems - implement innovations - communicate clearly - analyze media - apply technology effectively

Stage 2 - Evidence	
Evaluative Criteria	Assessment Evidence
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan
Summary of Key Learning Events and Instruction

<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
• 1.OA.1 Use	• 1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
• 1.OA.1 Use	

Probability, Statistics & Trigonometry: Probability

Stage 1 Desired Results		
Competencies: - Students will demonstrate the ability to apply functions and the principles of experimental and theoretical probability in order to determine the likelihood of a given outcome, make inferences, and justify or critique conclusions in a variety of contexts by interpreting and analyzing multiple representations of functions. - Students will demonstrate the ability to graph functions by using tables and analyzing equations. - Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function. - Students will demonstrate the ability to use mathematical reasoning in order to comprehend and construct mathematical arguments. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. Content Standards: - HSS.ID.A.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve. - HSS.CP.A.2 Understand that two events A and B are independent if the probability of A and B occurring together is the product of their probabilities, and use this characterization to determine if they are independent. - HSS.CP.A.3 Understand the conditional probability of A given B as $P(A \text{ and } B)/P(B)$, and interpret independence of A and B as saying that the conditional probability of A given B is the same as the probability of A, and the conditional probability of B given A is the same as the probability of B. - HSS.CP.A.4 Construct and interpret two-way frequency tables of data when two categories are associated with each object being classified. Use the two-way table as a sample space to decide if events are independent and to approximate conditional probabilities. For example, collect data from a random sample of students in your school on their favorite subject among math, science, and English. Estimate the probability that a randomly selected student from your school will favor science given that the student is in tenth grade. Do the same for other subjects and compare the results. - HSS.CP.A.5 Recognize and explain the concepts of conditional probability and independence in everyday language and everyday situations. For example, compare the chance of having lung cancer if you are a smoker with the chance of being a smoker if you have lung	Transfer	
	Students will be able to independently use their learning to construct and defend a well thought out prediction.	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that... the probability of an event's occurrence can be predicted with varying degrees of confidence.	ESSENTIAL QUESTIONS How confident can you be that a given outcome will occur?
	Acquisition	
	Students will know... - the formulas for mean, standard deviation and variance of a binomial distribution. - the formula for maximum and minimum usual values. <u>vocabulary:</u> event, sample space, classical approach to probability, relative frequency approximation of probability, subjective probability, complement, actual odds against, actual odds in favor, payoff odds, compound event, mutually exclusive, rule of complementary events, independent events, dependent events, fundamental counting rule, factorial, permutation, combination, random variable, probability distribution, discrete, continuous, binomial probability distribution, Poisson distribution, normal distribution, density curve, standard normal distribution, nonstandard normal distribution, central limit theorem	Students will be skilled at... - finding probability using the classical approach - determining if an event is unusual. - estimating probability using the relative frequency approach. - listing all possible outcomes. - determining if events are mutually exclusive. - finding the probability of the complement of an event. - using addition rule for mutually exclusive and non-mutually exclusive events. - classifying events as independent or dependent. - using multiplication rule for independent events. - using addition rule for mutually exclusive events. - describing the complement of a given event. - finding the probability of "at least one". - using contingency tables to find conditional probability. - evaluating factorials, permutations, and combinations. - finding and using a number of combinations and permutations. - classifying random variables as discrete or continuous. - determining whether a probability distribution is described.

cancer. • HSS.CP.B.6 Find the conditional probability of A given B as the fraction of B's outcomes that also belong to A, and interpret the answer in terms of the model. • HSS.CP.B.7 Apply the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, and interpret the answer in terms of the model. • HSS.CP.B.8 (+) Apply the general Multiplication Rule in a uniform probability model, $P(A \text{ and } B) = P(A)P(B A) = P(B)P(A B)$, and interpret the answer in terms of the model. • HSS.CP.B.9 (+) Use permutations and combinations to compute probabilities of compound events and solve problems. • MP1 Make sense of problems and persevere in solving them • MP2 Reason abstractly and quantitatively. • MP3 Construct viable arguments and critique the reasoning of others. • MP4 Model with mathematics. • MP7 Look for and make use of structure. • MP8 Look for and express regularity in repeated reasoning.		• <i>finding the mean, standard deviation, and variance of a probability distribution.</i> • <i>finding expected value.</i> • <i>determining if a procedure results in a binomial distribution.</i> • <i>finding the probability of exactly x successes</i> • <i>finding the probability of at least/at most x successes.</i> • <i>finding the mean, standard deviation, and variance for a binomial distribution.</i> • <i>finding probability for continuous uniform distributions.</i> • <i>finding probability for standard normal distributions given z-score(s).</i> • <i>using z-score to compare relative position.</i> • <i>finding the percentile corresponding to a given value.</i> • <i>finding z-score for standard normal distributions given probability (area) and determine if it is unusual.</i> • <i>finding probability for nonstandard normal distributions.</i> • <i>finding the number of observations satisfying a given condition.</i> • <i>finding values for a normal distribution given probabilities or percentages.</i>
Content Area Literacy Standards		
• RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. • RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>. • RST.11-12.6 Analyze the author's purpose in providing an explanation, describing a procedure, or discussing an experiment in a text, identifying important issues that remain unresolved. • RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. • RST.11-12.8 Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information. • RST.11-12.9 Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.		• <i>reason effectively</i> • <i>use systems thinking</i> • <i>make judgments and decisions</i> • <i>solve problems</i> • <i>communicate clearly</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan	
Summary of Key Learning Events and Instruction	
<i>Language Arts Integration</i>	<i>Mathematics Integration</i>
1.OA.1 Use	1.OA.1 Use
<i>Technology Integration</i>	<i>District Materials</i>
1.OA.1 Use	

Probability, Statistics & Trigonometry: Matrices

ESTABLISHED GOALS:

Competencies:

- Students will demonstrate the ability to apply matrices to solve problems in a variety of contexts.
- Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function.
- Students will demonstrate the ability to graph functions by using tables and analyzing equations.
- Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials.
- Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences.
- Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style.

Content Standards:

- HSN.VM.C.6 (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.
- HSN.VM.C.7 (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.
- HSN.VM.C.8 (+) Add, subtract, and multiply matrices of appropriate dimensions.
- HSN.VM.C.9 (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.
- HSN.VM.C.10 (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.
- MP4 Model with mathematics.
- MP5 Use appropriate tools strategically.
- MP7 Look for and make use of structure.
- MP8 Look for and express regularity in repeated reasoning.

Transfer

*Students will be able to independently use their learning to **maximize or minimize a problem's solution given a set of restrictions.***

Meaning

ENDURING UNDERSTANDINGS

Students will understand that...

- matrices allow them to find solutions to problems without using variables.

ESSENTIAL QUESTIONS

- How can we make the best decisions given a restrictive situation?

Acquisition

Students will know...

- systems with no solution can always be detected by the presence of a matrix row of the form $[0 \ 0 \dots | a]$, where a is a nonzero number
- in order to add or subtract matrices, they must have the same dimensions
- in order to multiply matrices, the columns of the first must be the same as the rows of the second
- multiplication of matrices is not commutative
- not all square matrices have inverses
- an input-output matrix is summarized the interdependence among the industries of the economy

vocabulary: elementary row operations, matrix, pivoting; row, column, & square matrices; entries, coefficient matrix, scalar product, identity matrix, inverse of a matrix, final demand, production amounts, linear programming, optimal point, transpose

Students will be skilled at...

- solve systems of equations using the Gauss-Jordan elimination method.
- using a graphing calculator to solve systems using matrices.
- pivoting a matrix around a given nonzero entry.
- adding, multiplying, and subtracting matrices by hand and with a graphing calculator.
- performing scalar multiplication.
- finding the inverse of a matrix using Gauss-Jordan and with a calculator.
- solving a matrix equation.
- using a matrix inverse to solve a system of equations.
- performing input-output analysis using matrix.

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● RST.9-10.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text. ● RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 9-10 texts and topics</i>. ● RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.	● <i>reason effectively</i> ● <i>use systems thinking</i> ● <i>solve problems</i> ● <i>access and evaluate information</i> ● <i>use and manage information</i> ● <i>be self-directed learners</i>
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<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

<i>Summary of Key Learning Events and Instruction</i>		
<i>Science Integration</i>	<i>College, Career, and Civic Life Integration</i>	<i>Technology Integration</i>
<i>District Materials</i>	<i>Distance Learning/Field Trips</i>	<i>Technology Resources</i>

Probability, Statistics & Trigonometry: Sequences and Series

Stage 1 Desired Results		
ESTABLISHED GOALS: <u>Competencies:</u> - Students will demonstrate the ability to apply functions to solve problems in a variety of contexts by interpreting and analyzing multiple representations of functions. - Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function. - Students will demonstrate the ability to graph functions by using tables and analyzing equations. - Students will demonstrate the ability to use mathematical reasoning in order to comprehend and construct mathematical arguments. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline-specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. <u>Content Standards:</u> - A.SSE.A.1.A Interpret parts of an expression, such as terms, factors, and coefficients. - F.IF.C.8.B Use the properties of exponents to interpret expressions for exponential functions. - F.BF.A.1.A Determine an explicit expression, a recursive process, or steps for calculation from a context. - F.BF.A.1.B Combine standard function types using arithmetic operations. - A.SSE.B.4 Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. - MP2 Reason abstractly and quantitatively. - MP4 Model with mathematics. - MP7 Look for and make use of structure. - MP8 Look for and express regularity in repeated reasoning.	Transfer	
	<i>Students will be able to independently use their learning to make informed decisions based upon their understanding of the patterns of numbers.</i>	
	Meaning	
	ENDURING UNDERSTANDINGS <i>Students will understand that...</i> - a constant increase or decrease applied at regular intervals always results in a linear relationship between two quantities. - a constant percent increase or decrease applied at regular intervals always results in an exponential relationship between two quantities.	ESSENTIAL QUESTIONS How do different factors alter an outcome?
	Acquisition	
	<i>Students will know...</i> - the recursive rule for an arithmetic sequence. - the recursive rule for geometric sequence. $a_n = a_1 + (n - 1)d$. $a_n = a_1 r^{n-1}$. - the formula for geometric mean. - summation notation. <i>vocabulary: arithmetic sequence, arithmetic series, geometric sequence, geometric series, geometric mean</i>	<i>Students will be skilled at...</i> - writing recursive and explicit formulas for arithmetic sequences. - calculating the sum of the first n terms of an arithmetic series. - writing recursive and explicit formulas for geometric sequences. - calculating the sum of the first n terms of a geometric series. - calculating the sum of an infinite geometric series - using induction to prove statements.

Content Area Literacy Standards		21st Century Skills
• RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. • RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. • RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>.		• <i>reason effectively</i> • <i>use systems thinking</i> • <i>apply technology effectively</i> • <i>make judgments and decisions</i> • <i>solve problems</i> • <i>access and evaluate information</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Language Arts Integration

- 1.OA.1 Use

Mathematics Integration

- 1.OA.1 Use

Technology Integration

- 1.OA.1 Use

District Materials

Probability, Statistics & Trigonometry: Logic

Stage 1 Desired Results		
ESTABLISHED GOALS: Competencies: - Students will demonstrate the ability to use mathematical reasoning in order to comprehend and construct mathematical arguments. - Students will demonstrate the ability to use mathematics to model real world problems by building and analyzing the appropriate expression, equation, or function. - Students will demonstrate the ability to analyze and summarize text and integrate knowledge to make meaning of discipline specific materials. - Students will demonstrate the ability to produce coherent and supported writing in order to communicate effectively for a range of discipline-specific tasks, purposes, and audiences. meaning of discipline-specific materials. - Students will demonstrate the ability to speak purposefully and effectively by strategically making decisions about content, language use, and discourse style. Content Standards: - A.SSE.A.1.A Interpret parts of an expression, such as terms, factors, and coefficients. - F.IF.C.8.B Use the properties of exponents to interpret expressions for exponential functions. - F.BF.A.1.A Determine an explicit expression, a recursive process, or steps for calculation from a context. - a tM a I-ſŠ äſyāſ 2Ŧ Lw2ōŦſYä I-yŦŦ LſŠwäſÖſſſſ ſY ä2ŦōſyŦ ſŦKſY® - MP2 Reason abstractly and quantitatively. - a to /2yāüſſzōü ōſI-ōŦſ I-ſŦzYſſYüä I-yŦŦ Ōſſſſſſſſſſ ſŦKſ ſſſ		

Content Area Literacy Standards		21st Century Skills
• RST.11-12.2 Determine the central ideas or conclusions of a text; summarize complex concepts, processes, or information presented in a text by paraphrasing them in simpler but still accurate terms. • RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. • RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i>.		• <i>reason effectively</i> • <i>use systems thinking</i> • <i>apply technology effectively</i> • <i>make judgments and decisions</i> • <i>solve problems</i> • <i>access and evaluate information</i>

Stage 2 - Evidence	
<i>Evaluative Criteria</i>	<i>Assessment Evidence</i>
	PERFORMANCE TASK(S):
	OTHER EVIDENCE:

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction

Language Arts Integration

- 1.OA.1 Use

Mathematics Integration

- 1.OA.1 Use

Technology Integration

- 1.OA.1 Use

District Materials

Timberlane Regional School District 2023-2024
Plan on the Safe Return to In-Person Instruction and Continuity of Services

In response to the recent guidance from the State of New Hampshire Department of Health & Human Services (NH DHHS), the Timberlane Regional School District has revised our ***Plan on the Safe Return to In-Person Instruction & Continuity of Services.***

COVID-19 Data

- Changes in January 2022 at the state level:
 - Schools are NO longer required to report individual COVID cases to the state.
 - Schools are no longer asked to contact trace or inform families if their child is exposed.
 - School comparative data is no longer published at the state level.
- TRSD has published daily data for all of the 2021-2022 school year. Since mid-January 2022, all COVID metrics (community level of transmission- new cases per 100k population, 14-day average, positivity rate, etc.) have been steadily declining.
- In June 2022, TRSD elected to stop publishing the COVID 19 data as reported by school nurses and the state.

Keys to Our Success

- Effective resource allocation, including expanded resources and supports for underperforming students.
- Improved access to valid and reliable data to better identify students' academic needs and potential learning loss.
- Expanded educational services for vulnerable populations.
- Support for our staff, including emphasis on emotional and physical well-being.
- Health and safety measures in place for students and staff.
- Equitable access to support services, including mental health supports.

Facility Access

- School building and office access for parents and others attending student-focused meetings may resume in person as appropriate.

- Access for other visitors, including volunteers, classroom guests, contracted service providers, and vendors, will be based on current conditions and determined on a case-by-case basis
- TRSD will continue to ask visitors to self-screen and adhere to appropriate mitigation strategies in effect at the time.
- Facility use will be permitted as long as organizations receive approval through the facility use permission process.

Mitigation Efforts/Safety Protocols

- All mitigation efforts and protocols will be based on local conditions as well as state and federal guidance.
- TRSD will continue to inform our decisions by recommendations of public health officials.
- TRSD will continue to emphasize handwashing and provide hand-sanitizer in all classrooms and common spaces.
- TRSD will use daily cleaning protocols, supplies and techniques as recommended by CDC and NH DPHS in all indoor spaces.
- TRSD asks that those individuals with signs and symptoms of any communicable disease, including COVID-19, to please stay home.
- TRSD will continue to use the NH DHHS [Isolation and Quarantine Information](#) which is linked to the CDC's guidance.

Mental Health and Well-Being

- TRSD will maintain student emotional health and well-being as a priority. Counseling Team members will meet regularly to identify student and staff needs and supports.
- District and School-based mental health teams will continue to develop practices that focus on emotional, mental, and physical well-being.
- TRSD will focus on formal school community and classroom team building.
- In the 2023-2024 School year, TRSD will partner with Dr. William Prebble and Center of School Climate and Learning to increase student voice, cultivate student leadership and foster the development of SEL skills in students including but not limited to, self agency, intrinsic motivation, self reflection and team-work.

Diagnostic Screening and Testing / Learning Loss

- TRSD will utilize a number of diagnostic screening tools for students preschool through grade 8, to better identify student academic needs in both literacy and math.

- A consistent process has been adopted at the elementary grades (K-5) to identify students with academic needs, target skills necessary for intervention, along with maintaining records of data, and identifying assessments.
- In the 2022-2023 School year, a new structure for increased intervention opportunities has been enacted at the middle school level.
- TRSD increased opportunities for after-school extra help sessions at the middle and high schools.
- Summer opportunities were carried out to provide and support students, as well as staff, in creating or changing structures for academic growth.
- Late transportation home for after-school programming and extra help sessions will continue at the secondary level.
- TRSD's biggest concerns remain for vulnerable populations, including foster children, special needs, ELL and minority students.

Coordination with State and Local Health Officials

- The district continues to maintain close communications and a collaborative relationship with local and state health officials.
- TRSD administration will continue to work with local and state health officials to ensure fluid communications in regard to COVID metrics as well as federal, state and local guidance/requirements for schools.

Funding

- TRSD will continue to allocate available grant funds to ensure our schools continue to be safe for students and will plan the use of funds accordingly.
- Our priorities to determine allocation of available grant funds will be:
 - The potential learning loss for all students, as well as our at-risk subgroup student populations, as identified by clear, reliable, and valid student data;
 - Updates to the infrastructure of our current school buildings and aging facilities to maintain safe and healthy environments for students and staff; and
 - Increased training for staff to support Social Emotional Learning and increased mental health support for both students and staff.

Communication

- Communication regarding changes to any protocols will be provided via School Messenger, which will include voice, text, email, social media and the District website.



EXECUTIVE SUMMARY

October 5, 2023

Budget Transfer Request

A budget transfer is being requested which exceed the \$25,000 transfer amount pursuant to policy DBJ 'Transfer of Appropriations' and will require School Board approval. A copy of said policy is attached for your convenience.

From Account:	100.4600.450.12.33.4	32,700	Building Improvement
To Account:	100.4200.430.12.33.4	32,700	Site Improvement
	Total	32,700	

Reason: For the irrigation system upgrades, without the well installation, as discussed at our last board meeting.

If this transfer meets with your approval, kindly accept the same by Motion and Vote. Should it be easier, feel free to motion to accept "the budget transfer for Irrigation Upgrades in the amount and account specified in the CFO/BA's budget transfer request dated October 5, 2023".

I am happy to address any questions you may have.

Respectfully Submitted By:

Maria Watkins, CFO/Business Administrator



TRSD POLICY COMMITTEE'S RECOMMENDATIONS TO THE SCHOOL BOARD

October 5, 2023

Second Read/Adoption

Policy	Changes/Recommendations
FEH – Supervision of Construction	<i>Since first read, edited pronouns to be gender neutral. Added Section D.</i>
GDR – Work Rules for Staff	<i>No changes since first read. Recommended to repeal. Obsolete.</i>
BEDG - Minutes	<i>No changes since first read. Replaced with NHSBA's policy which reflects 2021 amendments to RSA 91-A:3.</i>
IHBA – Programs for Pupils with Disabilities	<i>No changes since first read. New language added in the last paragraph to reflect 2022's SB 394 and HB 1513 language.</i>
IC/ICA – School Year and School Year Calendar	<i>No changes since first read. Replace TRSD's policy with NHSBA's policy and withdraw ICA.</i>

Timberlane Regional School District	Policy Code: FEH
Adopted: 12-03-98 Revised: 02-16-12 Revised:	Page 1 of 1

SUPERVISION OF CONSTRUCTION CLERK OF THE WORKS / PROJECT MANAGER

- A. Subject to the provisions of paragraph D, below for projects over \$1,000,000, the Board may employ a Clerk of the Works who shall be directly responsible to the Board for review of the architect and contractor's activities in ~~his/her~~ their supervision of building construction. This review shall include adequacy of field inspection of the contractor's operations, administrative activities of the architect relating to construction, and any other matters relating to the interest of the District. The Clerk shall make periodic reports certifying by ~~his/her~~ their personal knowledge that the work of the construction contractor and the architect is being performed in accordance with plans, specifications, and contracts.
- B. Change orders will be recommended by the Clerk of the Works to the Superintendent who will determine whether or not it is a matter for Board consideration. If the Superintendent decides Board consideration is not necessary, then the signature of the Superintendent shall be considered Board action. The Superintendent will develop a procedure to use relative to the need for the School Board review of change orders.
- C. Upon completion of building construction and after a final inspection of all its aspects by the design professional, contractors, and school officials, a recommendation for its acceptance will be made to the Board by the design professional and the Clerk of the Works.
- D. For construction or reconstruction projects of \$1,000,000 or more, the Clerk of the Works must hold the qualifications and title, and perform the services and responsibilities of a "Project Manager" as determined by the New Hampshire Department of Education, in addition to all of the responsibilities of the Clerk of the Works as outline in this policy. Additionally, the Project Manager shall hold ~~his or her~~ their own comprehensive liability and auto insurance, worker's compensation coverage, and professional liability coverage.

Timberlane Regional School District	Policy Code: GDR
Adopted: 06-09-83 Revised: 04-04-91 Revised: 02-24-05 Repealed:	Page 1 of 1

WORK RULES FOR STAFF

~~District employees are required to fulfill the responsibilities set forth in their contract, in other policies established by the School Board, and in regulations established by the employee's principal. A copy of the School Board Policy Handbook will be provided in each school principal's office, school board member, town public libraries, and the SAU office. Regulations established by each principal will be distributed to the employees in their respective buildings.~~

Policy GDR was repealed by the Timberlane Regional School Board on _____.

Timberlane Regional School Board	Policy Code: BEDG
Adopted: 04-21-83 Revised: 11-20-86 Revised: 11-01-90 Revised: 12-03-98 Revised: 09-20-01 Revised: 09-15-11 Revised: 01-07-21 Revised:	Page 1 of 7

MINUTES

Related Policies: BEA, BEC

A. Minutes Required.

Under RSA 91-A, the school board, and each of the school board's committees (irrespective of whether standing or ad hoc, and irrespective of whether deemed a sub-committee or an advisory committee^s) is required to keep minutes for every "meeting" as defined under 91-A:2, I. As used below, "Board" shall mean and include the district school board, and each such board committee.

The Board will appoint a "minute taker" to prepare the minutes of each meeting. Should the person so appointed be absent from all or part of a meeting (e.g., non-public session), the Chair, subject to being overruled by the Board, shall appoint a person to take the minutes.

In addition to "minutes" as described below, a more comprehensive "record" and/or "decision" may be required in the event of a "hearing" regarding individual rights/claims (e.g., teacher non-renewal, student expulsion, manifest educational hardship, etc.). In such instances, the Board and or Superintendent should consult with counsel to assure that any statutory or regulatory requirements are satisfied.

~~The Board will keep a record of the actions taken at Board meetings in the form of minutes.~~

B. Required Content of Minutes.

At a minimum, all minutes, ~~public and non-public, shall include~~ including minutes of non-public sessions, must include:

1. the names of members participating;
2. persons appearing before or addressing the School Board ~~(any persons other than board members who address the board or speak at the meeting- (members of the public who do not address the board, and are there as attendees only, do not need to be identified);~~
3. a brief description of each subject matter discussed;
4. identification of each member who made a first or second of any motion;
5. a record of all final decisions;

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Adopted: 04-21-83 Revised: 11-20-86 Revised: 11-01-90 Revised: 12-03-98 Revised: 09-20-01 Revised: 09-15-11 Revised: 01-07-21 Revised:	Page 2 of 7

6. when a recorded or roll call vote on a motion is required by law or called for by the Chair (or other presiding officer), a record of how each board member voted on the motion; and
7. in the event that a board member objects to the subject matter discussed by the board, if the board continues the discussion above the member's objection, and upon the request of the objecting member, then - and irrespective of whether the objection/discussion occurred in public or non-public session - the public minutes shall also reflect (i) the objecting member's name, (ii) a statement that the member objected, and (iii) a "reference to the provision of RSA 91-A:3, II that was the basis for the objection and discussion." (See RSA 91-A:2, II-a.).

~~Copies of the draft minutes of a meeting will be sent to the members of the Board before the meeting at which they are to be approved. The preceding sentence, however, shall not apply to minutes of non-public sessions when the Board has sealed such minutes by a recorded roll call vote taken in public session with 2/3 of the board members present supporting the motion. Drafts of non-public minutes will be provided to the Board either at the conclusion of the non-public session and may be approved at the time prior to any vote to seal, or if sealed, provided to Board at the meeting at which they are to be approved.~~

~~Draft minutes of all public meetings, clearly marked as drafts or "unapproved", will be made available for public inspection upon request no later than five (5) business days after each public session. Minutes for non-public sessions shall be kept as a separate document. Draft minutes for all non-public sessions, will be made available for public inspection within seventy-two (72) hours after the non-public session, unless sealed in accordance with the statutory procedure described in the preceding paragraph.~~

~~Notes and other materials used in the preparation of the minutes must be retained until the minutes are approved or finalized and shall likewise be available for inspection during that period.~~

~~All minutes, including draft minutes, will be kept in accordance with RSA 91-A:2 and RSA 91-A:3 and will be in the custody of the Superintendent.~~

~~Approved minutes, except those non-public session minutes which are sealed, shall be consistently posted on the District's web site in a reasonably accessible location or the web site shall contain a notice describing where the minutes may be reviewed and copies requested. Draft minutes will be available for inspection at the District's administrative office.~~

~~Sealed minutes shall be reviewed periodically and unsealed by majority vote of the Board if~~

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~~the circumstances justifying sealing the minutes no longer apply. The Superintendent shall identify and bring to the Board's attention minutes which have been sealed because disclosure would render the proposed action ineffective where the action has been completed and the minutes no longer need to be sealed. The Superintendent will also identify any other sealed minutes where the justification for sealing no longer applies due to the passage of time. Generally, non-public session minutes are sealed because divulgence of the information would likely affect adversely the reputation of a person other than a member of the School Board, will remain sealed.~~

C. Approval and Access to Minutes.

Approval and availability of minutes will depend in part on whether the minutes are of a public or non-public session, and as to non-public minutes, whether they are sealed or not. "Approved minutes" refers to the final version of minutes approved by vote of the Board. "Draft minutes" refers to minutes that have not been formally approved by the Board. "Sealed minutes" refers to minutes from a non-public session and which the Board has determined should not be disclosed pursuant to RSA 91-A:3, III and as discussed in Section D, and paragraph C, below.

1. Location and Retention of Minutes. In accordance with N.H. Dept. of Education rule Ed 302.02 (j), all minutes will be kept at the office of the Superintendent. Minutes for non-public sessions that have not been sealed shall be kept in the same location and indexed in the same manner as for public minutes.
2. Access to Approved & Unsealed Minutes. Approved and unsealed minutes shall be available for inspection by the public during the normal business hours of the SAU office, and in accordance with RSA 91-A:2 through 91-A:4 (subject to the exemptions stated in RSA 91- A:5). Requests for access to minutes shall be processed in accordance with District administrative procedures EH-R.

Additionally, all approved and unsealed minutes shall be posted in a consistent and reasonably accessible location on the District's web site, or the web site shall contain a notice describing where the minutes may be reviewed, and copies requested.

3. Access to Draft Minutes and Minute Preparation Materials. "Draft" or "unapproved" minutes that have not been sealed will be available for inspection upon request at the SAU office during normal business hours. Drafts for public sessions must be available within 5 business days of the meeting, while drafts of non-public session minutes that

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have not been sealed by the Board must be available within 72 hours (3 calendar days) of the meeting.

Notes and other materials used in the preparation of the minutes must be retained until the minutes are approved or finalized and shall likewise be available for inspection during that period.

4. Approval of All Minutes Other Than Sealed. Draft public minutes and non-public minutes that were not sealed will be sent to the members of the Board before the meeting at which they are to be approved. Changes made by the Board to draft minutes shall be recorded either by (i) retaining the draft with the final approved minutes, (ii) including notations (e.g., “redline” edits) in the final approved minutes, or (iii) outlined in the minutes of the meeting at which the Board approved.
5. Approval of Sealed Non-Public Minutes of Non-Public Sessions. Unless previously sealed by the Board, draft minutes for all non-public sessions will be made available for public inspection within seventy-two (72) hours after the non-public session.

Drafts of non-public minutes will be provided to the Board, either (i) at the conclusion of the non-public session and may be approved at the time, prior to any vote to seal, or (ii) if sealed, provided to Board at the meeting, if any, at which they are to be approved. If copies of draft sealed minutes are provided to Board members for the purpose of review and/or approval, the copies shall be recovered by the Chair or minute taker and destroyed. Only the official record copy may be retained, with a list maintained for sealed non-public minutes as described in Section D, below.

D. Special Provisions for Minutes Relating to Non-Public Sessions.

For any public meeting that includes a non-public session (see Board policy BEC for statutorily required procedures relative to entering and exiting non-public sessions), additional information beyond that discussed in paragraphs B.1-7, is required both for the public meeting minutes, and for minutes specific to the non-public session, irrespective of whether the non- public minutes are “sealed” (see discussion in Section D.2 , below).

1. Information Regarding Non-Public Session Included in Public Minutes. The public minutes of the meeting at which the non-public session occurs must include the statutory reason given in the motion as the foundation for each non-public session, as well as a roll call record of how each Board member voted on the motion to enter. Public minutes must also reflect any motion to seal (described in paragraph C.2.,

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above), along with the statutory reason permitting the sealing (see D.2, below), and record how each member voted on the motion to seal.

2. Sealing Non-Public Minutes. As used in this policy, “sealed” minutes in reference to minutes of non-public sessions, means that the Board determined by 2/3 majority vote in public session that “divulgence of the information” (i.e., information in the minutes of the non- public session):
 - i. Would affect adversely the reputation of a person other than a Board member;
 - ii. Would render ineffective the action/proposed action taken in non-public session; or
 - iii. Pertains matters relating the preparation for and carrying out of all emergency functions intended to thwart a deliberate act intended to result in widespread or severe damage to property or widespread injury or loss of life (i.e., terrorism).
- a. A motion to seal, if any, should be the first item of public business after the Board exits the non-public session, and must state one of the three grounds above allowing sealing.
- b. If the minutes are not prepared/approved during the non-public sessions itself, the Board should discuss the content of the minutes prior to exiting so that any vote to seal will be an informed vote.
- c. When making or voting upon a motion to seal, the movant/Board should consider and state the duration that minutes be sealed based upon the grounds supporting the sealing. *This can be done either by stating a date they sealed until, or a date by which the Board might review the minutes status.* For instance, minutes sealed because divulgence of the information would likely affect adversely the reputation of a person other than a member of the Board might be remain sealed permanently, while minutes sealed because disclosure would “render the action ineffective” should be sealed only for as long as that reason exists or is anticipated to exist. Pursuant to RSA 91-A:3, III, non-public minutes relating to discussion about lease, purchase or sale of property (91-A:3, II(d)) must be made available “as soon as practicable after the transaction has closed or the Board has decided not to proceed with the transaction.”

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3. Minutes of the Non-Public Session Itself. In addition to the information included in all minutes as described in paragraphs B.1-7, above, minutes of the non-public session must include “all actions” and decisions (i.e., votes, including negative votes) taken by the Board, with a record of how each member voted. If the Board does not “seal” the minutes of the non-public session, then such information must be disclosed to the public within 72 hours of the close of the meeting.
4. Sealed Minutes List. In order to comply with RSA 91-A:3, III, the Superintendent is directed to maintain a list of all sealed minutes for non-public sessions occurring after July 1, 2021. The list (referred to as the “Sealed Minutes List”) shall include:
 - a. the name of the public body (e.g., School Board, Policy Committee, etc.);
 - b. the date, time and location of the public meeting (from meeting notice);
 - c. the start and end times of the non-public session;
 - d. the specific grounds upon which the non-public session occurred (e.g., RSA 91-A:3, II (b) and (c), etc.);
 - e. the specific grounds upon which the minutes were sealed (e.g., “disclosure would render the action ineffective” or “disclosure would likely adversely affect the reputation of a non-board member,” etc.);
 - f. the date the vote to seal the minutes occurred;
 - g. the date, if any stated in the original motion or subsequently, on which the sealed minutes will be unsealed; the motion to seal should, when possible, state the date the minutes should be unsealed or at least reviewed by the Board or other public body; and
 - h. the date, if any, of a subsequent decision to unseal the minutes.

The Sealed Minutes List shall be updated each time the public body seals non-public minutes, and the updated List shall be made as soon as practicable for public disclosure.

5. Reviewing Sealed Minutes.
The Board may appoint a delegate the authority to review previously sealed minutes to one or more Board members, the Superintendent or other appropriate administrator. Sealed minutes shall be reviewed periodically and unsealed by majority vote of the Board if the circumstances justifying sealing the minutes no longer apply. Although discussion of whether to unseal such minutes can occur in non-public session pursuant to RSA 91- A:3, II (m), any vote to unseal must occur in public session.

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Legal References:

~~RSA 91-A:2 II, Public Records and Meetings: Meetings Open to Public RSA 91-A:2 II-a,~~

~~RSA 91-A:3 III, Public Records and Meetings: Non-Public Sessions~~

~~RSA 91-A:4 I, Public Records and Meetings: Minutes and Records available for Public Inspection~~

RSA 91-A:2, Meetings Open to Public

RSA 91-A:3, Nonpublic Sessions

RSA 91-A:4, Minutes and Records available for Public Inspection

RSA 189:29-a, Records Retention and Disposition

N.H. Dept. of Education regulation Ed 302.02 (j), Substantive Duties of Superintendents

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PROGRAMS FOR PUPILS WITH DISABILITIES

The District shall provide a free appropriate public education and necessary related services to all children with disabilities residing within the district, required under the Individuals With Disabilities Act (IDEA), Section 504 of the Rehabilitation Act of 1973, and the American With Disabilities Act.

It is the intent of the district to ensure that students who are disabled within the definition of Section 504 of the Rehabilitation Act of 1973 are identified, evaluated and provided with appropriate education services. Students may be disabled within the meaning of Section 504 of the Rehabilitation Act even though they do not require services pursuant to the IDEA.

For students eligible for services under IDEA, the district shall follow procedures for identification, evaluation placement, and delivery of services to children with disabilities provided in state statutes which govern special education. For those students who are not eligible for services under IDEA, but, because of disability as defined by Section 504 of the Rehabilitation Act of 1973, need or are believed to need special instruction or related services, the district shall establish and implement a system of procedural safeguards. The safeguards shall cover students' identification, evaluation, and educational placement. This system shall include notice, and opportunity for the student's parent(s)/guardian(s) to examine relevant records, and impartial hearing with opportunity for participation by the students' parent(s)/guardian(s), and representation by counsel, and review procedure.

The district recognizes its obligation to provide an education for all students determined to be educationally disabled and in need of special education and related services. This obligation shall begin when a student reaches three years of age and shall continue until the student's **22nd** birthday or until such time as he/she receives a high school diploma, whichever occurs first, or until the child's Individualized Education Program (IEP) Team determines that the child no longer requires special education in accordance with federal and state law. At the discretion of the Superintendent and/or his/her designee, students who reach the age of **22** during the academic year may be allowed to complete the remainder of the school year.

Statutory & Federal Reference:

20 USCA (1401 et seq.)

RSA 186-C

Timberlane Regional School District	Policy Code: IC/~~ICA~~
Adopted: 06-16-83 Revised: 05-02-91 Revised: 02-24-05 Revised: 04-03-08 Revised: 12-15-11 Revised: 05-02-13 Revised:	Page 1 of 3

School Year / School Calendar

~~The school calendar will be developed by the Superintendent and approved by the Board. Any exceptions or revisions to the calendar must be approved in advance by the Board. The Superintendent shall ensure that the calendar conforms to the number of actual days of instruction and employment as required by law, board policy, and staff contracts.~~

~~To the extent possible, the calendar will be coordinated with the school calendars of the area vocational schools, regional special education programs, and other districts in the SAU.~~

~~The school year shall be a minimum of 190 days, including a minimum of 180 instructional days for students and additional days for the teaching staff, emergency days, etc.~~

~~Any days that the schools are closed for emergency reasons will be made up at the end of the school year, during recess periods or as otherwise approved by the Board upon the Superintendent's recommendation. Under special circumstances the Board may request an exception to this requirement from the State Board of Education.~~

~~Alternatively, the school year may consist of the number of hours as required by New Hampshire Department of Education Rules. In the event schools are closed for excessive days for emergency reasons, the Superintendent may recommend to the School Board a revised schedule that satisfies all Department of Education requirements, but which may amend the number of days in the school year.~~

Legal Reference:

~~RSA 189:1, Days of School~~

~~RSA 189:24, Standard School~~

~~NH Code of Administrative Rules, Section Ed. 306.18~~

~~NH Code of Administrative Rules, Section Ed. 306.19~~

~~NH Code of Administrative Rules, Section Ed. 306.27~~

A. School Year.

The student school year shall be a minimum of 180 instructional days or, alternatively, the equivalent number of hours as required in the rules of the N.H. Department of Education (see Ed 306.18).

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The school year for teachers and other certified professionals shall be **187** days unless otherwise determined by the Board, applicable collective bargaining agreement, or individual contract.

The school year for support staff shall be **183** days unless otherwise determined by the Board, applicable collective bargaining agreement, or individual contract.

The school calendar will be established annually as described in paragraph D below.

B. School Closures.

Any days that the schools are closed for emergency reasons and are not designated by the Superintendent as distance education days (see paragraph C below) will be made up at the end of the school year or during recess periods, as approved by the Board upon the Superintendent's recommendation. Under special circumstances the Board may request an exception to this requirement from the State Board of Education.

In the event schools are closed for excessive days for emergency reasons, the Superintendent may recommend to the School Board a revised schedule that satisfies all Department of Education requirements, but which may amend the number of days in the school year.

C. Distance Education During Inclement Weather

If inclement weather makes it unsafe to safely transport students to or from in-person instruction, the Superintendent/designee is authorized to designate that day as a remote instruction or “distance learning”. Before remote instruction/distance learning is used as instructional day for the purpose of satisfying the minimum instructional day/hour requirements of the N.H. Department of Education, the Superintendent shall ensure that a plan exists with procedures to promote and allow for participation by all students in any affected school.

Prior to approving designating a day as a remote instruction/distance learning day, or any school/district-wide distance education that is dependent on technology, the Superintendent/designee will consider the impact that the inclement weather event might have on necessary technology.

Distance education will only count toward required instructional days/time when conducted in accordance with N.H. Dept. of Education Rule Ed 306.22.

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D. School Calendar.

The school calendar will be developed by the Superintendent and submitted to the Board by the **second School Board meeting in December**. The Board should approve the final calendar by the **first School Board meeting in January**. Any exceptions or revisions to the calendar thereafter must be approved in advance by the Board.

The Superintendent shall ensure that the calendar conforms to the number of actual days of instruction and employment as required by law, board policy, and staff contracts.

To the extent possible, the calendar will be coordinated with the school calendars of the area vocational schools, regional special education programs, and other districts in the SAU.

The high school graduation date shall be set no more than 5 school days or 30 instructional hours before the end of the scheduled school year. The date may remain fixed notwithstanding the need for other grades to make up days lost to inclement weather or other emergencies. See Ed 306.18(a)(4).

Legal References:

RSA 189:1, Days of School

RSA 189:24, Standard School

N.H. Dept. of Education Rules, Ed 306.18, School Year

N.H. Dept. of Education Rules, Ed 306.19, School Calendar

N.H. Dept. of Education Rules, Ed 306.22, Distance Education

TRSD 2024 ANNUAL MEETING AND ELECTION CALENDAR

DEADLINE/DATE	ACTION	REFERENCE
By Tuesday, January 2, 2024	Post Public Notice of School Board Budget Hearing (By the 2 nd Tuesday in January)(must be 7 days in advance)	RSA 40:13, II-a (a)
By Friday, January 5, 2024	Citizens Petition <u>Bond Articles Only</u> Must be Submitted (Friday preceding the 2 nd Tuesday in January – 5pm)	RSA 40:13, II-a (b)
By Tuesday, January 9, 2024	All Other Citizens Petition Articles Must be Submitted (By the 2 nd Tuesday in January – 5pm)	RSA 40:13 II-a (b) RSA 197:6
By Tuesday, January 9, 2024	Deadline for finalization of cost items CBA's to be presented at annual meeting (By the 2 nd Tuesday in January)	RSA 32:5-a
Tuesday, January 16, 2024	Supervisor of Checklist Posts Checklist (On the 4 th Tuesday before Deliberative)	RSA 671:15 RSA 654:26 & 27
Thursday, January 11, 2024	Public Hearing on Proposed Budget/Bond (On or before the 3 rd Tuesday in January) TRSD Performing Arts Center – 7:00 PM (snow date: January 12, 2024)	RSA 40:13, II-a (c) RSA 33:8-a
Tuesday, January 23, 2024	Supervisor of Checklist Correction Session (On day immediately prior to first day of filing)	RSA 671:15 – 669:5
Wednesday, January 24, 2024	First Day of Filing Period For Candidates. File at SAU Office, 30 Greenough Road, Plaistow, NH 8:30am-4pm (Begins on the 7 th Wednesday before election)	RSA 671:19 RSA 669:19
By Thursday, January 25, 2024	Last Day for Budget Committee to Deliver Budget and Warrant Article Recommendations for Posting (Thursday before last Monday in January)	RSA 40:13, II-a (c)
Saturday, January 27, 2024	Supervisor of Checklist Holds A Checklist Correction Session (On Saturday 6-13 days before Deliberative)	RSA 671:15 – 669:5 RSA 654:27)
By Monday, January 29, 2024	Post Warrants and Budget For Session I and II At Place of Meeting And One Other Location (On or before last Monday in January)	RSA 40:13, II-a (d) RSA 197:5-A, 197:7
Friday, February 2, 2024	Last Day of Filing Period For Candidates (Second Friday after first day of filing period)	RSA 671:19 RSA 669:19
Thursday, February 8, 2024	Deliberative Session I TRSD Performing Arts Center – 7:00 PM (snow date: February 9, 2024) (Between the 1 st and 2 nd Saturdays following the last Monday in January)	RSA 40:13 III, IV
Tuesday, February 13, 2024	Supervisors of Checklist re-post Checklist (On the 4 th Tuesday before voting)	RSA 671:15 RSA 654:26 + 27
Saturday, March 2, 2024	Supervisor of Checklist Holds A Checklist Correction Session (Two Saturdays before voting)	RSA 671:15 – 669:5 RSA 654:27
Tuesday, March 12, 2024	District Voting (Session II) Budget/Bond Voting and Election Absentee Ballots Collected Atkinson – Atkinson Community Center, 4 Main St. – 7am-8pm Danville – Community Center, 169 Main St. – 8am-8pm Plaistow – Fish and Game Club, 18 May Ray Ave – 7am-7pm Sandown – Sandown Town Hall, 320 Main Street – 8am-8pm	RSA 40:13 VIII

Job Postings

JobId	Category	Position Type	Additional Title	Location	Date Posted	Closing Date	Date Available	For Fiscal Year	Time To Fill	AppCount
Administration										
4757	Administration	Financial Analyst	Financial Analyst cc2720	SAU 106 Timberlane Regional District office	8/23/2023	Open until filled	as soon as possible	2023-2024	37	11
Elementary School Teaching										
4764	Elementary School Teaching	Music - Orchestra	Elementary Music Teacher - Orchestra cc1443	Danville Elementary	9/13/2023	Open until filled	9/18/2023	2023-2024	16	1
High School Teaching										
4692	High School Teaching		In School Support Teacher cc2375	Timberlane Regional High School	6/27/2023	Open until filled	8/22/2023	2023-2024	94	2
4753	High School Teaching	Library Media Specialist	Library Media Specialist cc2071	Timberlane Regional High School	8/22/2023	Open until filled	12/29/2023	2023-2024	38	2
4682	High School Teaching	World Language - Spanish	Spanish Teacher cc598	Timberlane Regional High School	6/15/2023	Open until filled	8/22/2023	2023-2024	106	7
Middle School Teaching										
4736	Middle School Teaching	Mathematics	Mathematics Interventionist cc223	Timberlane Regional Middle School	8/3/2023		8/22/2023	2023-2024	57	1
Special Education										
4747	Special Education	Social Worker	.4 ED Program Social Worker cc 2720	Timberlane Regional School District	8/15/2023	Open until filled	8/22/2023	2023-2024	45	2
4767	Special Education	Special Education Teacher	Anticipated Long Term Substitute - Special Ed	Timberlane Regional Middle School	9/18/2023	Open until filled	Oct-23	2023-2024	11	0
4330	Special Education	Behavior Specialist	BCBA/Behavior Specialist cc 2574	Timberlane Regional School District	5/3/2022	open until filled	8/22/2023	2023-2024	514	21
4506	Special Education		RBT cc 1428	Timberlane Regional Middle School	9/13/2022	open until filled	as soon as possible	2023-2024	381	7
4758	Special Education	Licenced Nursing Asst.	School LNA cc1171	Timberlane Regional Middle School	8/25/2023			2023-2024	35	4
4344	Special Education	Psychologist	School Psychologist - Part Time .6 Position cc	Timberlane Regional School District	5/19/2022	open until filled	as soon as possible	2023-2024	498	6
4754	Special Education	Psychologist	School Psychologist cc1422	Timberlane Regional School District	8/22/2023	Open until filled	as soon as possible	2023-2024	38	0
4685	Special Education	Psychologist	School Psychologist cc2145	Timberlane Regional School District	6/19/2023	Open until filled	8/22/2023	2023-2024	102	1
4604	Special Education	Special Education Teacher	Special Education Teacher cc 1032	Timberlane Regional High School	4/19/2023	Open until filled	8/22/2023	2023-2024	163	5
4756	Special Education	Special Education Teacher	Special Education Teacher cc1060	Pollard School	8/22/2023	Open until filled	as soon as possible	2023-2024	38	0
4644	Special Education	Special Education Teacher	Special Education Teacher cc1105	Danville Elementary	9/19/2023	Open until filled	as soon as possible	2023-2024	10	4
4639	Special Education	Special Education Teacher	Special Education Teacher cc1300	Timberlane Regional High School	5/19/2023	Open until filled	8/22/2023	2023-2024	133	1
4641	Special Education	Special Education Teacher	Special Education Teacher cc747	Pollard School	5/19/2023	Open until filled	8/22/2023	2023-2024	133	5
4750	Special Education	Special Education Teacher	Special Education Teacher/Case Manager cc1	Timberlane Regional Middle School	8/18/2023	Open until filled	as soon as possible	2023-2024	42	0
4609	Special Education	Speech and Language Pathologist	Speech Language Pathologist cc 212	Pollard School	4/21/2023	Open until filled	8/22/2023	2023-2024	161	3
4605	Special Education	Speech and Language Pathologist	Speech Language Pathologist cc 2218	Timberlane Regional High School	4/19/2023	Open until filled	8/22/2023	2023-2024	163	2
4652	Special Education	Speech and Language Pathologist	Speech Language Pathologist cc1316	Timberlane Regional Middle School	5/24/2023	Open until filled	8/22/2023	2023-2024	128	1
4751	Special Education	Speech and Language Pathologist	Speech Language Pathologist cc2242	Timberlane Regional School District	8/18/2023	Open until filled	8/22/2023	2023-2024	42	0
4673	Special Education	Speech and Language Pathologist	Speech Language Pathologist cc885	Sandown North	6/12/2023			2023-2024	109	1
Student Services										
4662	Student Services	School Social Worker	School Social Worker cc2594	The Learning Center at Sandown Central	5/31/2023	Open until filled	8/22/2023	2023-2024	121	6
4660	Student Services	School Social Worker	School Social Worker cc830	Timberlane Regional School District	5/31/2023	Open until filled	8/22/2023	2023-2024	121	6