

INTERNAL MONITORING REPORT

May 21, 2025

Policy: **1.1 K-12 Core Content Curriculum Articulation and School-Specific Examples**
Policy Category: **Ends**
Period Monitored: **2024-25 School Year**

This is my monitoring report on the Board of Education's Ends Policy 1.1 K-12 Core Content Curriculum Articulation and School-Specific Examples. This report is presented in accordance with the Board's monitoring schedule. I certify that the information is true and complete.

Chris Gdowski, Superintendent
May 21, 2025

POLICY WORDING:

Students enrolled in Adams 12 Five Star Schools shall have the knowledge, learning and life skills necessary to prepare them for further learning in the next grade level or life transition.

b. Students will have the ability to communicate their knowledge through:

- *writing and speaking*
- *the use of technical and non-technical means*
- *and in response to varying demands of audience, task, purpose and discipline*

c. Students will have the opportunity and expectation to demonstrate comprehension and critical analysis skills.

Life Skills

Students shall have opportunities to develop and demonstrate independence, self-directed learning, creativity, problem-solving, adaptability, critical thinking, perseverance, global and cultural understanding and effective communication skills in order to successfully achieve their college, career and life aspirations

INTERPRETATION:

I interpret the following language:

b. Students will have the ability to communicate their knowledge through:

- *writing and speaking*
- *the use of technical and non-technical means*
- *and in response to varying demands of audience, task, purpose and discipline*

c. Students will have the opportunity and expectation to demonstrate comprehension and critical analysis skills.

to mean:

Evidence shall be presented to demonstrate that the scope and sequence of the Adams 12 Guaranteed and Viable Curriculum (GVC) in all core content areas requires that students demonstrate the ability to communicate their knowledge through writing and speaking, the use of technical and non-technical means, and in response to varying demands of audience, task, purpose and discipline as well as to demonstrate comprehension and critical analysis skills.

GVC DATA REPORTED:

The Colorado Department of Education (CDE) adopted the Colorado Academic Standards (CAS), which provide a road map to help ensure students are successful in college, careers, and life. The Adams 12 Learning Services Department developed a Guaranteed and Viable Curriculum (GVC) for each content area aligned to the CAS. The GVC provides a well-articulated structure for teachers to follow to enable them to provide aligned, rigorous instruction to all students. Each GVC includes standards that require cognitively complex content designed to prepare students for postsecondary success. The following are examples of content standards, links to the GVC, and cognitively demanding tasks required of Adams 12 students.

Reading – Reading Informational Text – Standard RI.3

Grade Level	Standard	Unit(s) of Study
K	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	Benchmark Advance • Unit 6: Stories Have a Message • Unit 7: Holidays and Celebrations
3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	Benchmark Advance • Unit 1: Animal Adaptations • Unit 3: Government for the People • Unit 5: Advancements in Technology • Unit 8: Weather and Climate • Unit 9: Spending Time and Money

5	Explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.	Benchmark Advance - Unit 3: The U.S. Constitution Then and Now - Unit 5: Technology's Impact on Society
6	Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text (e.g., through examples or anecdotes).	Unit 2: Becoming Critical Consumers of Information
9	Analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.	Unit 3: Craft Analysis & Researched Presentation
12	Analyze a complex set of ideas or sequence of events and explain how specific individuals, ideas, or events interact and develop over the course of the text.	Unit 3: Critical Analysis

Grade 5

Standard RI 5.3

Know	Understand	Can
to explain is to clearly describe what a text says.	readers explain the relationships or interactions in texts by first identifying key individuals, events, ideas, or concepts, determining which elements are connected to one another, and then using specific information from the text to tell how they are connected.	explain the relationships or interactions between two or more individuals, events, ideas, or concepts in a historical, scientific, or technical text based on specific information in the text.
relationships or interactions in texts are the connections between differing aspects within the text.		
historical texts convey information about history.		
scientific texts convey information about science.		
technical texts convey information about specific processes or skills.		

Sample 5th grade prompt: (From *Benchmark Advance Unit 5 Assessment*)

Reread paragraphs 1-4 of “Cooking with the Sun.” Explain the relationship between burnable fuels and the environment. Use specific information from the passage to support your answer.

Grade 6

Standard RI 6.3 Analyze in detail how a key individual, event, or idea is introduced, illustrated, and elaborated in a text.

- readers analyze by considering the components of a text, making inferences, and explaining how the components are related to one another to create and/or affect meaning.
- readers analyze how a key individual, event or idea is *introduced* by considering when and how the author initially brings them into the text and the purpose/impact of this introduction.
- readers analyze how a key individual, event or idea is *illustrated* by considering the authors selection of examples, anecdotes and descriptions that *create clarity*.
- readers analyze how a key individual, event or idea is *elaborated* by considering the authors selection of examples, anecdotes and descriptions that *extend the reader's understanding*.

Sample 6th Grade Prompt: Students analyze in detail how the early years of Harriet Tubman (as related by author Ann Petry) contributed to her later becoming a conductor on the Underground Railroad, attending to how the author *introduces, illustrates, and elaborates* upon the events in Tubman's life.

Grade 9

RI.9.3 Students will analyze how the author unfolds an analysis or series of ideas or events, including the order in which the points are made, how they are introduced and developed, and the connections that are drawn between them.

- readers analyze by selecting key details from a text, making inferences, and explaining how details are related to one another to affect meaning.
- readers analyze an author's analysis or series of ideas or events by determining the progression of details related to the topic and then describing the connections the author makes between details throughout the text in order to determine the author's perspective or central message.

Sample 9th grade prompt: Students analyze how Abraham Lincoln in his "[Second Inaugural Address](#)" unfolds his examination of the ideas that led to the Civil War, paying particular attention to the order in which the points are made, how Lincoln introduces and develops his points, and the connections that are drawn between them.

Writing – Standard 1 – Argument Writing

Grade Level	Standard	Unit(s) of Study
K	Use a combination of drawing, dictating, and writing to compose opinion pieces in which they tell a reader the topic or the name of the book they are writing about and state an opinion or preference about the topic or book.	Benchmark Advance • Unit 4: Writers Tell Many Stories • Unit 6: Stories Have a Message • Unit 9: Meeting our Own Needs and Wants

3	Write opinion pieces on topics or texts, supporting a point of view with reasons. ● Introduce the topic or text they are writing about, state an opinion, and create an organizational structure that lists reasons. ● Provide reasons that support the opinion. ● Use linking words and phrases. ● Provide a concluding statement or section.	Benchmark Advance ● Unit 2: Ways Characters Shape Stories ● Unit 5: Advancements in Technology ● Unit 6: Making Decisions
5	Write opinion pieces on topics or texts, supporting a point of view with reasons and information. ● Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose. ● Provide logically ordered reasons that are supported by facts and details. ● Link opinion and reasons using words, phrases, and clauses. ● Provide a concluding statement or section related to the opinion presented.	Benchmark Advance ● Unit 2: Developing Characters' Relationships ● Unit 5: Technology's Impact on Society ● Unit 6: Up Against the Wild
6	Write arguments to support claims with clear reasons and relevant evidence. ● Introduce claim(s) and organize the reasons and evidence clearly. ● Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. ● Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons. ● Establish and maintain a formal style. ● Provide a concluding statement or section that follows from the argument presented.	Unit 3: The Power of Arguments Unit 6: Presenting Arguments-- Integrating Media

9	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. ● Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among claim(s), counterclaims, reasons, and evidence. ● Develop claim(s) and counterclaims fairly, supplying evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level and concerns. ● Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. ● Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. ● Provide a concluding statement or section that follows from and supports the argument presented. ● Use precise language and domain-specific vocabulary to manage the complexity of the topic.	Unit 4: Analysis of Seminal Documents Unit 6: Analyzing & Presenting Arguments
12	Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence. ● Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence. ● Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases. ● Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims. ● Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing. ● Provide a concluding statement or section that follows from and supports the argument presented.	Unit 3: Critical Analysis Unit 5: Application & Presentation of Research

Grade 5

W.5.1 Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

W.5.1.a Introduce a topic or text clearly, state an opinion, and create an organizational structure in which ideas are logically grouped to support the writer's purpose.

- Writers sort information into categories before they write.
- Writers use introductions to establish their topics, opinions, and organizational structures.

W.5.1.b Provide logically ordered reasons that are supported by facts and details.

- Writers logically group related information together to support their purpose.
- Writers support their opinions with reasons, facts, and details.
- Writers refer to details and examples from a variety of texts to support their opinions and reasoning.
- Writers provide a list of sources used in their writing to avoid plagiarism.

W.5.1.c Link opinion and reasons using words, phrases, and clauses (e.g., consequently, specifically).

- Writers use linking words to help readers understand how opinions and reasons are related.

W.5.1.d Provide a concluding statement or section related to the opinion presented.

- Writers use conclusions to bring a sense of closure to a piece of writing.

[Sample 5th grade Argumentative writing](#): This is a response from a 5th grade student from the Unit 5 Benchmark Assessment opinion/argument writing task. This sample was on-demand writing and completed independently, January 2025.

Grade 6

W.6.1 Write arguments to support claims with clear reasons and relevant evidence.

W.6.1.a Introduce claim(s) and organize the reasons and evidence clearly.

- Writers introduce arguments by indicating the significance of the topic and establishing a position.
- Writers select and use organizational strategies to convey the significance of a topic by determining what would best support the purpose of the writing.

W.6.1.b Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text.

- Writers select relevant evidence from multiple sources by determining what information most directly connects to their claims.
- Writers evaluate the credibility of sources by considering currency, accuracy, bias, and depth of coverage.
- Writers demonstrate understanding of their topic by presenting the most pertinent evidence in their writing.

W.6.1.c Use words, phrases, and clauses to clarify the relationships among claim(s) and reasons.

- Writers clarify the relationships between their claim(s) and reasons by choosing transitional words, phrases and clauses that best support readers in seeing connections and/or distinctions between ideas and concepts.

W.6.1.d Establish and maintain a formal style.

- Writers establish and maintain a formal style by using academic, domain-specific vocabulary and an objective, authoritative tone.

W.6.1.e Provide a concluding statement or section that follows from the argument presented.

- Writers conclude their arguments by synthesizing and/or reflecting on the significance and impact of the ideas presented in the text.

Sample of Grade 6 Arguments: These arguments are from 6th grade students meeting expectations from the Adams 12 units of study:

Student Sample 1: [ELA Grade 6 Researched Argument: Skipping School](#)

Student Sample 2: [ELA Grade 6 Researched Argument: Soda](#)

Student Sample 3: [ELA Grade 6 Researched Argument: Pipeline](#)

Grade 11

W.11.1 Write arguments to support claims in an analysis of substantive topics or texts, using valid reasoning and relevant and sufficient evidence.

W.11.1.a Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences claim(s), counterclaims, reasons, and evidence.

- writers introduce precise, knowledgeable claims by taking an unambiguous stance clearly relevant to the topic.
- writers establish the significance of their claims by providing contextual information to indicate why their position is worth considering.
- writers distinguish their claims from alternate or opposing claims by contrasting their use of reasons and/or evidence with that of other arguments on the same topic.
- writers logically sequence claims, counterclaims, reasons, and evidence by establishing an organizational pattern that their writing will follow and connecting information in a manner that best supports and advances their position.

W.11.1.b Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant evidence for each while pointing out the strengths and limitations of both in a manner that anticipates the audience's knowledge level, concerns, values, and possible biases.

- writers develop claims and counterclaims fairly and thoroughly by selecting enough information from credible, reliable sources to show a logical and complete understanding of the issue.
- writers supply the most relevant evidence by analyzing their audience, and then selecting the information that will best establish a credible position.
- writers point out the strength of claims and counterclaims by articulating how the information provided leads to a logical position.
- writers acknowledge limitations of claims and counterclaims by articulating information that is not addressed or where conclusions are ambiguous.
- writers take into account the knowledge level, concerns, values, and biases of their audience by determining a specific audience; researching what those audience members likely already know, believe, feel, or value about the topic; and then addressing specific counterclaims of the audience while maintaining a respectful tone.

W.11.1.c Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.

- writers use syntax to link sections of text by determining places in the text where style can be enhanced and relationships can be clarified through manipulation of sentence structures (e.g., repetition of words between paragraphs, parallel structure at the start of paragraphs, intentional breaks in sentence length to encapsulate and punctuate meaning at the end of a section, etc.).
- writers create cohesion and clarify the relationships among claims, counterclaims, reasons, and evidence by considering places in their writing where there are important connections and distinctions between ideas, and then choosing words, phrases, clauses or sentence structures that clarify the relationships.

W.11.1.d Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.

- writers establish and maintain a formal style by using academic and domain-specific vocabulary, and an objective, authoritative tone.
- a writer establishes and maintains an objective tone by avoiding personal pronouns, words that indicate a personal feeling, and emotive words that indicate an opinion on the part of the writer.
- writers attend to the norms and conventions of a discipline by consulting style guides, mentor texts, and other resources.

W.11.1.e Provide a concluding statement or section that follows from and supports the argument presented.

- in concluding statements or sections, writers articulate the implications or significance of the topic by explaining the relevance of the argument for the reader.

Sample Grade 11 Arguments: These arguments are samples of 11th grade students meeting expectations from the Adams 12 units of study.

[Student Sample 1](#)

[Student Sample 2](#)

[Student Sample 3](#)

[Student Sample 4](#)

[Student Sample 5](#)

Math - Math Practice Standard 1 - Make Sense of Problems and Persevere in Solving Them

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, “Does this make sense?” They can understand the approaches of others to solving complex problems and identify correspondences between different approaches

School Level	Level Specific Language	Units
Elementary	Mathematically proficient students at the elementary grades explain to themselves the meaning of the problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. For example, young students might use concrete objects or pictures to show their actions of a problem, such as counting out and joining two sets to solve an addition problem. If students are not at first making sense of a problem or seeing a way to begin, they ask questions that will help them get started. As they work, they continually ask themselves, “Does this make sense?” When they find that their solution pathway does not make sense, they look for another pathway that does. They may consider simpler forms of the original problem; for example, to solve a problem involving multi-digit numbers, they might first consider similar problems that involve multiples of ten or one hundred. Once they have a solution, they look back at the problem to determine if the solution is reasonable and accurate. They often check their answers to problems using a different method or approach.	Math Practice Standard 1 is incorporated into all units of study in alignment with high quality tasks
Middle	In middle school, students set out to understand a problem and then look for entry points to its solution. They analyze problem conditions and goals, translating, for example, verbal descriptions into mathematical expressions, equations, or drawings as part of the process. They consider analogous problems, and try special cases and simpler forms of the original in order to gain insight into its solutions. To understand why a 20% discount followed by a 20% markup does not return an item to its original price, they might translate the situation into a tape diagram or a general equation; or they might first consider the result for an item priced at \$1.00 or \$10.00. While working on a problem, they monitor and evaluate their progress and change course if necessary. They can explain how alternate representations of problem conditions relate to each other. For example, they can navigate among tables, graphs, and equations representing linear relationships to gain insights into the role played by constant rate of change. Students check their answers to problems and they continually ask themselves, “Does this make sense?”	
High	In high school, students are given opportunities to continue to build and fine tune their sense-making and perseverance skills.	

	Opportunities to engage with real-life complex problems are present. Students have opportunities to make sense of information given in different representations such as graphs, charts, verbal descriptions, and equations. Students consider multiple strategies including breaking the problem into smaller pieces and then combining the results to present a cohesive solution. Making sense of problems and persevering in solving them is a critical skill. While scaffolding may be present to help students build their mathematical confidence and develop perseverance, our instructional materials provide opportunities for students to be challenged and continue to grow.	
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From Everyday Math:

Math Standards of Practice

Mathematical Processes and Practices

1. Make sense of problems and persevere in solving them.

Mathematically proficient students start by explaining to themselves the meaning of a problem and looking for entry points to its solution. They analyze givens, constraints, relationships, and goals. They make conjectures about the form and meaning of the solution and plan a solution pathway rather than simply jumping into a solution attempt. They consider analogous problems, and try special cases and simpler forms of the original problem in order to gain insight into its solution. They monitor and evaluate their progress and change course if necessary. Older students might, depending on the context of the problem, transform algebraic expressions or change the viewing window on their graphing calculator to get the information they need. Mathematically proficient students can explain correspondences between equations, verbal descriptions, tables, and graphs or draw diagrams of important features and relationships, graph data, and search for regularity or trends. Younger students might rely on using concrete objects or pictures to help conceptualize and solve a problem. Mathematically proficient students check their answers to problems using a different method, and they continually ask themselves, "Does this make sense?" They can understand the approaches of others to solving complex problems and identify correspondences between different approaches.

SMP1 Make sense of problems and persevere in solving them.

GMP1.1 Make sense of your problem.

GMP1.2 Reflect on your thinking as you solve your problem.

GMP1.3 Keep trying when your problem is hard.

GMP1.4 Check whether your answer makes sense.

GMP1.5 Solve problems in more than one way.

GMP1.6 Compare the strategies you and others use.

Math Grade 1 Unit 3: Number Stories

► Standard for Mathematical Process and Practice 1

Standard for Mathematical Process and Practice 1 includes a set of many different standards that contribute to a strong problem-solving process. In Unit 3, children are encouraged to find ways to make sense of problems before they tackle them. **GMP1.1** For example, they use parts-and-total diagrams as tools to make sense of number stories in Lesson 3-1, and number lines to visualize and make sense of number stories in Lesson 3-6.

Good problem solvers “reflect” on their thinking as they solve a problem. **GMP1.2** In Lesson 3-3, children are asked to share their thinking as they solve a problem about ordering objects. This sharing forces them to monitor and evaluate their progress during the problem-solving process. **GMP1.2** Good problem solvers don’t give up, even when faced with a difficult problem. Throughout Unit 3, children are urged to keep trying even though a problem is hard.

GMP1.3

A good problem-solving process also includes checking whether your answer makes sense, solving problems in more than one way, and comparing your strategies to those used by others. **GMP1.4, GMP1.5, GMP1.6** The School Carnival Prize problems in Lesson 3-2 provide opportunities for children to solve problems in different ways. **GMP1.5** Throughout Unit 3, children discuss and compare their methods, encouraging them to check whether their answers make sense and to generate additional ways to solve problems. **GMP1.4, GMP1.5** In Lesson 3-7, partners discuss problem-solving strategies before they start the problem. **GMP1.6** This type of discussion provides a collaborative way for children to make sense of problems. **GMP1.1**

In this unit: children continue to use addition and subtraction to model and solve number stories. They also connect counting to addition and subtraction.

Standards and Goals for

Mathematical Process and Practice

SMP1 Make sense of problems and persevere in solving them.

GMP1.1 Make sense of your problem.

SMP5 Use appropriate tools strategically.

GMP5.2 Use tools effectively and make sense of your results.

SMP8 Look for and express regularity in repeated reasoning.

GMP8.1 Create and justify rules, shortcuts, and generalizations.

Professional Development

The first Focus activity provides another opportunity for children to recognize that *counting on* is more efficient than *counting all* and that *counting on* from the larger number is even more efficient. To help children grasp the latter point, this lesson develops explicit connections to the turn-around rule for addition, a strategy suggested in **1.OA.3** and **1.OA.6**. However, do not expect all children to consistently use this strategy.

1 Warm Up 15–20 min

► Mental Math and Fluency

Pose number stories and have children briefly share their solutions and solution strategies.

● ○ ○ Ben has 2 blue pens and 4 black pens. How many pens does he have in all? 6 pens

● ● ○ Maya has 2 red balloons and some yellow balloons. She has 5 balloons in all. How many yellow balloons does Maya have? 3 yellow balloons

● ● ● Elizabeth has some soccer balls. Her brother Thomas gives her 5 more soccer balls. Now Elizabeth has 8 soccer balls. How many soccer balls did she have at the beginning? 3 soccer balls

► Daily Routines

Have children complete the Daily Routines. For detailed instructions, see pages 2–37. For specifics on standards coverage, see pages xiv–xvii.

2 Focus 30–35 min

► Introducing Addition on the Number Line

Math Masters, p. TA12

WHOLE CLASS SMALL GROUP PARTNER INDEPENDENT

Remind children that in earlier lessons, they explored addition with penny drops, domino sums, and school carnival number stories. Today they will use the number line to help them solve addition and subtraction problems. Distribute *Math Masters*, page TA12. Pose the following number story:

Cynthia had 8 model cars. She got 3 more model cars. How many model cars does Cynthia have now?

“Counting to Add and Subtract”

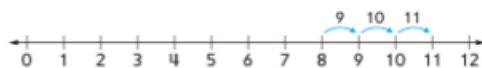
Encourage children to represent and make sense of the problem by drawing hops on the first number line on *Math Masters*, page TA12.

GMP1.1, GMP5.2

Note which children use the number line to represent *counting all* and which ones use it to represent *counting on*.



Counting All



Counting On

Display a number line and select children to model each strategy for the class. Discuss which strategy is more efficient and why. Children should recognize that it is faster to start from 8 and count on, as this eliminates the need to hop from 0 to 8. Ask children to suggest a number model to represent the problem. **Sample answer:** $8 + 3 = 11$. Encourage them to apply the counting-on strategy to solve $6 + 4 = \square$, recording their work on the page.

Next ask children to draw hops on the third number line to solve $2 + 9$. Select children to show counting on from 2 and counting on from 9. Discuss which strategy is more efficient. Help children generalize that counting on from the larger number, or 9, is faster because there are fewer numbers to count. **GMP8.1** Ask: *Why is it okay to start with 9, even though the problem started with 2? The turn-around rule tells us that $2 + 9$ has the same sum as $9 + 2$, so the order doesn't matter.* Encourage them to apply this approach to solve $4 + 7$, recording their hops on the last number line on *Math Masters*, page TA12.

Make sure that *counting on* and *counting on from the larger number* are listed on the Strategy Wall.

Math Masters, p. TA12



Adjusting the Activity

Differentiate To assist children with understanding efficient strategies, prompt them with questions such as: *Which strategy can we use to do the problem more quickly? Is it faster to start at ____ or ____?*

Go Online

Differentiation Support

- In this unit:
- Recognize, identify, and solve problems that involve proportional relationships to make predictions and describe associations among variables.

EXPLORATION 1 **Representing Relationships Graphically**

Work with a partner. The tables represent two different ways that red and blue food coloring are mixed.

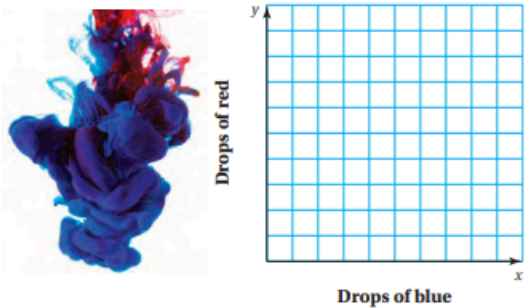
Mixture 1		Mixture 2	
Drops of Blue, x	Drops of Red, y	Drops of Blue, x	Drops of Red, y
1	2	0	2
2	4	2	4
3	6	4	6
4	8	6	8

- a. Represent each table in the same coordinate plane. Which graph represents a proportional relationship? How do you know?

Math Practice

Use a Graph

How is the graph of the proportional relationship different from the other graph?



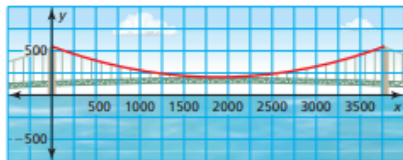
- b. Find the unit rate of the proportional relationship. How is the unit rate shown on the graph?
- c. What is the multiplicative relationship between x and y for the proportional relationship? How can you use this value to write an equation that relates y and x ?

Integrated Math 2: Graphing and Solving Quadratics - Problem solving situations that can be represented with quadratic functions

- Students will use their knowledge of quadratics to solve the problem presented in Example 4. As the teacher notes suggest, teachers should not rush to solve the problem for students, but instead, provide sufficient time for partners to work through the problem. There is another example for students to practice what they have learned in the Monitoring Progress. In Example 5 and the respective Monitoring Progress, students have an opportunity to make sense of comparing two different quadratic relationships and solve multiple problems related to them.

EXAMPLE 4 Finding a Minimum Value

The suspension cables between the two towers of the Mackinac Bridge in Michigan form a parabola that can be modeled by $y = 0.000098x^2 - 0.37x + 552$, where x and y are measured in feet. What is the height of the cable above the water at its lowest point?



SOLUTION

The lowest point of the cable is at the vertex of the parabola. Find the x -coordinate of the vertex. Use $a = 0.000098$ and $b = -0.37$.

$$x = -\frac{b}{2a} = -\frac{(-0.37)}{2(0.000098)} = 1888 \quad \text{Substitute and use a calculator.}$$

Substitute 1888 for x in the equation to find the y -coordinate of the vertex.

$$y = 0.000098(1888)^2 - 0.37(1888) + 552 \approx 203$$

▶ The cable is about 203 feet above the water at its lowest point.

Monitoring Progress



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Tell whether the function has a minimum value or a maximum value. Then find the value.

7. $g(x) = 8x^2 - 8x + 6$

8. $h(x) = -\frac{1}{4}x^2 + 3x + 1$

9. The cables between the two towers of the Tacoma Narrows Bridge in Washington form a parabola that can be modeled by $y = 0.00016x^2 - 0.46x + 507$, where x and y are measured in feet. What is the height of the cable above the water at its lowest point?

Laurie's Notes Teacher Actions

Probing Question: "Do you need to graph the quadratic to know whether it has a maximum or minimum value? Explain." **no; When $a > 0$, the quadratic opens up and has a minimum value. When $a < 0$, the quadratic opens down and has a maximum value.**

- Make Sense of Problems and Persevere in Solving Them:** Pose Example 4, and then give partners time to work on the problem. Do not rush in to solve this for them. Give sufficient time for the partners to work the problem.
- Students can use calculators to find the x -coordinate of the vertex and use this x -value to evaluate the function to find the minimum value.

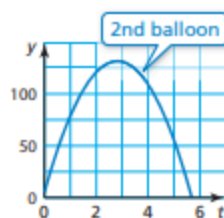


MODELING WITH MATHEMATICS

Because time cannot be negative, use only nonnegative values of t .

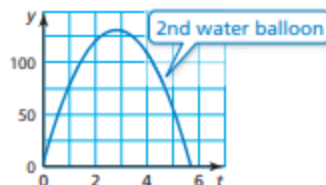
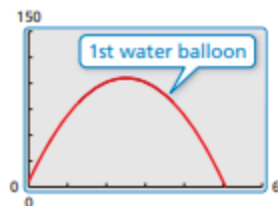
EXAMPLE 5 Modeling with Mathematics

A group of friends is launching water balloons. The function $f(t) = -16t^2 + 80t + 5$ represents the height (in feet) of the first water balloon t seconds after it is launched. The height of the second water balloon t seconds after it is launched is shown in the graph. Which water balloon went higher?



SOLUTION

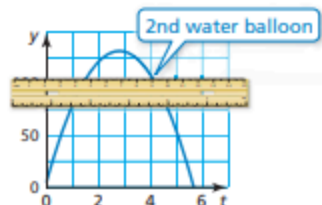
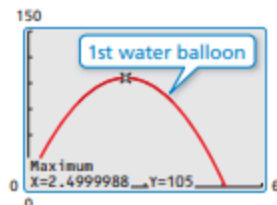
- 1. Understand the Problem** You are given a function that represents the height of the first water balloon. The height of the second water balloon is represented graphically. You need to find and compare the maximum heights of the water balloons.
- 2. Make a Plan** To compare the maximum heights, represent both functions graphically. Use a graphing calculator to graph $f(t) = -16t^2 + 80t + 5$ in an appropriate viewing window. Then visually compare the heights of the water balloons.
- 3. Solve the Problem** Enter the function $f(t) = -16t^2 + 80t + 5$ into your calculator and graph it. Compare the graphs to determine which function has a greater maximum value.



You can see that the second water balloon reaches a height of about 125 feet, while the first water balloon reaches a height of only about 100 feet.

► So, the second water balloon went higher.

- 4. Look Back** Use the *maximum* feature to determine that the maximum value of $f(t) = -16t^2 + 80t + 5$ is 105. Use a straightedge to represent a height of 105 feet on the graph that represents the second water balloon to clearly see that the second water balloon went higher.



Monitoring Progress



Help in English and Spanish at BigIdeasMath.com

10. Which balloon is in the air longer? Explain your reasoning.
11. Which balloon reaches its maximum height faster? Explain your reasoning.

Science - NGSS Disciplinary Core Ideas - Life Science 1.A: Structure and Function

A central feature of life is that organisms grow, reproduce, and die. They have characteristic structures (anatomy and morphology), functions (molecular-scale processes to organism-level physiology), and behaviors (neurobiology and, for some animal species, psychology). Organisms and their parts are made of cells, which are the structural units of life and which themselves have molecular substructures that support their functioning. Organisms range in composition from a single cell (unicellular microorganisms) to multi-cellular organisms, in which different groups of large numbers of cells work together to form systems of tissues and organs (e.g., circulatory, respiratory, nervous, musculoskeletal), that are specialized for particular functions.

Special structures within cells are also responsible for specific cellular functions. The essential functions of a cell involve chemical reactions between many types of molecules, including water, proteins, carbohydrates, lipids, and nucleic acids. All cells contain genetic information, in the form of DNA. Genes are specific regions within the extremely large DNA molecules that form the chromosomes. Genes contain the instructions that code for the formation of molecules called proteins, which carry out most of the work of cells to perform the essential functions of life. That is, proteins provide structural components, serve as signaling devices, regulate cell activities, and determine the performance of cells through their enzymatic actions.

Grade Level	Level Specific Language	Units
K-2	All organisms have external parts that they use to perform daily functions.	Grade 1, Unit 3
3-5	Organisms have both internal and external macroscopic structures that allow for growth, survival, behavior, and reproduction.	Grade 4, Unit 10
6-8	All living things are made up of cells. In organisms, cells work together to form tissues and organs that are specialized for particular body functions.	Grade 7, Units 1 & 2
9-12	Systems of specialized cells within organisms help perform essential functions of life. Any one system in an organism is made up of numerous parts. Feedback mechanisms maintain an organism's internal conditions within certain limits and mediate behaviors.	Biology, Unit 1

Elementary Tasks Aligned with Disciplinary Core Idea LS1.A Structure and Function

Link to Science Units of Study: Grade 1: Unit 3 - Structure and Function of Life

Unit Overview: A study of how the structure and function of living things help in solving human problems, determining patterns of behavior in parents and offspring, and understanding how young plants and animals are like but not exactly like their parents.

The unit begins with students engaging in a real world phenomenon of observing different plants at different stages of life. As a class, they create a driving question board that elevates every students' voice.

Focus Question	What we do and figure out	How We Investigate It and/or Represent It
LESSON 1 How are young plants like and different from parent plants? 1 DAY 	We make observations of different kinds of plants, at different stages of life, using a video . We ask questions and discuss our initial ideas. We figure out: Making close observations about a phenomenon help us to ask productive questions	 How are young plants like and different from their parent plants?
Navigation to Next Lesson: We wonder where baby plants come from, and if they are like their parents.		

In Lesson 4, students create models to investigate how the external and visible structures of plants help them survive. They determine that plants have external parts, like trunks and branches, that help them survive, and that humans can mimic these structures to find solutions to their own problems. A lesson overview is below.

Navigation to Next Lesson: Now that we've learned about the parts of plants, we are curious about how these parts help plants survive.		
LESSON 4 How do the structures of plants help them survive? 2-3 DAYS  	We observe the relationship between a tree's roots and leaves (structure) and how they help the tree stand in the wind (function). We design a solution to solve the problem of needing a shade structure that won't blow over in the wind, by mimicking a tree's external part. We develop a model of an umbrella and conduct an investigation to test wind's effect on it. We figure out: - Plants also have external parts that help them survive. - Humans can mimic the structure and function of a plant's external parts to design solutions to their problems	 
Navigation to Next Lesson: We wonder what we can learn from animals.		

Brief Lesson Description: We observe the relationship between a tree's roots and leaves (structure) and how they help the tree stand in the wind (function). We design a solution to solve the problem of needing a shade structure that won't blow over in the wind, by mimicking a tree's external part. We develop a model of an umbrella and conduct an investigation to test wind's effect on it.

Focus Question: How do the structures of plants help them survive?

Sentence Frames:

- Plants use _____, so I _____
- I chose to use _____ because plants _____

Lesson Plan:

Engage/Explore/Explain:

- Follow the [Mystery Science “Why don't trees blow down in the wind?”](#) lesson. Do **not** complete the “Anchor Connection” section.
- Tell students, “We can learn amazing things by observing nature up close. Tomorrow we will continue to make observations of nature and see what we can learn.”

Link to Science Units of Study: Grade 4: Unit 10 - Structures and Senses

Unit Overview: A study of how plants and animals use internal and external structures to support survival, growth, behavior, and reproduction, process sensory information through their brains to respond to their environment, and of how light reflection enables vision.

The Unit begins with students observing images and videos of owls hunting prey. Students discuss, ask questions, and then create an initial model of how the owl uses its parts (structures) to successfully hunt. Students return to this model throughout the unit to add to and revise their initial thinking.

[Link to Unit Overview](#)

**Suggested Learning Progression
Science Grade 4 - Unit 10: Structures and Senses**

Essential Question	What we do and figure out	How We Investigate It and/or Represent It
LESSON 1 How does an owl use its parts (structures) to successfully hunt? 1 DAY 	We make observations of owls catching prey and discuss what body parts they are using to be successful. We think about how owls' bodies are similar to our own, and ask questions about how bodies work. We create an initial model of what we think is happening outside and inside the owl's body. We figure out: • Making close observations about a phenomenon help us to ask productive questions	
➤ Navigation to Next Lesson: We noticed a lot of different parts of the owl working together to catch its prey. We had a lot of questions about the owl's feet, and how they can so quickly grab the mouse.		

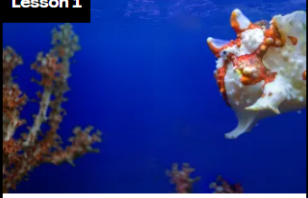
In Lesson 3 students continue to investigate how internal and external structures help animals survive by analyzing videos of the frogfish, and then applying their learning back to their model of the owl. This lesson pushes students to begin thinking of how these structures work together, rather than in isolation. A lesson overview is below, followed by the entire lesson plan.

Essential Question	What we do and figure out	How We Investigate It and/or Represent It
LESSON 3 What structures do sea creatures have to help them survive life in the ocean? 1 DAY 	We make observations of an underwater animal, a frogfish, in order to collect evidence that its external structures serve specific functions. We use our observations to construct an argument that the frogfish's external and internal structures work together as part of a system to support their growth and survival. We figure out: - Animals have both internal and external structures that serve various functions - A group of structures that work together to function as a whole can be called a system - We can use evidence to support a claim or idea	 
🔗 Navigation to next Lesson: We have learned about some interesting structures of a frogfish, but we are still wondering what happens when it swallows fish whole!		

Brief Lesson Description: In this lesson, students make observations of an underwater animal, a frogfish, in order to collect evidence that its external structures serve specific functions. Students use their observations to construct an argument that the frogfish's external and internal structures work together as part of a system to support their growth and survival.

Focus Question: What structures do sea creatures have to help them survive life in the ocean?

Lesson 1



Animal Adaptations

4th • Why do some sea creatures look so strange?

★ **NEW!** ✂ Lesson + Activity

👍 Standards Aligned

Sentence Frames:

- I notice _____
- The _____ helps the frogfish _____.
- I agree / disagree because _____.

Lesson Plan

Engage/Explore:

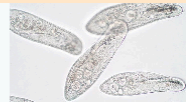
- Follow the Mystery Science [Why do Some Sea Creatures Look So Strange? Lesson](#) from the Animal and Plant Adaptations Unit.
- Do NOT do the anchor connection section of the lesson.

Evaluate:

- Have students complete the [Mystery Science Lesson Assessment](#)

Middle School Tasks Aligned with Disciplinary Core Idea LS1.A Structure and Function
From Discovery Education

Under the Microscope



 Print

Under the Microscope

Student Objective:

I can describe the basic characteristics of living things.

SEP Constructing Explanations and Designing Solutions

CCC Scale, Proportion, and Quantity

CCC Structure and Function



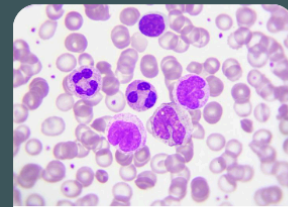
IMAGE

Paramecia



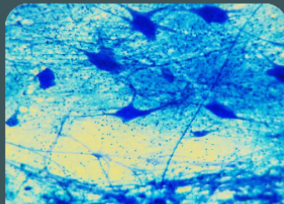
IMAGE

Bacteria



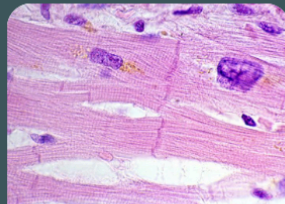
IMAGE

Blood



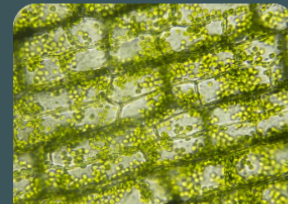
IMAGE

Nerves



IMAGE

Heart Muscle



IMAGE

Algae



Observing Organisms

1 pt

Record your observations of each sample.

Show Rubric 

Save for Later

Submit

Observing Organisms: Part 03

1 pt

Use your observations of the samples in this activity and in the previous activity to **select** the claim that is best supported by your evidence.

- ☐ A. Living things are all made up of cells. These cells can come in different shapes and sizes.
- ☐ B. Living things are sometimes made up of cells and sometimes not made up of cells.
- ☐ C. Things made up of cells can be living or nonliving.
- ☐ D. Things need to be made up of a certain number of cells to be considered living.

Save for Later

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Observing Organisms: Part 04

1 pt

When you analyzed the samples, did you observe a line that defined or surrounded the cells? This boundary line is called the cell membrane. What did you notice about the boundary or membrane in each sample? What do you think the purpose of the cell membrane is?

How does the boundary between the cells in the algae sample compare to the other samples? Why might this be?

Show Rubric ▾

Save for Later

Submit

Your body is made up of trillions (yes, trillions) of cells that keep you alive. Not all cells are the same. Some cells have the ability to live independently. One-celled organisms are called unicellular organisms. Other cells work together to survive and function. Organisms that have many cells are called multicellular organisms. The samples you observed contained different types of cells.



Use your observations to answer the questions with a partner. Which of the organisms appear to contain cells that are independent of other cells? Which of the organisms appear to contain multiple cells?

Observing Organisms: Part 05

1 pt

As you read the paragraph, **select** the words from the drop-down to complete each sentence.

The paramecia and bacteria are organisms that consist of cell(s), so they are said to be organisms. The other organisms consist of cell(s), so they are said to be organisms. Each cell has a defined between it and other cells or the environment. The boundary is called the cell . The cells also have structures the membrane.

Save for Later

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Constructing Explanations About Cells

Constructing Explanations About Cells

6 pts

Describe what you know about living organisms from your observations. What features do all the samples have in common?

Show Rubric

Save for Later

Submit



What Did You Figure Out Today?

1 pt

Write about what you figured out today and how it can be applied to explain how cuts heal.

Show Rubric ▾

Save for Later

Submit



Share your observations with a partner. How is your thinking different than your partner's thinking? **Add** any new observations to your list that you may have missed.

Observing Organisms: Part 02

1 pt

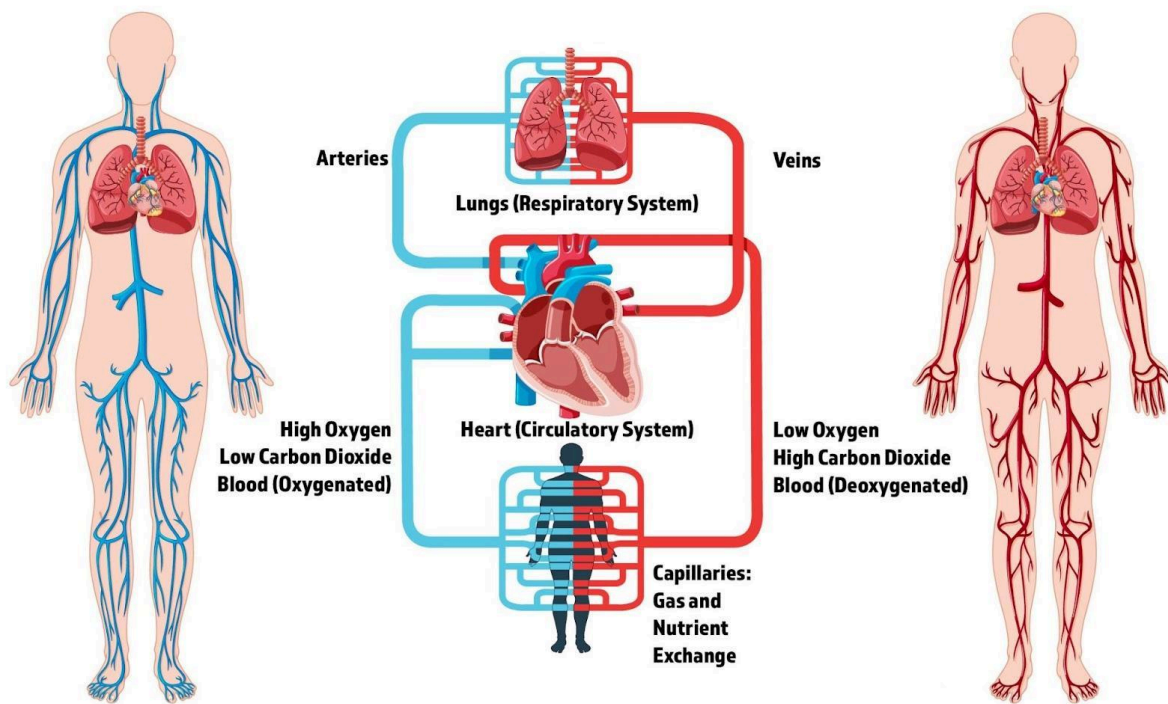
The structures you observed in the microscope slides are called cells. A **cell** is the smallest unit that can be said to be alive. What do you notice about the cell or cells in each slide?

Show Rubric ▾

Save for Later

Submit

High School Tasks Aligned with Disciplinary Core Idea LS1.A Structure and Function



Freepik. (n.d.). Diagram showing blood flow in the human heart. Retrieved from https://www.freepik.com/free-vector/diagram-showing-blood-flow-human-heart_25673085.htm

Use the following chart to organize your thinking before answering the questions below.

Parts			Processes
Organ systems	Organs	Tissues	

1. Add arrows and labels to show the pathway of blood from the heart to a specific organ (e.g., liver) and back, detailing the exchange of nutrients and gases.
2. Describe how the heart functions as a central organ in the circulatory system and its role in nutrient delivery to the body. Connect at least two organ systems in your answer.
3. Describe what would happen if one of the organs or tissues in the circulatory system stopped functioning properly.
4. Explain how the hierarchical organization of the circulatory system supports the overall function of multicellular organisms in maintaining homeostasis.

Social Studies - Colorado Geography Strand

The study of geography creates an informed person with an understanding of spatial perspective and technologies for spatial analysis; and an awareness of the interdependence of the world regions and resources, and how places are connected at the local, national, and global scales. Students understand the complexity and interrelatedness of people, places, and environments. Geography helps students appreciate the dynamic relationships and complexity of the world.

Narrative

The geography standards that focus on how people manage, modify, and depend on their environment is not a static concept learned in a single year. Instead, it builds across our students' education, growing in complexity and nuance as they progress through their experience in Adams 12. In 2nd grade, the focus is on the family - "My Community" - and the learning begins with direct observation and simple explanations. Students identify why people live where they do and how the environment is utilized to meet basic needs. They also explore how humans change the environment and manage resources in their communities. At this stage, the understanding is descriptive and focused on their immediate surroundings and community. By 4th grade, the lens widens to the state level as students begin to explore historical influences and economic motivations. Students learn about the unique physical environment of Colorado and how it directly influenced those who immigrated to the state for various economic opportunities. They analyze how early settlers used geographic factors to create settlements and how communities adapted the environment and managed limited resources to meet their needs. The essential questions guide their exploration of the relationship between the physical environment and human economic activity.

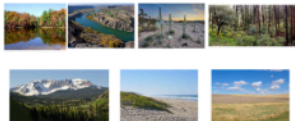
In 6th grade, the perspective broadens significantly to the entire Western Hemisphere and students begin to make connections across regions and analyze both positive and negative interactions between humans and the environment. Students identify various climates and major physical features of the Western Hemisphere and explain their effects on the people who live there. Students analyze the intended and unintended consequences of human actions on the environment and how it influenced the development of civilizations. Furthermore, students explore how distinct geographic features led to unique cultural and social developments in different regions over time. By high school, the understanding becomes highly analytical and involves making connections across time and space. Students analyze, interpret, and predict the influences of migration on population distribution; the focus shifts to understanding the complex interplay of factors, including environmental, that drive human movement. Students examine how altering the environment has brought prosperity to some places while creating environmental dilemmas for others. Over the course of their education, the understanding of how people manage, modify, and depend on their environment evolves from simple observations in the local community to complex analyses of global interactions and historical consequences. Students progressively build their understanding to ensure a deep and nuanced appreciation for the intricate relationship between humanity and the environment.

Grade Level	Standard	Unit(s)
2	Geography 2: Explain how people in communities manage, modify, and depend on their environment. G2b. Explain how the environment influences why people settle in certain areas.	<u>Unit 3: Geography of My Community</u> Summary: A study of how communities manage, modify, and depend on the environment. Essential Question(s): How have people influenced the geography of my community? How does the environment influence people's decisions about where they live? How do humans change the environment of a place over time?

	G2c. Identify examples of how human activity influences environmental characteristics of a place over time.	
4	Geography 2: Examine the relationship between the physical environment and its effect on human activity. G2b. Explain how physical environments influence immigration into the state. G2c. Analyze how people use geographic factors in creating settlements and have adapted to and modified the local physical environment.	<u>Unit 5: Trappers, Traders, & Miners</u> Summary: A study of the early economic factors that led people to settle in Colorado. Essential Question(s): What economic opportunities brought people to Colorado? How did the geography of Colorado impact the types of economic opportunities available?
6	Geography 2: Evaluate how regional differences and perspectives in the Western Hemisphere impact human and environmental interactions. G2b. Identify physical features of the Western Hemisphere and explain their effects on people who reside in those regions. G2c. Analyze positive and negative interactions of human and physical systems in the Western Hemisphere and give examples of how people have adapted to and modified their physical environment.	<u>Unit 1: Geography</u> Summary: A study of human and physical geography in the Western Hemisphere. Essential Question(s): How does where you live affect how you live? How have geographic factors influenced human settlement, economic activity, and land acquisition? What have been the positive and negative consequences of human interactions with the environment? --- <u>Unit 2: First Peoples</u> Summary: A study of the universals of culture through the examination and perspective of the First Peoples of North America. Essential Question(s): How does physical geography impact the development and adaptation of culture? What factors influenced the development of cultures in the Arctic region? How have geographic factors influenced human settlement, economic activity, and land use?
HS	Geography 2: Make connections among geographic variables that influence the interactions of people, places, and environments G2b. Analyze, interpret, and predict the influences of migration and the distribution of human populations based on reciprocal patterns. For example: Historical events, the spatial diffusion of	<u>World History Unit 3: Industrialization & Imperialism</u> Summary: The study of how the Industrial Revolution became one of the major forces of change leading to the era of imperialism. Essential Question(s): How have scientific and technological developments affected societies and relationships between nations? What were the reasons for and responses to imperialism? What are push and pull

	ideas, technologies, and cultural practices G2d. Explain how altering the environment has brought prosperity to some places and created environmental dilemmas for others.	factors that impact migration? How do cooperation and conflict influence the division and control of the social, economic, and political spaces in the world? ----- <u>US History Unit 1: Reconstruction & the West</u> Summary: In the aftermath of the Civil War, the United States had the opportunity to revive the democratic principles it was founded upon. In the South and West, government policies and actions of individuals and groups prevented this revitalization from becoming a reality. Essential Question(s): How do government policies, collective actions, and ideology lead to advancements or restrictions of individual and group freedoms? How did US policies in the West lead to the destruction of Indigenous communities and culture? How did Indigenous peoples resist?
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Grade 2: Unit 3 Sample Lessons and Assessment

Essential Question	Student Learning Intention	How We Investigate It and/or Represent It						
<u>LESSON 1: Places to Settle</u> <i>How does the environment influence why people settle in certain areas?</i> 1 DAY	We focus on: - Reading physical features on maps We figure out: - The environment influences where and why people settle where they do, Standards addressed in this lesson: G1a: Use map keys, legends, symbols, intermediate directions, and a compass rose to locate and describe spaces and places. G2b: Explain how the environment influences why people settle in certain areas.	"If I could pick to live anywhere, I would choose _____ because _____"  						
<u>LESSON 4: Rural vs. Urban</u> <i>How is our way of life impacted by where we live?</i> 1 DAY	We focus on: - How planning is used to design and develop communities We figure out: - People change communities over time Standards addressed in this lesson: G2b: Explain how the environment influences why people settle in certain areas. G2c: Identify examples of how human activity influences environmental characteristics of a place over time.	 <table border="1"> <thead> <tr> <th>Why do people live in each place?</th><th></th></tr> </thead> <tbody> <tr> <td>New York</td><td>Colorado</td></tr> <tr> <td></td><td></td></tr> </tbody> </table>	Why do people live in each place?		New York	Colorado		
Why do people live in each place?								
New York	Colorado							

Essential Question	What we do and figure out	How We Investigate It and/or Represent It												
LESSON 5: Where People Live <i>How can human actions change the environment?</i> 1 DAY	We focus on: - How people bring change to their community We figure out: - Why people would want or not want to live in a community Standards addressed in this lesson: G2b: Explain how the environment influences why people settle in certain areas. G2c: Identify examples of how human activity influences environmental characteristics of a place over time.	Why would people want or not want to live in each of these places? <table border="1"> <thead> <tr> <th>Who</th><th>Where</th><th>Why</th></tr> </thead> <tbody> <tr> <td>Native Americans</td><td>Nature Rivers Climate</td><td>They took off of the land that is important for hunting. They had horses, wheat and corn.</td></tr> <tr> <td>Workers</td><td>City</td><td>They worked in factories.</td></tr> <tr> <td>Farmers</td><td>Rivers</td><td>They grew crops.</td></tr> </tbody> </table> Why do people choose to live where they do? How did people bring change to their community? In partners, talk about how each of these groups brought change to their community. 	Who	Where	Why	Native Americans	Nature Rivers Climate	They took off of the land that is important for hunting. They had horses, wheat and corn.	Workers	City	They worked in factories.	Farmers	Rivers	They grew crops.
Who	Where	Why												
Native Americans	Nature Rivers Climate	They took off of the land that is important for hunting. They had horses, wheat and corn.												
Workers	City	They worked in factories.												
Farmers	Rivers	They grew crops.												
LESSON 6: Human Environment Interaction <i>How can human actions change the environment?</i> 1-2 DAYS	We focus on: - How a place changes over time We figure out: - Humans interact with the environment and cause change Standards addressed in this lesson: G2c: Identify examples of how human activity influences environmental characteristics of a place over time.	Why is Colorado such a popular place to live?   How has Colorado changed over time? Why do you think that is? Record ideas on chart paper.												

Geography in My Community Social Studies Unit 3 Assessment

1. Circle the renewable resources. Put an X on the non-renewable resources.



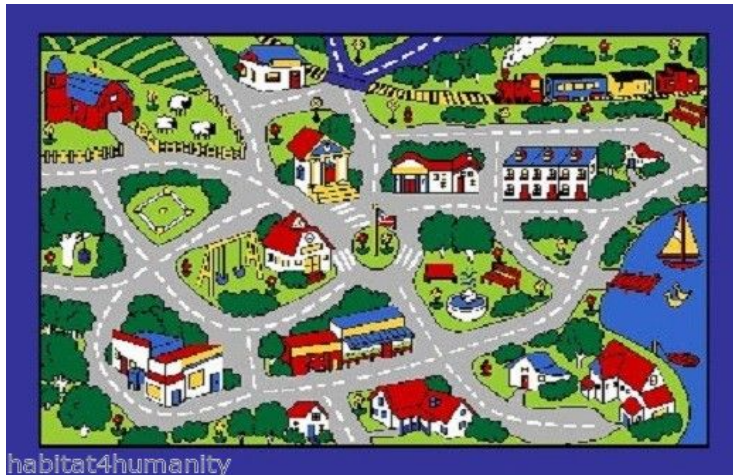
			
wind	coal	oil	tree

0. Natural resources are things in nature that people _____.

- a. forget
- a. eat
- b. use
- c. buy

3. A large business was built in your community. The company will need to hire additional employees. How might this change your community?

4. Is this community rural or urban?
- a) Rural
 - b) Urban



How do you know?

5. Sarah's family is moving to Five Staria. Her dad has a new job as a teacher in the local school. Her mom is looking for a job as an engineer at a wind farm. During the weekend Sarah's family likes to hike, ski, and fly-fish.

If you were Sarah's family, where do you think would be the best place to live? Put an X on the best community for Sarah's family to live (Community A, Community B, or Community C)

Give 2 reasons why this is a good community for Sarah's family to live.

Reason 1	Reason 2

Grade 4: Unit 5 Sample Lessons and Exit Tickets

LESSON 6: <u>Mining and the Environment</u> <i>How did the environment affect miners and how did they adapt to their environment?</i> 1 DAY 	We focus on: Analyzing primary sources to come to conclusions about how the environment impacted miners. We figure out: - The environment provided resources - Miners adapted to the climate and elevation by using skis and donkeys to help them get around. Standards we address in this lesson: H1b: Identify cause-and-effect relationships using primary sources to understand the history of Colorado's development. G2a: Describe how the physical environment provides opportunities for and places constraints on human activities. G2c: Analyze how people use geographic factors in creating settlements and have adapted to and modified the local physical environment.	 EXPLORE - JOURNAL Read the article at your table. Complete the graphic organizer. <table border="1"> <thead> <tr> <th>Person</th> <th>Motivation to come to Colorado (why or how did they come to CO?)</th> <th>Contribution to Colorado (why do they matter?)</th> </tr> </thead> <tbody> <tr> <td>Clara Brown</td> <td></td> <td></td> </tr> <tr> <td>Countess Katrina Muntz</td> <td></td> <td></td> </tr> <tr> <td>Margaret Crawford</td> <td></td> <td></td> </tr> <tr> <td>Chin Lin Sou</td> <td></td> <td></td> </tr> <tr> <td>Jeremiah Lee</td> <td></td> <td></td> </tr> </tbody> </table>	Person	Motivation to come to Colorado (why or how did they come to CO?)	Contribution to Colorado (why do they matter?)	Clara Brown			Countess Katrina Muntz			Margaret Crawford			Chin Lin Sou			Jeremiah Lee		
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Countess Katrina Muntz																				
Margaret Crawford																				
Chin Lin Sou																				
Jeremiah Lee																				

Name: _____ Class Number: _____ Date: _____

Lesson 6: Mining and the Environment

March 9th 1899:

Rocks caved us in today. Chas, Burt and I were lucky to be in this drift and not in the shaft like poor Shep was. Shep was screaming something when the rocks came down on him. I think he hurt his leg but I think he'll be all right because he was able to get out of the mines. Bert found a steam pipe and began rapping on it to try to get in touch with any rescuers. Fortunately we found a few and they're able to send supplies down to us such as food. I think we'll be fine down here. They wrote to us that we should be rescued by tomorrow.

How did the environment affect the miners in this diary entry?

How did they have to adapt to their environment?

LESSON 8: <u>Population Changes and the Gold Rush</u> <i>Who came to Colorado to live and work in mining towns and how did they contribute to Colorado's development?</i> 1 DAY 	We focus on: Learning about individuals who came to Colorado during the Gold Rush to make a better life for themselves. We figure out: - Women came to CO and contributed by making CO a nicer place to live (nurses, schools, homes) - Chin Lin Sou was an influential figure in the Chinese community in Colorado, especially Central City - Jeremiah Lee was a former enslaved man who came to Colorado after gaining his freedom. He positively impacted Georgetown through real estate and mining. Standards we address in this lesson: H1d: Identify and describe how political and cultural groups have affected the development of the region. Including but not limited to: African American, Latino, Asian American, Indigenous Peoples, religious groups, and European settlers. G2b: Explain how physical environments influence immigration into the state	EXPLORE - JOURNAL Read the article at your table. Complete the graphic organizer.  <table border="1"> <thead> <tr> <th>Person</th> <th>Motivation to come to Colorado (why or how did they come to CO?)</th> <th>Contribution to Colorado (why do they matter?)</th> </tr> </thead> <tbody> <tr> <td>Clara Brown</td> <td></td> <td></td> </tr> <tr> <td>Countess Katrina Muntz</td> <td></td> <td></td> </tr> <tr> <td>Margaret Crawford</td> <td></td> <td></td> </tr> <tr> <td>Chin Lin Sou</td> <td></td> <td></td> </tr> <tr> <td>Jeremiah Lee</td> <td></td> <td></td> </tr> </tbody> </table>  	Person	Motivation to come to Colorado (why or how did they come to CO?)	Contribution to Colorado (why do they matter?)	Clara Brown			Countess Katrina Muntz			Margaret Crawford			Chin Lin Sou			Jeremiah Lee		
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Margaret Crawford																				
Chin Lin Sou																				
Jeremiah Lee																				

Person:

- Jeremiah Lee
- Margaret Crawford
- Chin Lin Sou
- Countess Katrina Murat
- Clara Brown

Sentence Stems:

- _____ came to mining towns because_____.
- _____ contributed to the area by _____.
- Without _____, _____ would be affected.

Lesson 8: Population Changes and The Gold Rush

Choose 1 group or person to share what you learned. Write a paragraph about your selection explaining why they came to Colorado and how they impacted the state.

Grade 6: Unit 1 Sample Assessment

Human Environment Interaction (G2b, G2c)

Use the maps and the text to fill out the chart about how the Athabaskan Indians of Canada interacted with their environment.

North American Climate Map The Athabaskan Indians lived west of Lake Athabasca.	Traditionally, Athabaskan groups lived by fishing, hunting, and trapping and by gathering edible plants. They lived in small groups that traveled and changed their lifestyles to suit the availability of food and other resources in each season. Some Athabaskan groups lived in domed homes covered with caribou and moose hides in winter and with birch bark in summer. Villages were often located near rivers, which served as an important means of travel and source of food. Athabaskan Indians used snowshoes and sleds to travel in winter. They fashioned tools from stone and animal parts. They made clothing from animal hides and decorated it with beadwork, quillwork, and shells. Other decorative arts included stone carving and woodcarving. Cash, C. L. (2016). Athabaskan Indians. In <i>World Book Advanced</i>. Retrieved from http://worldbookonline.com/advanced/article?id=ar756653
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North American Vegetation Map

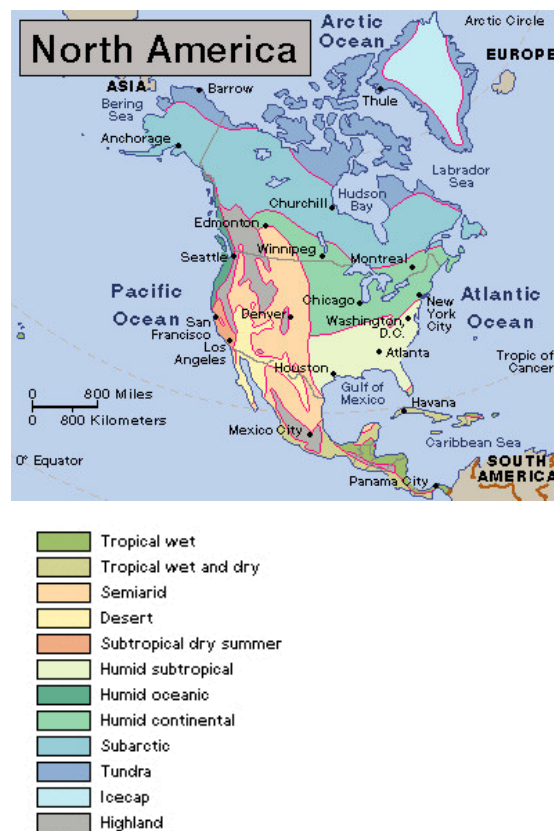
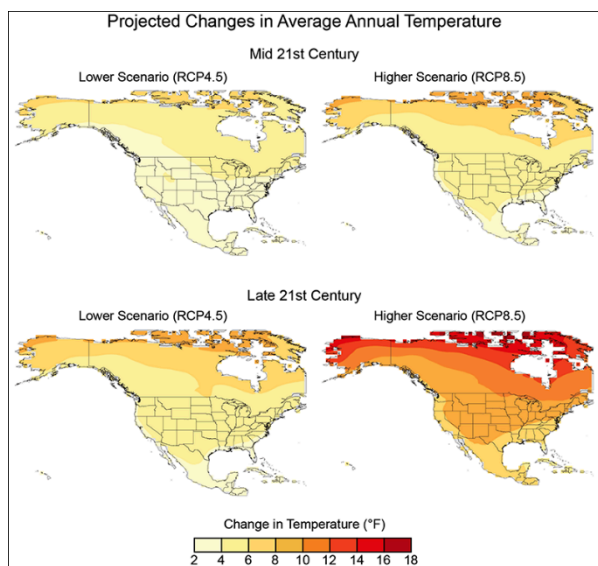
Feature of Physical Environment	Human Adaptation or Interaction
Birch trees	The Athabaskan Indians used birch bark to cover their homes in the summer.

Using the map(s):

- identify at least one physical characteristic that impacted the Athabascans
- explain how this physical characteristic affects the experience of Athabaskan people
- explain how they adapt to [fix] this problem

Grade 6: Unit 2 Sample Assessment

Source 1	Source 2
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Source 3

Virtually every community across the North is now struggling to cope with extreme coastal erosion, thawing permafrost, and rapid destructive runoff, which particularly affects coastal communities in Alaska and in northern and western Canada. Despite our cold northern winters, sea ice remains in rapid decline. Glacial melt, long relied on for drinking water, is now unpredictable. In one stunning case, the Kaskawulsh Glacier in the Yukon has receded so far that its meltwater has changed direction, flowing south toward the Gulf of Alaska and the Pacific Ocean instead of north toward the Bering Sea. Ice that used to serve as our winter highways is giving way and invasive species are travelling much further north than ever before. While the impact and extent of each change varies across the North, the trends are consistent. The change is not just coming, it is already here.

-Sheila Watt-Cloutier, Canadian Geographic

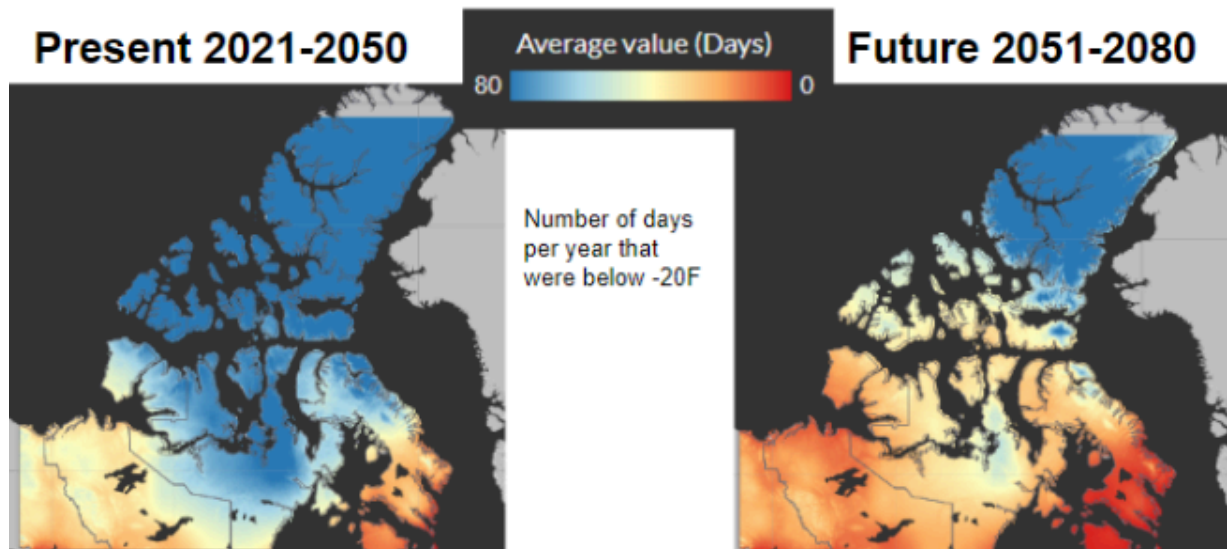
Source 4



<http://www.mapcruzin.com/climate-collapse-new/s/climate-change-impact-arctic.htm>

How is climate change currently affecting the Inuit? Provide at least two examples and justify your answer with evidence.

Temperature Change in Nunavut

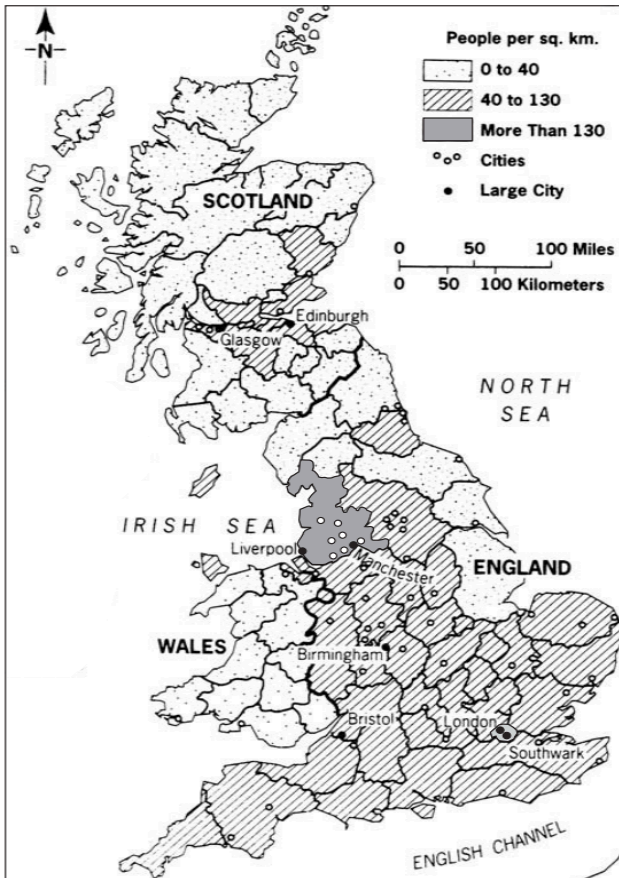


Using the data in the map above, predict how climate change might impact a specific aspect of Inuit culture. Explain how climate change might impact that aspect of culture and how the Inuit might need to adapt in response.

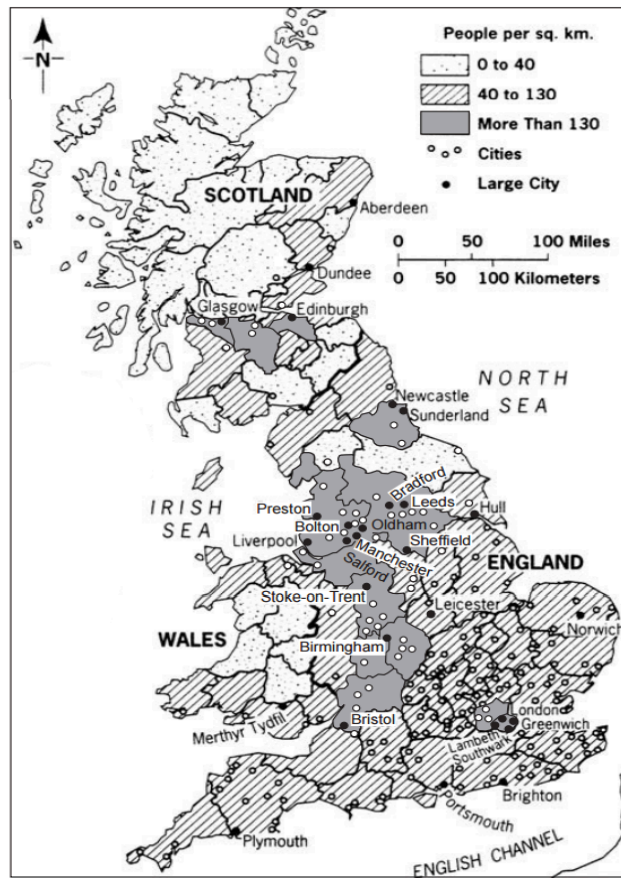
HS World History: Unit 3 Sample Assessment Component

Document 1

Population Density: Great Britain, 1801



Population Density: Great Britain, 1851



Source: World Civilizations: Sources, Images, and Interpretations, McGraw-Hill (adapted) from the NYS Global History and Geography Regents Exam, June 2006.

Document 2

During July and August of 1858, a period in London history known as “the Great Stink,” several outbreaks of diseases affected both working and middle class families resulting in the deaths of tens of thousands of people and affecting children more than adults.



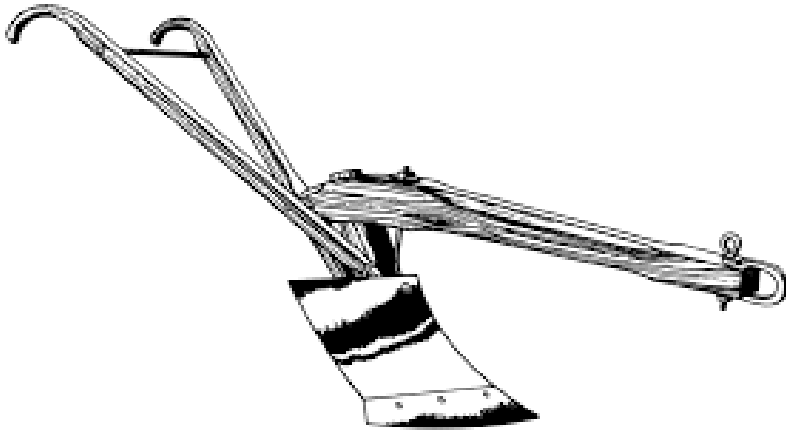
Cartoon published in *Punch* magazine at the time of the "Great Stink." The captions read "FATHER THAMES INTRODUCING HIS OFFSPRING TO THE FAIR CITY OF LONDON. A Design for a Fresco [a type of wall painting] in the New House of Parliament." The characters are labeled "Diphtheria," "Scrofula," and "Cholera." [Image](#) is courtesy of Wikimedia Commons and is public domain.

Using your historical knowledge and documents above, analyze the pros and cons of the new industrial society.

Type answer here

Use the maps and documents to answer the question below.





John Deere Steel Plow

	Kansas	Colorado	Iowa
1870 Improved Land	1,971,003 acres	95,594 acres	9,396,467 acres
1880 Improved Land	10,739,566 acres	616,169 acres	19,866,541 acres
1870 Farm Value	\$90,327,040	\$3,385,748	\$392,662,441
1880 Farm Value	\$235,178,930	\$25,109,223	\$567,430,227
1870 Livestock Value	\$23,173,185	\$2,871,102	\$82,087,133
1880 Livestock Value	\$60,907,140	\$8,703,342	\$124,715,103

United States Census, 1880

How did technological innovations change the development of the west?

<type text here>



Indian Reservations 1890



Carlisle Indian Industrial School, Pennsylvania, 1900

“And so at last our fathers were steadily driven out or killed, and we their sons but sorry remnants of tribes once mighty are cornered in little spots of the earth all ours of right--cornered like guilty prisoners and watched by men with guns who are more than anxious to kill us off.”

Chief Washakie, Speech to Governor John Hoyt of Wyoming Territory, 1878

Use evidence from the sources and content knowledge to describe the changes that took place for Native Americans in the west from 1875-1900.

<type text
here>

COMPLIANCE STATEMENT:

The District's performance during the monitoring period complied with the standard as the GVC data provide evidence of a rigorous, well-articulated curriculum and the opportunity to demonstrate and communicate complex reasoning across all grade levels.

INTERPRETATION:

I interpret the following language:

Life Skills

Students shall have opportunities to develop and demonstrate independence, self-directed learning, creativity, problem-solving, adaptability, critical thinking, perseverance, global and cultural understanding and effective communication skills in order to successfully achieve their college, career and life aspirations

to mean:

Evidence shall be presented to demonstrate that students across all district schools are provided with opportunities to engage in complex demonstrations of learning aligned to multiple life skills including independence, self-directed learning, creativity, problem-solving, adaptability, critical thinking, perseverance, global and cultural understanding and effective communication skills. Those examples can be found in **Attachment A – Complex Demonstrations of Learning for 2024-25**.

COMPLIANCE STATEMENTS:

The District's performance during the monitoring period complied with the standard as the complex demonstrations in Attachment A provide evidence of the opportunity for students to demonstrate life skills at schools of all levels throughout the district.