

TIMBERLANE REGIONAL SCHOOL BOARD

ATKINSON, DANVILLE, PLAISTOW, SANDOWN

THURSDAY, AUGUST 16, 2012

Regular Meeting - 7:30 PM

SAU Office Plaistow, New Hampshire

Winfried Feneberg,
Interim Superintendent

Robert Collins, Chair
Lori Aubrey, Vice Chair

AGENDA

1. **Call to Order – Chair**
2. **Roll Call – Clerk**
3. **Pledge of Allegiance**
4. **Approval of Minutes**
 - a. June 21, 2012
 - b. July 24, 2012
5. **Delegations or Individuals**
6. **Current Business**
 - a. Eagle Scout Project Proposal – ACTION REQUIRED
 - b. Destination Imagination Update – INFORMATIONAL
 - c. Beede Superfund Site Update – INFORMATIONAL
 - d. Donations – ACTION REQUIRED
 1. \$1,000 Donation from Bob’s Furniture - TRMS
 2. \$3,599 Climbing Tunnel – Danville Elementary
 3. Improvements to JV Field – TRHS - INFORMATIONAL
 - e. Facilities Report/Update on Summer Projects - INFORMATIONAL
 - f. Common Core Standards – INFORMATIONAL
 - g. Science Curriculum – ACTION REQUIRED
 - h. School Board Goals – ACTION REQUIRED
7. **Administrator’s Report**
8. **Personnel Report**
 - a. Ratify Summer Hiring
9. **Committee Report/Reports of the School Board**
10. **Correspondence Folder**
11. **Vendor and Payroll Registers**
12. **Other Business**
 - a. Non-public (if needed)
13. **Future Dates**

DATE	MEETING TYPE	LOCATION	TIME
September 6	Regular School Board Meeting	SAU	7:30 pm
September 13	Facilities Tour	HS Campus	6:00 pm

The MISSION of the Timberlane Regional School District is to engage all students in challenging and relevant learning opportunities, emphasizing high aspirations and personal growth.

ADMINISTRATOR'S REPORT

To: Timberlane Regional School Board Members
From: Winfried Feneberg, Interim Superintendent of Schools
Date: August 7, 2012
Re: Administrator's Report for August 16, 2012 School Board Meeting

REGULAR MEETING AGENDA

1-,3. OPEN MEETING

Self-explanatory.

4. APPROVAL OF MINUTES

Recommendation to accept two sets of minutes: 6/21/12 and 7/24/12 meetings.

5. DELEGATION OR INDIVIDUALS

6. CURRENT BUSINESS

a. Eagle Scout Proposal – 10 minutes

Eagle Scout Bryce Whittaker is requesting permission to construct a greenhouse at Pollard School as well as solicit funding from the School Board. He will present a PowerPoint presentation and provide specifics about his funding efforts. Action required.

b. Destination Imagination Update – 10 minutes

Due to college commitments not all students are available to present, thus Laura and Ed Sullivan (team coaches) want to report on the DI Teams achievements this past school year as well as speak to the program itself. They have a short video to share. Informational.

c. Beede Superfund Site Update – 15 minutes

George Stokinger, and EPA representatives Jim Brown and Michael Skinner will update the board on the progress of the superfund clean-up as school travel routes are affected. Informational.

d. Donations – 15 minutes

1. The middle school received a \$1,000 donation from Bob's Discount Furniture. Bob's Furniture has a program in which they donate the proceeds from their customer appreciation station (some people donate towards the complimentary snacks and drinks) to a school nominated by their customers. TRMS was nominated by a Timberlane parent and was chosen by Bob's to receive the \$1,000. Mr. Hogan indicated the monies will be used for 1) Principal's discretionary fund (for student lunch accounts, emergency supplies and clothing; and 2) classroom supplies. 2. Danville parents won a climbing tunnel at a raffle at St Anne's Church and would like to donate it to Danville School. The official name of the piece is RockBlocks Climbing Tunnel sold by the Gopher Co. The catalogue price is \$3599. 3. Jack Sapia, Jim Hughes and Angelo Fantasia to present proposal for improvements to the JV field at the high school. The overall plan is likely to cost over \$5k which would require a public hearing, but they wanted the board's unofficial approval before moving ahead with a public hearing. See policy KCD. Action required.

e. Facilities Report/Summer Projects Update – 15 minutes

Jim Hughes to provide update on district summer projects. He will then ask to go into nonpublic session under RSA 91-A:3, II (g) matters of security.

f. Common Core Standards – 15 minutes

Kelli Killen to give presentation on the Common Core Standards and how it will be implemented at TRSD.

g. Science Curriculum 6-8 – 5 minutes

First reading on this curriculum was June 21st. Second reading and adoption is needed. See policy IGD. Action required.

h. School Board Goals – 10 minutes

Follow up work on the goals to be presented by Chairman Collins. Action required.

7-9. REPORTS

7. *Administrator's Report – Mr. Feneberg to present*
8. *Personnel Report – Mr. Feneberg to present*
9. *Committee Reports and Reports of the School Board*

10. CORRESPONDENCE

11. VENDOR AND PAYROLL REGISTERS

12. OTHER BUSINESS

Non-public (if needed)

Jim Hughes to speak to matters regarding building security. Please cite RSA 91-A;3, II, (g)security related issues.

13. FUTURE DATES

UPCOMING REGULAR MEETING AGENDAS

*This information is provided for informational purposes only. Agenda items are subject to change.
The official agenda will be distributed one week prior to its scheduled meeting.*

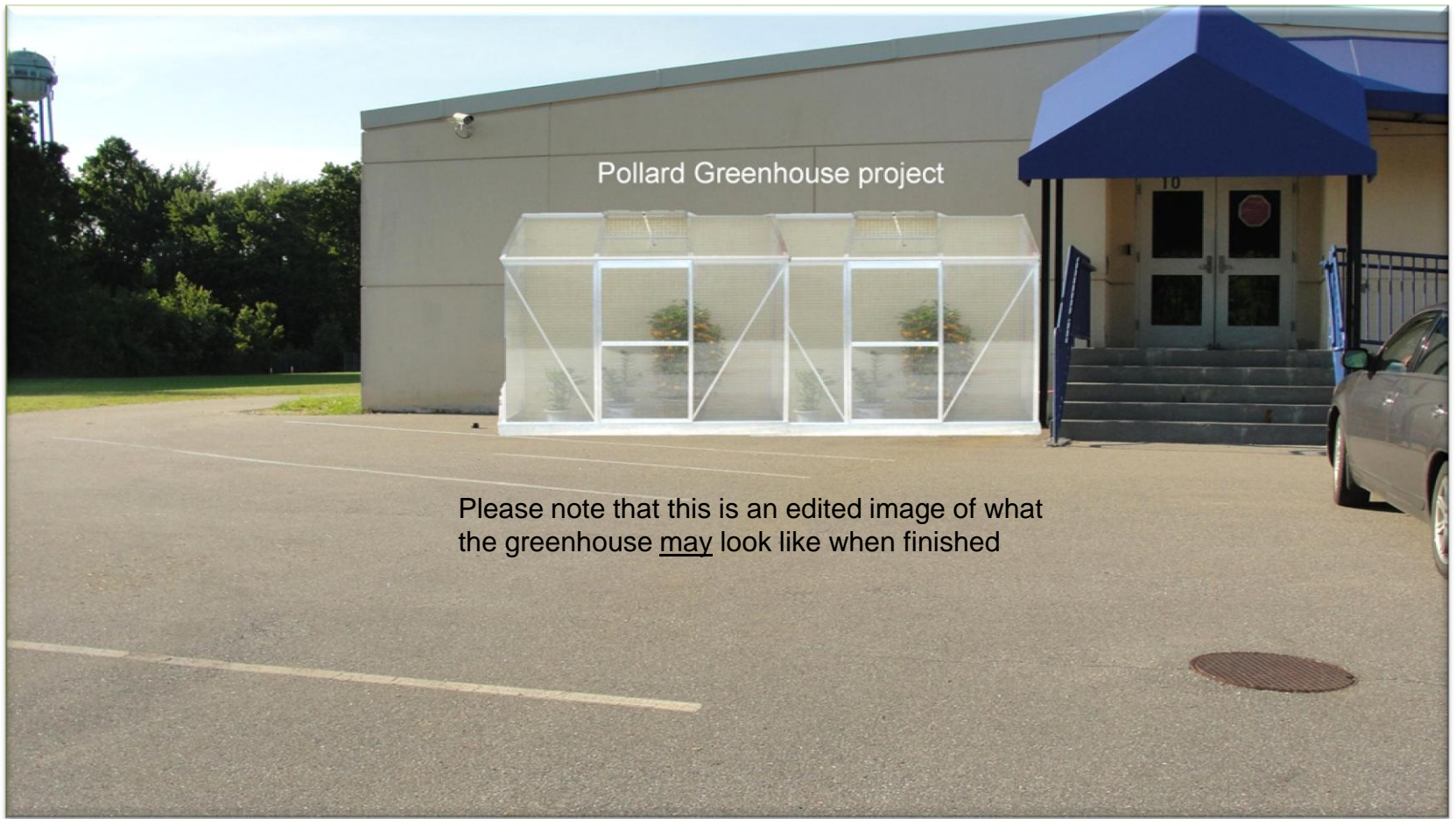
September 6, 2012	
Opening of School Report	

September 20, 2012	
Department Report	<i>Pollard School</i>
Budget	<i>Overview of upcoming budget process</i>
Program/Testing Updates	<i>To be reported each month</i>

October 4, 2012	
Department Reports	<i>Sandown Schools</i>
Policies	<i>First reading</i>

Back-Burner List

Committee Self-Evaluations	<i>Waiting on online evaluation/results</i>
NH Scholars Program	
Science NECAP	<i>Fall 2012</i>
Department Report – PPS	<i>Fall 2012</i>
Standards-based Report Card	<i>11/15, 2/7, 4/18, & 6/20</i>



Pollard Greenhouse Project

Bryce Whittaker's Eagle Project

Background

- BSA approved Eagle project as of 7/16
- Mr. Fowler (former scoutmaster) will act as my Eagle Advisor
- Initial review meeting with Mrs. Toscano and Mrs. Gaydos on 6/12
- Presented project to PTA on 6/13, received partial funding
- Site has been chosen and approved by the fire department and building committee
- Met with building inspectors office, application in process

The Many Benefits of a Greenhouse

- Pollard's Garden to Table and Edible Schoolyard initiatives:
 - Promote healthy eating habits by growing vegetables at school
 - Growing processes of plants
 - To build a sustainable food curriculum
- Life Science goals for kindergarten through second grade:
 1. All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).
 2. Energy flows and matter recycles through an ecosystem.
 3. Groups of organisms show evidence of change over time (e.g. evolution, natural selection, structures, behaviors, and biochemistry).

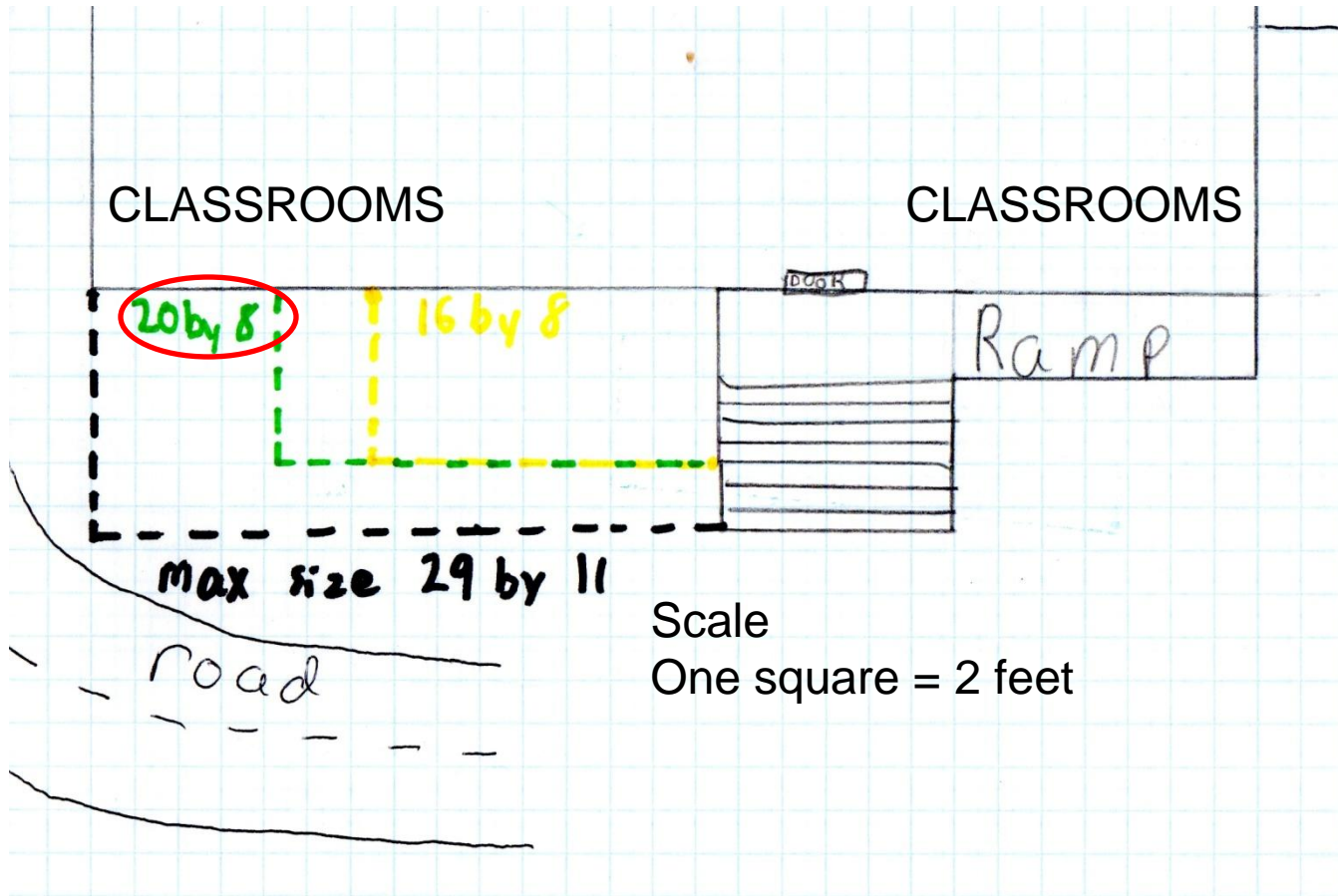
Initial Greenhouse Design

Here is the design as of June's meeting with Mrs. Toscano and Mrs. Gaydos:

- Lean-to design, I am going to use a kit - Approx **20 feet by 8 feet**
- \$2000 for lower end, \$3000 for middle end, and \$4000 and higher for higher end – shooting for the higher end
- Aluminum or polycarbonate frame
- fiberglass, double wall plastic panels, NO glass
- Locking door
- Ceiling Ventilation
- A rain barrel will be used for plumbing
- Racks or benches may be added depending upon budget

Layout

SOUTH



PARKING LOT

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Finances

- Based on my research, I feel this project might cost in the range of \$2,500 to \$4,000 depending upon size and features. I really don't want to go with a \$2,500 greenhouse because I'm shooting for highest quality affordable
- Fundraising goal: **\$4,000** and I already have: **\$1,150!**
- Here is how I'm going to get the money
 - PTA - **\$1,000** committed possibly more
 - Timberlane School District Administration – **Provide funds to meet goal (maximum \$1,500)**
 - Pollard Teachers
 - Jeans drive x2=**\$300**
 - Local Business / Organization Donations
 - Sent in grant application to Wal-Mart foundation hope to get **\$500 to \$1000**
 - Lions Club
 - American Legion
 - Knights of Columbus
 - Personal Fund Raising
 - Friends & family - **\$300?**
 - Pink Flamingo drive – **Up to \$1,000**
 - Uno/Papa Gino type fundraiser - **\$200?**
 - Publicity will be a tool
 - Letter written to Michelle Obama, asking for help with publicity as this is part of her Garden to Table Initiative
 - Spoke with Larry Kennedy of the Carriage Towne News- he will get this into the newspaper

Current Status

- Now I'm here asking for approval from the school committee to continue this project.
- I'm also asking for additional funding to meet my goal for fundraising. I'm hoping the school committee will make a donation of up to \$1,500 which would cover any gap and allow me to buy a higher quality greenhouse.

Thank You!



SECTION 01 55 00 – TRAFFIC MANAGEMENT PLAN

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Work included: All labor, equipment, supervision, materials, and quality control necessary to safely and efficiently transport materials, equipment and personnel to and from the Site throughout the duration of the project and in accordance with Federal, State, and local regulations.
- B. Related work specified elsewhere includes:
 - Health and Safety Requirements: Section 00 73 19
 - Transportation and Disposal: Section 02 81 00
 - Decontamination: Section 31 13 00
 - Dust Control: Section 31 65 00

1.02 DRIVER REQUIREMENTS

- A. Drivers shall have the necessary licenses, skills, experience, and training to operate the trucks in an efficient and safe manner. All drivers hauling impacted soil or performing repetitive deliveries of materials shall receive formal training in defensive driving (i.e. Smith System, or equivalent) and provide documentation of passing a Department of Transportation (DOT) 5-Panel Drug Screen.
- B. CONTRACTOR shall provide all drivers with a copy of this Traffic Management Plan specification (and attached figure) and a map of the approved Haul Route (see Section 1.07, Submittals, below) and shall provide formal training on this Plan and a review of defensive driving techniques. Applicable training records shall be maintained by the CONTRACTOR.
- C. Drivers shall not use cell phones unless the truck is stopped and out of the line of traffic.

1.03 TRUCK REQUIREMENTS

- A. All haul vehicles shall be in good mechanical condition and free of external contamination. All haul trucks shall meet Federal and New Hampshire DOT regulations and pass an onsite inspection performed by the CONTRACTOR in accordance with Federal DOT requirements before being put into service on the project. All haul trucks transporting impacted soil shall be equipped with a tarp system and an inspection of the closed tarp shall be conducted by the decontamination personnel on the tire scrub prior to leaving the Site. Refer to Section 31 13 00 Decontamination and Section 02 81 00 Transport and Disposal for additional details. Trucks failing to pass the inspection shall not leave the Site until adjustments or corrections are made; if a truck continues to fail the inspection, the driver shall be asked to drop their load, run through decontamination again, and be escorted off the Site and shall not be paid.
- B. All trucks shall have double-locking tailgates. Haul trucks carrying soil shall not be loaded above the water line to avoid overloading and spillage during transportation. Any spillage during loading operations shall be removed from where it fell on the ground and placed back into the truck or back onto the stockpile area. The materials being loaded on the trucks shall

be placed by the operator for uniform and stable transportation. The tailgates of all trucks shall be inspected by the Driver and a CONTRACTOR representative at the tire scrub or manifest station prior to exiting the Site.

- C. Each haul truck shall have a map of the approved Haul Routes to refer to if calling in the location of any vehicle break-downs, spills on the road or other hazards. The CONTRACTOR shall have cell phone communication established at all times during work hours. **Cell phones shall only be used by drivers when the truck is stopped and out of the line of traffic.**

1.04 SITE ACCESS/ ENTRANCE

- A. Existing Entrance: Use of the existing Kelley Road entrance shall be permitted during initial Site preparation activities only. No trucking of impacted soil offsite shall be permitted via Kelley Road without approval by the GROUP. Once the new entrance onto Main Street is constructed and the traffic signal operational, all vehicles shall use the new Main Street entrance.
- B. CONTRACTOR shall meter departure times for major materials and equipment exiting the Site via the Kelley Road entrance at a minimum of one-minute increments. CONTRACTOR shall control the volume of other vehicles leaving the Site to prevent more than 10 vehicles (including employee vehicles) leaving at the same time unless required for a Site evacuation or other emergency.
- C. If the new Site entrance is not operational by September 4, 2012 (the start of the Timberlane school year), the following timeframe restrictions shall be imposed for major materials and equipment entering or exiting the Site via Kelley Road:
 - a. Monday through Friday – AM – No access between 7 and 9 am
 - b. Monday through Friday – PM – No access between 2 and 3:30 pm

****NOTE: TIMES TO BE UPDATED AND CONFIRMED WITH THE SCHOOL WHEN BUS SCHEDULES ARE SET****
- D. Once the new entrance is constructed and operational, no timeframe restrictions for vehicular transport shall be imposed other than the Site's operational hours mandated by Town ordinances.
- E. No trucks shall be parked or be idling on Kelley Road when entering or exiting the Site via the existing Kelley Road entrance.
- F. No trucks shall be parked or be idling on Main Street or on the Site driveway between Main Street and the gate to the Site when entering or exiting the Site via the new entrance at 221 Main Street, unless waiting at the traffic light to turn onto or off Main Street.

1.05 ON-SITE HAUL ROAD

- A. During the initial Site Preparation activities, the CONTRACTOR shall construct the gravel roadway, as shown on the Construction Drawings and related specification, from the existing pavement at the Kelley Road entrance to the impacted area for onsite travel until the new Site entrance is operational. All vehicles shall stay on this new 'clean' roadway to the extent practicable; refer to Section 31 13 00 Decontamination.

- B. Once the new Site entrance is operational and the Site driveway backfilled, all truck traffic shall use and stay on the new Site driveway from Main Street to the future Site building. Trucks shall not leave this roadway unless loading impacted soil for offsite disposal.
- C. All trucks leaving the Site shall be decontaminated in accordance with Section 31 13 00.
- D. Onsite Road Rules:
- a. The speed limit on the onsite roads is 5 miles per hour (MPH).
 - b. Drivers and Site personnel shall maintain communications through the use of two-way radios and hand signals. Drivers entering and exiting the Site work areas shall be in CB radio contact with each other.
 - c. Right of way for vehicles onsite are as follows:
 - i. Emergency vehicles responding to an emergency
 - ii. Loaded haul trucks
 - iii. Unloaded haul trucks
 - iv. Heavy equipment
 - v. Pickup trucks, passenger vehicles, and other Site vehicles
 - d. Drivers may get out of the truck to extend the tarp over the load once loading is complete. Otherwise, drivers must remain in their truck at all times. Any driver that must be out of their truck shall not leave the immediate area of the vehicle. While out of the vehicle, the driver must wear all required personal protective equipment (PPE) for that area.
 - e. Vehicle dust emissions shall be minimized by the driver and controlled by the CONTRACTOR in accordance with Section 31 65 00 Dust Control.
 - f. A minimum separation of 100 feet shall be maintained between haul trucks while moving. Pick-up trucks and passenger vehicles following a haul truck shall maintain a minimum separation distance of 5 seconds.
 - g. Haul trucks shall not pass one another going in the same direction. Passing a stopped or disabled vehicle is permissible only once both drivers have communicated via CB radio and have a clear indication that it is safe to do so.
 - h. Drivers shall not stop on the Site roads unless they are loading or unloading, waiting to load or unload, or required to by road conditions, wildlife, or other hazards. If required to stop due to vehicle breakdown, the vehicle shall be parked off the road with the hazard flashers turned on and orange safety cones or triangle placed alongside the disabled vehicle.
- E. Onsite Road Safety:
- a. Drivers shall check all lights and warning devices (i.e. back-up alarms, turn signals, etc.) prior to the start of each shift. CONTRACTOR shall verify that defective items have been repaired or replaced prior to use.
 - b. Tires will be inspected by the drivers for proper inflation, side wall damage, tread depth, uneven wear and rocks and other objects lodged between dual wheels.
 - c. If the truck driver needs to leave the vehicle, the appropriate PPE shall be worn by the Driver at all times.
 - d. If any haul truck needs to back up onsite, a spotter shall be utilized to prevent backing into anything unexpectedly.
 - e. If overhead power lines, phone lines or other communication lines are within the dump zone of the haul trucks, a spotter shall be utilized so that the truck does not raise the bed within the hazard area of the overhead utility.

- f. No haul vehicles shall be driven with the bed raised. During the unloading activities, the Drivers shall be allowed to pull forward with the bed raised to clear all material from the bed and tailgate. Drivers shall not drive the haul vehicle with the bed raised except to ensure the load has completely cleared the bed and tailgate.

F. Decontamination: Refer to Section 31 13 00

1.06 SPILL PREVENTION

- A. The following are examples, at a minimum, of methods the CONTRACTOR shall implement to prevent spills:
 - a. Haul trucks will not be loaded above the water line.
 - b. Trucks and construction equipment shall be inspected and mechanically maintained to prevent oil and fuel leaks.
 - c. Trucks shall be supplied with absorbent pads at all times while on or offsite.
- B. The CONTRACTOR shall maintain a spill kit onsite at all times in the event of a spill. The spill kit shall include, at a minimum, a 55-gallon poly drum containing a shovel, absorbent, absorbent pads, and drum liner.
- C. In the event of a spill both on or offsite, the CONTRACTOR shall be responsible for a complete cleanup of the spill area. CONTRACTOR shall notify the CONSTRUCTION MANAGER immediately if there has been a spill on or offsite. The CONSTRUCTION MANAGER shall provide a courtesy notification to the Plaistow Fire Department (at 603-382-5012) of any on or offsite spill of material that requires cleanup by the CONTRACTOR. For any spills requiring Fire Department assistance, the CONTRACTOR shall call 9-1-1.
- D. CONTRACTOR shall follow all State and Federal regulations should a spill occur, including but not limited to NH Title XXI, Motor Vehicle, Chapter 266 - Section 266:72, Equipment of Vehicles, Safety Devices Required for Transporting, Spillage of Material (<http://www.gencourt.state.nh.us/rsa/html/XXI/266/266-72.htm>).

1.07 OFFSITE HAUL ROADS

- A. Authorized Local Roads: Prior to any hauling, CONTRACTOR shall submit the proposed haul route(s) for approval by the GROUP, per Section 02 81 00 Transportation and Disposal. Refer to Attachment A for the local and state roadways that vehicles may travel to enter or exit the Site and that have been reviewed by local and state officials. No trucks shall exit the Site onto or enter the Site from Danville Road. Kelley Road shall only be used during initial Site Preparation Activities. No trucking of impacted soil offsite shall be permitted via Kelley Road without approval by the GROUP. Once the new entrance onto Main Street is constructed and the traffic signal operational, all vehicles shall enter the Site via Main Street. Note that the preferred exit from the Site is to the south on Main Street (left turn out of the Site exit) and the preferred route of travel to the north of the Site is north on Route 125 (left turn onto Route 125); however, other haul routes will be considered by the GROUP depending on the location of the selected borrow source and/or approved disposal facility(s).
- B. Drivers shall not exceed the posted speed limit on local, state and federal roadways.

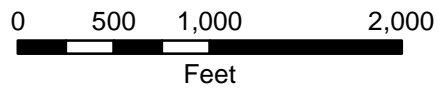
- C. Trucks transporting waste materials shall proceed directly to the disposal or recycling facility and shall not make other stops along the way. If the truck does not reach the disposal or recycling facility in time to empty its load for that day, the truck must return to the Site or other pre-approved location. Any preloads or break downs during the course of a shift that does not allow the truck to make it to the disposal or recycling facility on time shall be documented daily and secured at the Site or other pre-approved location for the night. Once the truck is repaired and has hauled the load to the disposal or recycling facility, it shall be reported immediately to the CONTRACTOR and the CONSTRUCTION MANAGER.
- D. In the event that a truck will need to stop along their route to the disposal facility for an extended period of time (sleep in order to meet regulations), the driver shall be allowed to stop in a truck stop or similar facility that can accommodate large vehicles (along the side of the road is not acceptable). The driver must stay with the vehicle at all times (with the exception of using the facilities or eating meals). In the event that the driver must stop for a short period of time to use the facilities or eating meals, the driver must chock the tires, use their flashers, ensure the load is secured, and that the vehicle is shut off and the doors locked.

1.08 SUBMITTALS

- A. Haul Routes: See Section 02 81 00 Transportation and Disposal

PART 2 – PRODUCTS *(not applicable)*

PART 3 - EXECUTION *(not applicable)*



Legend

Route Use

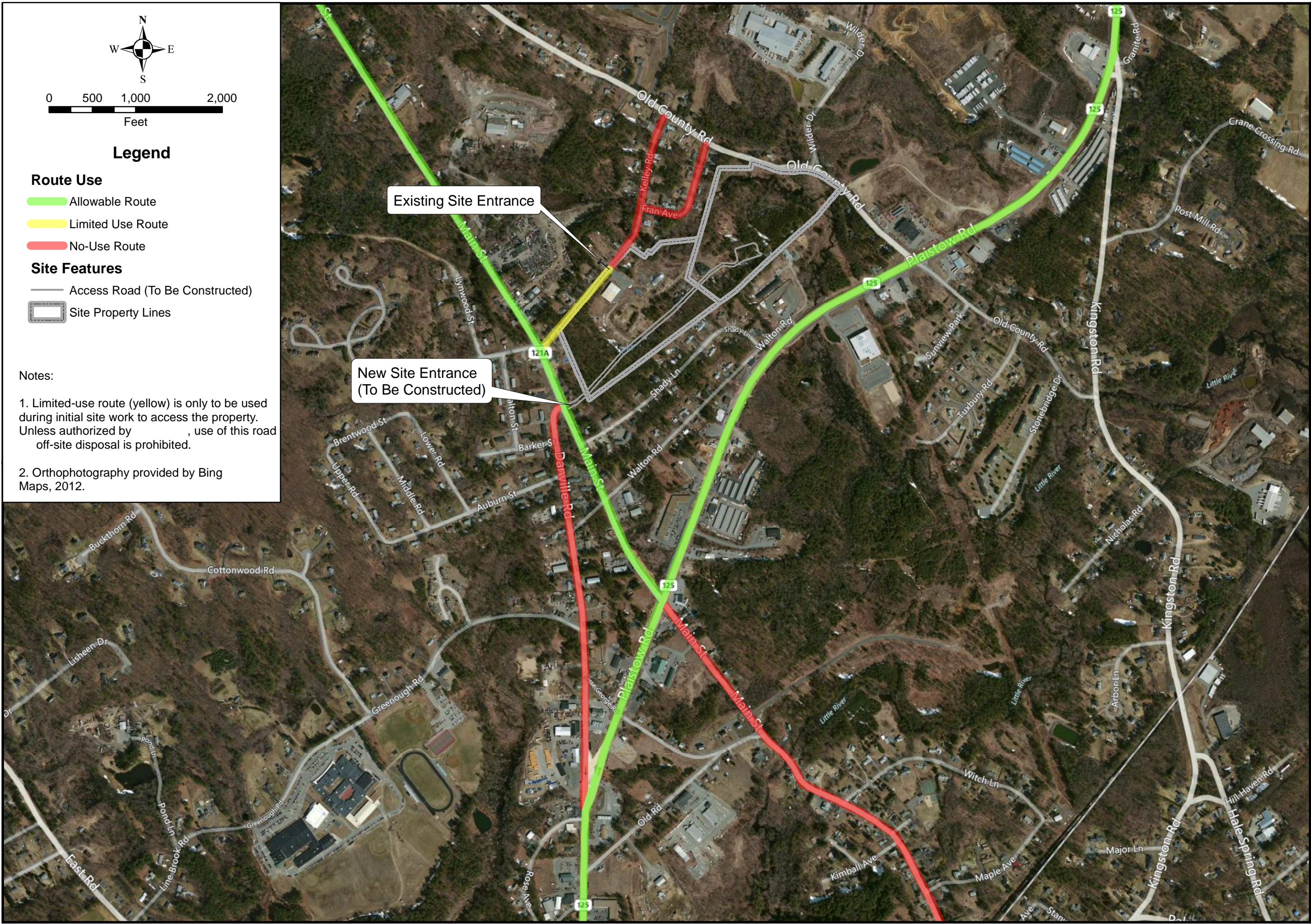
- █ Allowable Route
- █ Limited Use Route
- █ No-Use Route

Site Features

- Access Road (To Be Constructed)
- Site Property Lines

Notes:

1. Limited-use route (yellow) is only to be used during initial site work to access the property. Unless authorized by _____, use of this road off-site disposal is prohibited.
2. Orthophotography provided by Bing Maps, 2012.



Existing Site Entrance

New Site Entrance
(To Be Constructed)

35 NEW ENGLAND BUSINESS CENTER
ANDOVER, MASSACHUSETTS 01810
866.702.6371 | www.woodardcurran.com



Traffic Management Plan: Authorized Truck Routes

Beede Waste Oil Site
Plaistow, New Hampshire

JOB NO.: 218516.03
DRAWN BY: BLG
DATE: JUNE 2012

FIGURE 1

COMMITMENT & INTEGRITY DRIVE RESULTS

Timberlane Regional School District	Policy Code: KCD
Adopted: 10-16-08	Page 1 of 1

PUBLIC GIFTS AND DONATIONS

Gifts from organizations, community groups and/or individuals, which will benefit the District, shall be encouraged. A gift shall be defined as money, real or personal property and personal services provided without consideration.

Individuals or groups contemplating presenting a gift to a school or the district shall be encouraged to discuss in advance with the Building Principal or the Superintendent what gifts are appropriate and needed.

The Board reserves the right to refuse any gift that does not contribute to the achievement of the district's goals, or in which the ownership of the gift would tend to deplete the resources of the district. In determining whether a gift will be accepted, consideration shall be given to district policies, school district goals and objectives (with particular emphasis on the goal of providing equal educational opportunities to all students) and adherence to basic principles outlined in the regulation that accompanies this policy.

The Superintendent may accept gifts in the amount of \$500 or less. Gifts in excess of \$500 may only be accepted by the Board. Additionally, pursuant to RSA 198:200-b, gifts in the amount of \$5000 or more shall require the Board to hold a public hearing regarding any action to be taken with the gift. For gifts of less than \$5000, the Board will post notice of the gift in the agenda of the next regularly scheduled Board meeting and will include notice in the minutes of the meeting in which the gift is discussed. The acceptance of all gifts will be made in public session.

Any gift accepted shall become the property of the district, may not be returned without the approval of the Board, and is subject to the same controls and regulations as are other properties of the district. The Board shall be responsible for the maintenance of any gift it accepts.

At the time of acceptance of the gift, there will be a definite understanding with regard to the use of the gift, including whether it is intended for the use of one particular school or all schools in the district. The Board will make every effort to honor the intent of the donor in its use of the gift, but reserves the right to utilize any gift it accepts in the best interest of the educational program of the district. In no case shall acceptance of a gift be considered to be an endorsement by the Board of a commercial product or business enterprise or institution of learning.

It is the responsibility of the Superintendent or designee to process the appropriate forms to update inventory and to notify the donor of acceptance or rejection of a gift.



GOPHER**1-800-533-0446****RockBlocks™ Climbing Tunnel****\$3,599 .00**

Availability: Direct Ship

Ships direct from the supplier 9-25-2012

It's a climbing wall and a tunnel in one great adventure!

Three-dimensional, rotomolded plastic climbing wall allows multiple students to climb, crawl, and play at the same time! Hand/foot holds are textured and won't turn to provide a great grip for enhanced safety. Powder-coated, heavy-duty steel support makes tunnel a safe way to play! Assembly and installation required. 9'L x 6'6"W x 3'3"H; 323 lb. Truck delivery.

	Item No	Item Description	Availability		Unit	Price	Enter Qty
NEW	87-545	RockBlocks™ Climbing Tunnel	Ships 9-25-12 		Ea	\$3,599.00	

©2012 Gopher. All Rights Reserved.
Call our World Class Customer Service at **1-800-533-0446**

Common Core

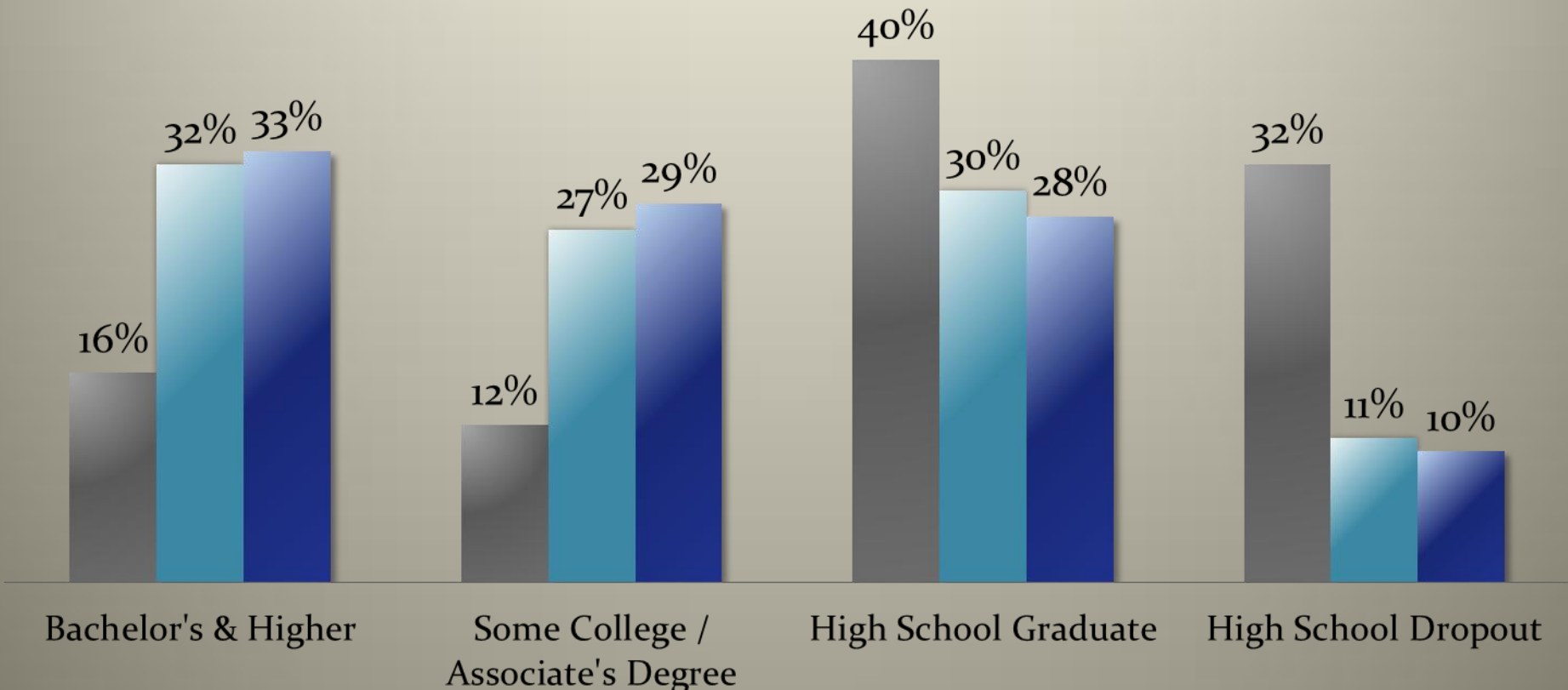
Purpose and process

- Common Core State Standards address three specific issues:
 - Increased global competition
 - All students must be prepared to compete with their American peers and students from around the world
 - Need for consistent standards and expectations across districts, states, and nation
 - Every state has its own set of standards
 - Students are learning at different levels of academic rigor
 - 46% of all students move during school age years
 - Student preparedness for college/career success

Jobs in Today's (and Tomorrow's) Workforce Require More Education and Training

Percentage of Workforce by Education Level

■ 1973 ■ 2002 ■ 2018



Source: Carnevale, Anthony P. et al. (June 2010). *Help Wanted: Projections of Jobs and Education Requirements Through 2018*. Georgetown Center on Education and the Workforce.

ww9.georgetown.edu/grad/gppi/hpi/cew/pdfs/FullReport.pdf

How the Common Core came to be

- College and career readiness standards developed in summer 2009
- Based on the college and career readiness standards, k-12 learning progressions developed
- Multiple rounds of feedback from states, teachers, researchers, higher education, and the general public
- Final common core state standards released on June 2, 2010
- Nh adopt July 8, 2010 by state board of ed
- As of March 1, 2012, 45 states and US Virgin Islands and the District of Columbia

College and career readiness

- **College** includes any education beyond high school leading to postsecondary credential
- **Careers** of interest provide a family sustaining wage and pathways to advancement; typically require education or training beyond high school
- **College-ready** means being qualified to enter and prepared to succeed in entry-level credit bearing courses without remediation
- *Research shows that proficiency in literacy and math are required to be college and career ready*

The Common Core State Standards

- Aligned with college and work expectations
- Focused and coherent
- Include rigorous content and application of knowledge through high-order skills
- Build upon strengths and lessons of current state standards
- Internationally benchmarked so that all students are prepared to succeed in our global economy and society
- Based on evidence and research
- State led, not a federal mandate—
 - coordinated by National Governors Association and Council of Chief State School Officers (state commissioners of education)

Subjects

- Language Arts
 - Reading
 - Writing
 - Speaking and listening
- Math
- Science
 - The Committee on a Conceptual Framework for New K-12 Science Education Standards
 - Published 2012—beginning, gathering feedback now

What the CC Standards do NOT Define

- *How* teachers should teach
- *All* material that can or should be taught
- The nature of advanced work beyond the core
- The interventions needed for students well below grade level
- The full range of supports required for English language learners and students with special needs

NH State Plan

	2011-2012	2012-2013	2013-2014	2014-2015
NH Standards for ELA and Math	Teach NH Curriculum Frameworks for ELA and Math	Begin to map the grade level differences between NH and CCSS to plan for SY13-14	First full year for new standards to be used in classrooms	Common Core fully implemented
Common Core for ELA and Math	Continue Review, using NH Toolkit – Begin implementation of K-2 standards.	Begin to map the grade level differences between NH and CCSS to plan for SY13-14 .		
NECAP in Reading, Math, and Writing	NECAP (fall)	NECAP (fall)	NECAP (fall)	Smarter Balanced Assessment (spring)
NECAP in Science	NECAP (spring)	NECAP (spring)	NECAP (spring)	NECAP (spring)

NH is a governing member of SBAC

One Aspect of the Summative Assessment

The SMARTER Balanced Assessment Consortium (SBAC) is one of two multistate consortia awarded funding from the U.S. Department of Education to develop an assessment system based on the new Common Core State Standards (CCSS).

Mandatory comprehensive accountability measures that include computer adaptive assessments and performance tasks, administered in the last 12 weeks of the school year in grades 3–8 and high school for English Language Arts (ELA) and mathematics



Timberlane plan

- April 20—staff orientation and specific level work to become familiar with common core
- [2012-13](#)
- Next steps:
 - Continue communication plan
 - Letter in summer packets
 - Website with information and resources
 - School board regular meeting and workshop
 - Curriculum and Assessment Committee
 - Monthly communications from each school
 - Information at Open Houses
 - Board workshop for more in-depth information and community education
 - Updates throughout year to district team, curriculum and assessment committee, and school board
 - <http://www.corestandards.org/>

Timberlane Regional School District	Policy Code: IGD
Adopted: 06-16-83 Revised: 05-02-91 Reaffirmed: 02-24-05 Revised: 06-18-09	Page 1 of 1

CURRICULUM ADOPTION

Curriculum is a written document, aligned with the school-wide learning expectations, that prescribes content, integrates relevant school-wide expectations, includes course-specific learning goals, suggests instructional strategies, suggests assessment techniques including the use of school-wide rubrics, and suggests a time frame. The curriculum engages students in inquiry, problem solving, and higher order thinking, and provides opportunities for authentic application of knowledge and skills.

A dynamic instructional program requires ongoing alteration in the curriculum and courses of study.

It is the policy of the Board that no basic course of study shall be eliminated or new courses added without approval of the Board, nor shall any sharp alteration or reduction of a course of study be made without such approval.

The Board should not act upon new programs and courses of study until the meeting following their presentation by the administration, so that Board members may have the opportunity to review the proposed program.

Earth and Space Science			
Title of Unit	Changes in Earth	Grade Level	6
Curriculum Area	Science	Time Frame	3 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards			
Causes of Change			
S:ESS1:6:5.3 Recognize that vibrations in materials set up wavelike disturbances that spread away from the source, as with earthquakes.			
S:ESS1:6:3.2 Identify connections between fossil evidence and geological events, such as changes in atmospheric composition, movement of tectonic plates, and asteroid/comet impact; and develop a means of sequencing this evidence.			
Evidence of Change			
S:ESS1:6:4.1 Recognize that images taken of the Earth from space can show its features and any changes in those features that appear over time.			
S:ESS1:6:3.1 Recognize that fossils offer important evidence relating to changes in life forms and environmental conditions over geologic time.			
Technology Used			
S:ESS4:6:2.1 Recognize that satellites and Doppler radar can be used to observe or predict the weather.			
S:ESS1:6:4.2 Explain that satellites can be used to view and track storms and Earth events, such as hurricanes and wild fires.			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
<ul style="list-style-type: none"> There are many natural occurrences that cause change to the earth. There is evidence that the Earth continues to change. 		<ul style="list-style-type: none"> What natural occurrences cause change to the Earth? How do we know that the Earth continues to change? 	
Related Misconceptions			
<ul style="list-style-type: none"> The Earth stays the same. There is no scientific reason for Earth's changes. 			
Knowledge - Students will know...		Skills - Students will be able to...	
<ul style="list-style-type: none"> Students will know the basic structures and composition of the Earth. Students will know the Theory of Plate Tectonics. Students will know what natural occurrences cause changes to the Earth. (Earthquakes, asteroids, etc) Students will know how fossils show evidence of Earth changing. 		<p>Meet Expectations</p> <ul style="list-style-type: none"> Students will be able to remember the structure and composition of the earth. Students will be able to understand the theory of plate tectonics. Students will be able to apply the use of fossils to prove/show the earth's changes. <p>Exceeds Expectations</p> <ul style="list-style-type: none"> Students will be able to analyze how plates are currently changing the earth's surface. Students will be able to create a summary of events between fossil evidence and science theory. 	
Resources		Key Vocabulary	
<p>Sciencesaurus</p> <p>Gizmo's</p> <p>Nasa.gov</p> <p>Discovery Education</p> <p>Discovery Magazine</p>		<ul style="list-style-type: none"> Fossil Tectonic Plates Richter Scale Satellite Atmosphere Geologic Time 	
		<ul style="list-style-type: none"> Seismic Waves Crust Earthquake Mantle Core 	

Earth and Space Science			
Title of Unit	Space Exploration	Grade Level	6
Curriculum Area	Science	Time Frame	2 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards			
<p>Historical Timeline: S:ESS2:6:4.1 Explain the historical perspective of planetary exploration and man’s achievements in space, beginning with Russia’s Sputnik mission in 1957. S:ESS2:6:4.2 Describe man’s perception of the constellations throughout history; and explain how he has used them to his advantage, including navigational purposes and to explain historical events.</p> <p>Effects of Earth’s Position</p>			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
1. Humans have always inquired about space.		1. How do humans explore space? 2. How do humans use the information gathered during space exploration?	
Related Misconceptions			
1. Humans have always travelled in space. 2. Everyone can see the same constellations at the same time.			
Knowledge Students will know...		Skills Students will be able to...	
1. Students will know the history of space exploration starting with space race (Sputnik). 2. Students will be know how constellations have been used by humans throughout history for many reasons.		1. Students will be able to remember the basic dates of space exploration by creating a timeline. 2. Students will be able to show an understanding of both positive and negative events in space history. 3. Students will be able locate and name constellations in the night sky and explain how they may have been beneficial to history. 4. Students will be able to evaluate space exploration advances and challenges throughout history. 5. Students will be able to create or propose a new space investigation.	
Key Resources		Key Vocabulary	
<p>Sciencesaurus Gizmo’s Nasa.gov Discovery Education Discovery Magazine Brain Pop</p>		<ul style="list-style-type: none"> • constellation • satellite • astronaut • cosmonaut <ul style="list-style-type: none"> • telescope • star • shuttle 	

Introduction to Science			
Title of Unit	Process Skills	Grade Level	6
Curriculum Area	Science	Time Frame	4 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards			
S:LS5:6:2.1 Demonstrate the appropriate use of tools, such as thermometers, probes, microscopes and computers to gather, analyze and interpret data in the life sciences.			
Process Skills			
<p>S:SPS1:6:1.1 Make observations and record measurements using a variety of tools and instruments.</p> <p>S:SPS1:6:1.2 Plan observations based on a given purpose.</p> <p>S:SPS1:6:1.3 Identify and investigate similarities and differences among observations and sets of observations.</p> <p>S:SPS1:6:1.4 Use appropriate units and precision of metric measurement when recording data.</p> <p>S:SPS1:6:1.8 Ask questions about relationships between and among observations.</p> <p>S:SPS1:6:1.9 Determine which observations will be helpful to a given investigation.</p> <p>S:SPS1:6:1.10 Distinguish between those questions that can be answered by science and those that cannot.</p> <p>S:SPS3:6:1.1 Work effectively within a cooperative group setting, accepting and executing assigned roles and responsibilities.</p> <p>S:SPS3:6:1.2 Work collectively within a group toward a common goal.</p> <p>S:SPS3:6:1.3 Demonstrate respect of one another's abilities and contributions to the group.</p>			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
<ul style="list-style-type: none"> There is a difference between observation and inference. Scientists use the SI system of measurement (metric). Scientists work together to solve problems and communicate results. 		<ul style="list-style-type: none"> Which questions can and cannot be answered by science? How does science advance? 	
Related Misconceptions			
<ul style="list-style-type: none"> Scientists work alone and never share ideas and results. Science is too hard. All science is chemistry. Scientists randomly mix substances together for the fun of it. An inference is an observation. 			
Knowledge –Students will know...		Skills- Students will be able to...	
<ul style="list-style-type: none"> What an observation is. How to communicate effectively. The metric system 		<ul style="list-style-type: none"> Make detailed observations. Demonstrate the use of metric measurements. Model effective communication. 	
Key Resources		Key Vocabulary	
<p>Sciencesaurus Gizmo's ExploreLearning.com Discovery Education</p>		<ul style="list-style-type: none"> Scientific Method Measurement Metric System Balance 	<ul style="list-style-type: none"> Graduated Cylinder Beaker Meter Stick

Life Science			
Title of Unit	Heredity	Grade Level	6
Curriculum Area	Science	Time Frame	2.5 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards			
<p>Inheritance: S:LS1:6:3.2 Explain that the same genetic information is copied in each cell of a new organism. S:LS1:6:3.3 Explain that all living things reproduce in order to continue their species. S:LS3:6:3.2 Recognize that only organisms that are able to reproduce can pass on their genetic information to the next generation.</p> <p>Effects on Species Survival: S:LS3:6:2.1 Describe the fundamental concepts related to biological evolution, such as biological adaptations and the diversity of species. S:LS3:6:3.1 Recognize that there are genetic variations among individuals in groups of organisms and provide examples of how these variations affect the survival of an organism.</p>			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
<ul style="list-style-type: none"> Genetic information is copied from one cell to another. Species change over time due to adaptations that allow for survival. 		<ul style="list-style-type: none"> How do your cells reproduce? How does cell reproduction help you? Why would it be important for species to change over time? 	
Related Misconceptions			
<ul style="list-style-type: none"> There has been no change over time. I am genetically all from one parent. 			
Knowledge		Skills	
Students will know...		Students will be able to...	
<ul style="list-style-type: none"> Students will know that all living things reproduce in order to continue their species by the passing of genetic materials. Students will know that adaptation is necessary for the survival of a species. 		<p><u>Meets expectations</u></p> <ul style="list-style-type: none"> understand that each cell in their body has the same genetic material through modeling how cells reproduce. explain how reproduction helps a species. model that species have changed over time. describe how variations have allowed for survival. <p><u>Exceeds Expectations</u></p> <ul style="list-style-type: none"> understand that each cell in their body has the same genetic material through explaining a scientific technology i.e. DNA evidence, cloning, stem cells, etc analyze a variation and explain how it allowed for species survival. 	
Key Players/People/Events/Resources		Key Vocabulary	
<p>Sciencesaurus Gizmo's Discovery Education Discovery Magazine</p>		<ul style="list-style-type: none"> DNA Reproduction Adaptation Genetic Variation Survival Evolution 	

Physical Science

Title of Unit	Force and Motion	Grade Level	6
Curriculum Area	Science	Time Frame	3 weeks
Developed By	Gervino, Goss, Froment, Richards		

Content Standards

S:PS3:6:1.2 Explain that when a force is applied to an object, it reacts in one of three ways: the object either speeds up, slows down, or goes in a different direction.

S:PS3:6:1.3 Describe the relationship between the strength of a force on an object and the resulting effect, such as the greater the force, the greater the change in motion.

S:PS3:6:2.1 Explain the how balanced and unbalanced forces are related to an object's motion.

S:PS3:6:2.2 Explain that an object's motion can be tracked and measured over time and that the data can be used to describe its position.

Enduring Understandings

Overarching Understanding

- Unbalanced forces cause objects to change their motion whereas balanced forces do not.
- An object's motion can be tracked and measured over time.
- There is a direct relationship between the strength of a force and the amount of change it causes.

Related Misconceptions

- Objects just move "on their own."
- Force is caused by something that is strong pushing on it.

Essential Questions

Overarching

- Why do things move?
- What is motion?
- How do you know when something is moving?

Knowledge - Students will know...

- Force is a push or pull.
- Unbalanced forces will cause objects to speed up, slow down or change direction.
- There is a direct relationship between the strength of a force and its effect on an object's motion.
- Force and motion can both be measured.

Skills - Students will be able to...

- Explain that force is a push or pull.
- Understand the difference between balanced and unbalanced forces and their relationship to motion.
- Apply procedures for measuring force and motion.
- Analyze whether an object is moving or not.
- Evaluate importance of wearing seatbelts using knowledge of forces & motion.
- Invent a game and create rules that use forces and motion; for example: croquet, pool, pinball, etc.

Key Resources

- | | |
|--|---|
| <ul style="list-style-type: none"> • Sciencesaurus • Gizmo's • Science Explorer • Discovery Education | <ul style="list-style-type: none"> • Discovery Magazine • Brain Pop • Motion Detectors |
|--|---|

Key Vocabulary

- | | |
|---|---|
| <ul style="list-style-type: none"> • force • motion • balanced forces • unbalanced forces | <ul style="list-style-type: none"> • distance • reference point |
|---|---|

Earth and Space Science

Title of Unit	Earth, Sun and Moon	Grade Level	6
Curriculum Area	Science	Time Frame	3 weeks
Developed By	Gervino, Goss, Froment, Richards		

Content Standards

Predictable Motions

S:ESS2:6:1.1 Recognize and describe how the regular and predictable motions of the Earth and Moon explain certain Earth phenomena, such as day and night, the seasons, the year, shadows and the tides.

S:ESS2:6:2.2 Identify and describe seasonal, daylight and weather patterns as they relate to energy.

Effects of Earth's Position

S:ESS2:6:1.2 Recognize that of all the known planets, Earth appears to be somewhat unique; and describe the conditions that exist on Earth that allow it to support life.

S:ESS2:6:2.1 Recognize how the tilt of the Earth's axis and the Earth's revolution around the Sun affect seasons and weather patterns.

Technology Used

S:ESS4:6:1.1 Understand that technology is used to design tools that improve our ability to measure and observe the world.

Enduring Understandings

- The Earth, Sun and Moon move in predictable patterns.
- The planet Earth is unique in that it supports life.

Related Misconceptions

- The Sun goes up and down.
- The Earth does not move because we don't feel it.

Essential Questions

Overarching

- How do the Earth, Sun and Moon move in predictable ways?
How does the relationship between the Earth, Sun and Moon affect conditions on Earth?

Knowledge - Students will know...

- The predictable motions of the Earth, Sun and Moon
- The effects of the Earth's position in relation to the Sun and Moon
- Recognize that Earth is unique among known planets in that its conditions support life.

Skills - Students will be able to...

- Describe Earth's rotation on its axis and revolution around the sun.
- Understand the temporal and spatial relationships between the Earth, Moon and Sun.
- Using models, demonstrate the predictable motions of the Earth, Sun and Moon.
- Analyze why conditions on Earth support life.
- Defend or dispute the use of technology to measure and observe the world.
- Compile examples of changes to the Earth's predictable motions and why these changes occurred.

Resources

Sciencesaurus

Gizmo's
Nasa.gov
Discovery Education
Discovery Magazine

Key Vocabulary

- | | |
|--|--|
| <ul style="list-style-type: none"> • Rotation • Revolution • Tide • Axis | <ul style="list-style-type: none"> • Day/night • Season • Satellite |
|--|--|

Introduction to Science

Title of Unit	Lab Safety	Grade Level	6
Curriculum Area	Science	Time Frame	1 week
Developed By	Gervino, Goss, Froment, Richards		

Content Standards/ Process Skills

- S:SPS1:6:3.1 Carry out simple student or teacher-developed procedures or experiments
 S:SPS1:6:3.2 Use appropriate tools to collect and record data
 S:SPS1:6:3.3 Follow the teacher's instructions in performing experiments, following all appropriate safety rules and procedures.

Enduring Understandings

Essential Questions

Overarching Understanding

- Working in a lab requires following safety guidelines.
- Equipment should be used appropriately for specific tasks.

Overarching

- What types of dangers can be present in a laboratory environment?
- What tools do scientists use?

Related Misconceptions

- Science means blowing stuff up.
- All scientists are crazy people who have messy hair.

Knowledge

Students will know...

- How to use safe techniques during scientific investigation.
- How to use scientific equipment properly.

Skills

Students will be able to...

- Select the proper piece of equipment for a specific lab activity.
- Follow established safety guidelines.

Key Resources

Sciencesaurus
 Discovery Education

Key Vocabulary

- Goggles
- Eye Wash Station
- Fire Extinguisher
- Fire Blanket

Introduction of Science			
Title of Unit	Scientific Process	Grade Level	6
Curriculum Area	Science	Time Frame	4 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards - Process Skills			
<p>S:SPS1:6:2.1 Design and record a simple step-by-step procedure to follow in order to carry out a fair test of a scientific question.</p> <p>S:SPS1:6:2.2 Identify and utilize appropriate tools/technology for collecting data in designing investigations.</p> <p>S:SPS1:6:2.3 Incorporate components of good experimental design, such as controls and multiple trials, into investigations</p> <p>S:SPS1:6:4.1 Use appropriate tools to organize, represent, analyze and explain data.</p> <p>S:SPS1:6:4.2 Make and record observations using a pre-determined format.</p> <p>S:SPS1:6:4.3 Compare and display data in a variety of student or computer generated formats (such as diagrams, flow charts, tables, bar graphs, line graphs, scatter plots, and histograms).</p> <p>S:SPS1:6:4.4 Identify patterns and relationships in data and formulate basic explanations.</p> <p>S:SPS1:6:4.5 Draw appropriate conclusions based on data collected.</p> <p>S:SPS1:6:5.1 Determine if the results of an experiment support or fail to support the scientific idea tested.</p> <p>S:SPS1:6:5.2 Explain how a hypothesis is a direct extension of a scientific idea and therefore makes that idea "testable."</p>			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
<ul style="list-style-type: none"> Scientists follow predetermined procedures in order to obtain reproducible and valid results. 		<ul style="list-style-type: none"> How can scientists prove their results? What should scientists study? Why do scientists need to be ethical? Why do procedures need to be repeated? 	
Related Misconceptions			
Knowledge - Students will know...		Skills - Students will be able to...	
<ul style="list-style-type: none"> How to independently follow the scientific method to safely and accurately communicate results. How to graph data and analyze a graph. Know the difference between independent and dependent variables. Know what a control group is and its purpose. Know how to construct a data table. 		<p>List the steps of the scientific method.</p> <p>Demonstrate each of the steps of the scientific method accurately.</p> <p>Implement the scientific method.</p> <p>Design and carry out an experiment using the scientific method to answer a given question.</p> <hr/> <p>Evaluate a scientific journal article for compliance with the scientific method.</p> <p>Propose a new experimental design to further investigate the experiment in the above scientific journal article.</p>	
Key Resources		Key Vocabulary	
<p>Sciencesaurus</p> <p>Gizmo's</p> <p>BrainPop</p>		<ul style="list-style-type: none"> Scientific method Observation Hypothesis Experiment Data Analysis Conclusion 	

Life Science			
Title of Unit	Classification	Grade Level	6
Curriculum Area	Science	Time Frame	1-2 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards			
<p>Taxonomy: S:LS1:6:1.1 Identify ways in which living things can be grouped and organized, such as taxonomic groups of plants, animals and fungi. S:LS1:6:1.2 Categorize organisms into kingdoms that are currently recognized, according to shared characteristics.</p> <p>Organization Of Living Things: S:LS1:6:2.1 Recognize that all living things are composed of cells, and explain that while many organisms are single celled, such as yeast, others, including humans, are multi-cellular. S:LS1:6:2.4 Recognize and describe the hierarchical organization of living systems, including cells, tissues, organs, organ systems, whole organisms, and ecosystems. S:LS1:6:2.5 Explain that multi-cellular organisms have specialized cells, tissues, organs and organ systems that perform certain necessary functions, including digestion, respiration, reproduction, circulation, excretion, movement, control and coordination and protection from disease.</p>			
Process Skills			
<p>Taxonomy: S:SPS1:6:1.5 Use a classification key, such as a dichotomous key, to identify and distinguish among members of a group or set. S:SPS1:6:1.6 Construct a simple classification key. S:SPS1:6:1.7 Compare methods of classification for a specific purpose.</p>			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
<ul style="list-style-type: none"> Organisms are grouped based on their characteristics. Living things are part of a hierarchy. 		<ul style="list-style-type: none"> How are your bodies organized? How are materials organized? 	
Related Misconceptions			
Knowledge -Students will know...		Skills -Students will be able to...	
<ul style="list-style-type: none"> That organisms are grouped and organized into kingdoms based on shared characteristics. How to use a classification key based on shared characteristics. 		<ul style="list-style-type: none"> Construct a classification KEY Compare methods of classification Differentiate between single cell and multi celled organisms 	
Key Resources		Key Vocabulary	
<p>Sciencesaurus Gizmo's Cells Alive Discovery Education Discovery Magazine</p>		<ul style="list-style-type: none"> Taxonomy Cell Tissue Organ Organ System Organism 	

Physical Science			
Title of Unit	Energy (Heat and Sound)	Grade Level	6
Curriculum Area	Science	Time Frame	6 weeks
Developed By	Gervino, Goss, Froment, Richards		
Content Standards			
S:PS2:6:3.1 Explain that the pitch of a sound is dependent on the frequency of the vibration producing it.			
S:PS2:6:3.2 Explain that sound vibrations move at different speeds, have different wavelengths; and establish wave-like disturbances that emanate from the source.			
S:PS2:6:3.3 Recognize that energy, in the form of heat, is usually a by-product when one form of energy is changed to another, such as when machines convert stored energy to motion.			
S:PS2:6:3.4 Explain that heat energy moves from warmer materials or regions to cooler ones through conduction, convection, and radiation.			
Process Skills			
S:SPS2:6:2.4 Compare a variety of forms of energy, including heat, light, sound, mechanical, electrical, and chemical energy.			
S:SPS2:6:2.5 Demonstrate how energy can be transformed from one form to another (e.g., from electrical energy to heat, light or mechanical energy).			
Enduring Understandings		Essential Questions	
Overarching Understanding		Overarching	
<ul style="list-style-type: none"> • There are many different types of energy. • Heat is the by-product of the transfer of energy from one type to another. • Sound energy is caused by vibrations which differ in pitch, wavelength and frequency. 		<ul style="list-style-type: none"> • Why can't energy be destroyed? • How energy is transferred from one form to another? • Why do sound waves travel faster in a warmer medium? • What is heat and how is it created? 	
Related Misconceptions			
<ul style="list-style-type: none"> • There is only one kind of energy. • Sound is not energy. • Energy only comes from electrical sockets. 			
Knowledge - Students will know...		Skills - Students will be able to...	
<ul style="list-style-type: none"> • There are various forms of energy. • Heat is a by-product when energy changes forms. • Heat transfers in three different ways: conduction, convection, and radiation. • Sound is a vibration. • Changes in the properties of sound (speed, wavelength, pitch and frequency) affect the sound produced. 		<ul style="list-style-type: none"> • Recognize that there are various forms of energy. • Demonstrate that heat is a by-product of energy transformation. • Illustrate the properties of a sound wave. • Examine the effect of changing a sound waves properties. • Compare and contrast the three types of heat transfer. <hr/> <ul style="list-style-type: none"> • Convince an audience why and when someone should protect themselves from either sound waves or heat. • Create: Rube Goldberg model that demonstrates three different energy transfers. 	
Key Resources		Key Vocabulary	
Ed Helper Sciencesaurus Gizmo's	Brain Pop Discovery Education Discovery Magazine	<ul style="list-style-type: none"> • Energy • Heat • Sound • Vibration 	<ul style="list-style-type: none"> • Pitch • Frequency • Wavelength • Conduction
			<ul style="list-style-type: none"> • Convection • Radiation

Physical Science

Title of Unit	Matter	Grade Level	6
Curriculum Area	Science	Time Frame	4-6 weeks
Developed By	Gervino, Goss, Froment, Richards		

Content Standards

Composition of Matter:

S:PS1:6:1.1 Recognize that all matter is composed minute particles called atoms; and explain that all substances are composed of atoms each arranged into different groupings.

S:PS1:6:1.2 Identify elements as substances that contain only one kind of atom; and explain that elements do not break down by normal laboratory reactions such as heating, exposure to electric current and reaction to acid.

S:PS1:6:1.3 Recognize that over 100 elements exist and identify the Periodic Table as a tool for organizing the information about them.

Identification of Matter:

S:PS1:6:2.1 Identify elements according to their common properties, such as highly reactive metals, less reactive metals, highly reactive non-metals and almost non-reactive gases.

S:PS1:6:2.2 Identify substances by their physical and chemical properties, such as magnetism, conductivity, density, solubility, boiling and melting points.

Properties of Matter:

S:PS1:6:2.3 Differentiate between weight and mass.

S:PS1:6:2.4 Identify energy as a property of many substances

S:PS2:6:1.1 Differentiate between a physical change, such as melting, and a chemical change, such as rusting.

S:PS2:6:2.1 Describe how mass remains constant in a closed system and provide examples relating to both physical and chemical change.

Enduring Understandings

Overarching Understanding

What are things made of, how are they different, and how do they change?

Related Misconceptions

- Matter can be destroyed.
- Burning things makes them disappear.
- There are no basic building blocks that material is made up of.

Essential Questions

Overarching

- What are the properties of matter?
- How are elements arranged on the periodic table?
- How are physical and chemical changes different?

Knowledge - Students will know...

- all matter is made up of atoms
- the basic structure of the atom
- the parts of the Periodic Table
- the general arrangement of elements on the Periodic table.
- the difference between chemical and physical properties.
- the difference between chemical and physical changes.

Skills - Students will be able to...

- Remember the parts of atoms that all matter is made of atoms and everything is made of matter.
- Demonstrate understanding: arrangement of elements on the periodic table
- Illustrate the difference between chemical and physical properties.
- Compare and contrast physical and chemical changes.
- Construct a model of a molecule and illustrate how it would undergo physical and chemical changes. (i.e.: water or food)
- Evaluate the difference between a metal and non-metal based on their physical and chemical properties.

Key Resources

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|--|---|
| <ul style="list-style-type: none"> • <u>Sciencesaurus</u> • Gizmo's • Brain Pop | <ul style="list-style-type: none"> • Discovery Education • Discovery Magazine |
|--|---|

Key Vocabulary

- | | | | |
|--|---|---|--|
| <ul style="list-style-type: none"> • Atom • Element • Molecule • Physical Property | <ul style="list-style-type: none"> • Chemical Property • Physical Change • Chemical Change | <ul style="list-style-type: none"> • Periodic Table • Proton • Neutron | <ul style="list-style-type: none"> • Electron • Weight • Mass |
|--|---|---|--|

Life Science

Title of Unit	Cells	Grade Level	6
Curriculum Area	Science	Time Frame	2 weeks
Developed By	Gervino, Goss, Froment, Richards		

Content Standards

Structure:

- S:LS1:6:2.6 Recognize that the human cells found in tissues and organs are similar to those of other animals, but somewhat different from cells found in plants.
 S:LS2:6:2.2 Recognize that one of the most general distinctions among organisms is between plants, which use sunlight to make their own food, and animals, which consume energy-rich foods.

Function:

S:LS1:6:2.2 Explain that the way in which cells function is similar in all organisms.

- S:LS1:6:2.3 Recognize that cells use energy obtained from food, to conduct the functions necessary to sustain life, such as cell growth.
 S:LS1:6:3.1 Explain that cells repeatedly divide to make more cells for growth and repair.
 S:LS2:6:2.3 Describe the process of photosynthesis and explain that plants can use the food they make immediately or store it for later use.

Enduring Understandings

Essential Questions

Overarching Understanding

Overarching

- All living things are made of cells.
- Human cells are similar to other animal cells but are different than plant cells.
- Plant cells use sunlight to undergo the process of photosynthesis to produce food used by plant and animal cells.
- Cells use energy for growth, repair, reproduction and other life sustaining functions.

- What are cells?
- How are plant and animal cells different?
- What are the processes of photosynthesis and respiration and how are they related?
- Where do cells get their energy?

Related Misconceptions

- Cells are all the same
- Everything is made of cells
- All cells are visible to the human eye

Knowledge - Students will know...

Skills - Students will be able to...

- There are differences between plant and animal cells
- Plants are able to make their own food through the process of photosynthesis and can store it for later use.
- Humans and other animals consume energy rich foods.
- All cells have basic similarities but are different each other.
- All cells need energy to stay alive.
- Cells divide for growth and repair.

- Label the parts of a cell including: cell membrane, cytoplasm, nucleus, chloroplasts, mitochondria, cell wall, and central vacuole.
- Explain that cells repeatedly divide to make more cells for growth and repair.
- Use microscopes properly in order to observe cells.
- Compare and contrast plant and animal cells
- Evaluate the relationship between the cellular processes of photosynthesis and respiration.
- Propose a cellular solution to the planet's problem of excess CO₂ in our atmosphere.

Key Resources

- **Sciencesaurus**
- Gizmos
- Discovery Education
- Brain Pop

Key Vocabulary

- Cell
- Cell membrane
- Nucleus
- Cytoplasm
- Mitochondrion
- Chloroplast
- Vacuole
- Cell wall
- Photosynthesis
- Respiration