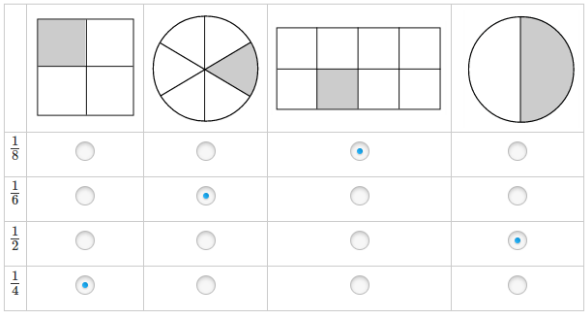
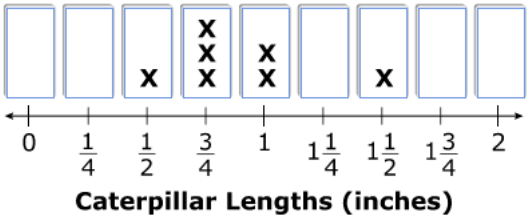
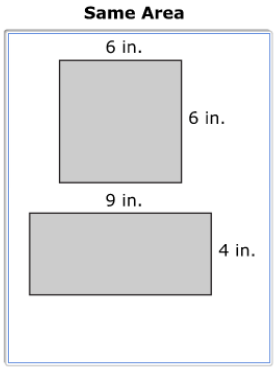
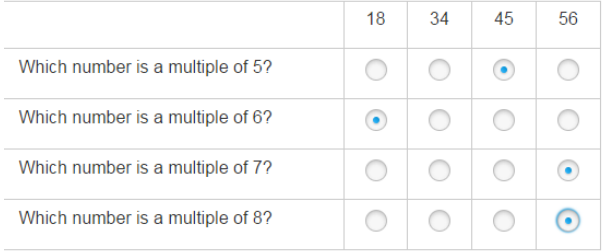
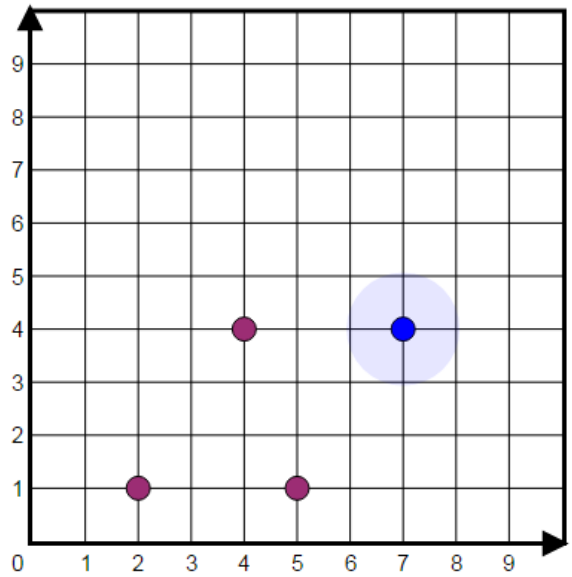
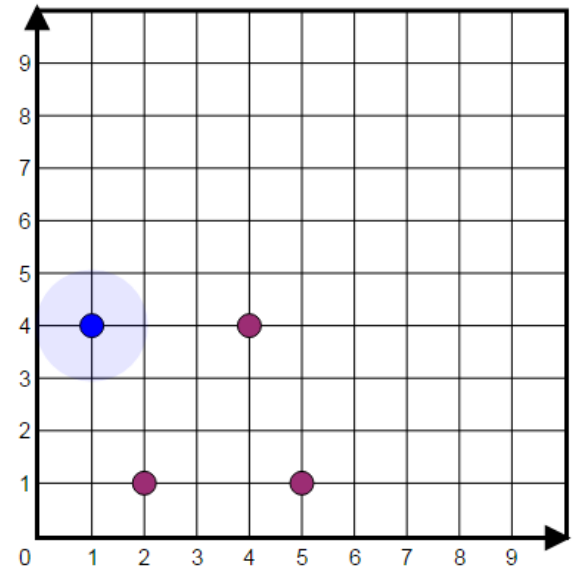
2016-17 ISTEP+
Online Experience
Answer Keys

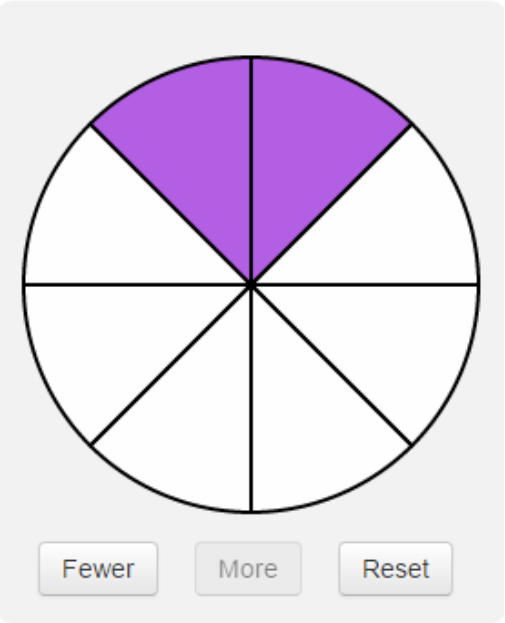
Table of Contents

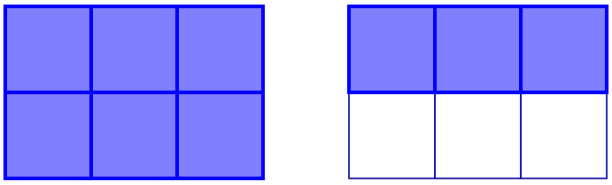
Grades 3-4 Section 1: Mathematics 3
Grades 3-4 Section 2: English/Language Arts 7
Grades 3-4 Section 3: Science 11
Grades 5-6 Section 1: Mathematics 13
Grades 5-6 Section 2: English/Language Arts 17
Grades 5-6 Section 3: Science 24
Grades 5-6 Section 4: Social Studies 26
Grades 7-8 Section 1: Mathematics 27
Grades 7-8 Section 2: English/Language Arts 31
Grades 7-8 Section 3: Social Studies 37
Grade 10 Section 1: Mathematics 38
Grade 10 Section 2: English Language Arts 41
Grade 10 Section 3: Science 45
Change Log 47

Grades 3-4 Section 1: Mathematics

Question	Indiana Academic Standard	Correct Response
1	**3.G.4:** Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole (1/2, 1/3, 1/4, 1/6, 1/8).	
2	**3.M.6:** Multiply side lengths to find areas of rectangles with whole-number side lengths to solve real-world problems and other mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.	B. 9 inches and 2 inches C. 6 inches and 3 inches
3	**3.AT.2:** Solve real-world problems involving whole number multiplication and division within 100 in situations involving equal groups, arrays, and measurement quantities (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).	18
4	**3.DA.2:** Generate measurement data by measuring lengths with rulers to the nearest quarter of an inch. Display the data by making a line plot, where the horizontal scale is marked off in appropriate units, such as whole numbers, halves, or quarters.	
5	**3.M.5:** Find the area of a rectangle with whole-number side lengths by modeling with unit squares, and show that the area is the same as would be found by multiplying the side lengths. Identify and draw rectangles with the same perimeter and different areas or with the same area and different perimeters.	**Part A**: 6 **Part B:** 

Question	Indiana Academic Standard	Correct Response
6	**4.NS.8:** Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number.	
7	**4.C.2:** Multiply a whole number of up to four digits by a one-digit whole number and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Describe the strategy and explain the reasoning.	448 **OR** 448.00 **OR** Equivalent
8	**4.G.1:** Identify, describe, and draw parallelograms, rhombuses, and trapezoids using appropriate tools (e.g., ruler, straightedge and technology).	 **OR** 

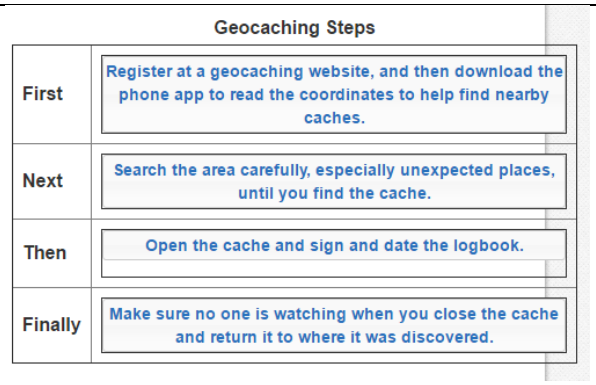
Question	Indiana Academic Standard	Correct Response
9	**3.NS.2:** Compare two whole numbers up to 10,000 using >, =, and < symbols.	**Part A:** 706,008 [<] 710,080 710,080 [>] 710,008 706,008 [<] 710,008 **Part B:** A. 610,070 C. 650,010 D. 605,200
10	**4.M.4:** Apply the area and perimeter formulas for rectangles to solve real-world problems and other mathematical problems. Recognize area as additive and find the area of complex shapes composed of rectangles by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts; apply this technique to solve real-world problems and other mathematical problems.	**Part A:** [3 x 9] + [5 x 6] **OR** [5 x 6] + [3 x 9] **OR** [3 x 3] + [6 x 8] **OR** [6 x 8] + [3 x 3] **Part B:** 57
11	**3.NS.7:** Recognize and generate simple equivalent fractions (e.g., 1/2 = 2/4, 4/6 = 2/3). Explain why the fractions are equivalent (e.g., by using a visual fraction model).	The student correctly shades the number of sections to show an equivalent fraction to ¼. 

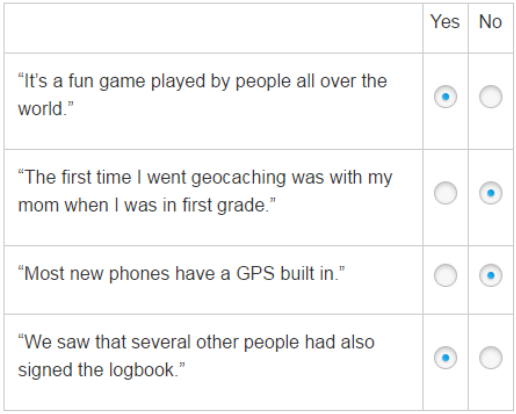
Question	Indiana Academic Standard	Correct Response
12	**3.DA.2:** Generate measurement data by measuring lengths with rulers to the nearest quarter of an inch. Display the data by making a line plot, where the horizontal scale is marked off in appropriate units, such as whole numbers, halves, or quarters.	
13	**4.NS.3:** Express whole numbers as fractions and recognize fractions that are equivalent to whole numbers. Name and write mixed numbers using objects or pictures. Name and write mixed numbers as improper fractions using objects or pictures.	The student correctly shades the number of sections to show an equivalent fraction to 3/2. 
14	**3.AT.1:** Solve real-world problems involving addition and subtraction of whole numbers within 1000 (e.g., by using drawings and equations with a symbol for the unknown number to represent the problem).	This item is Item #2 Constructed-Response of the ISTEP+ Grade 3 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notes-grade-3-math-final.pdf

Grades 3-4 Section 2: English/Language Arts

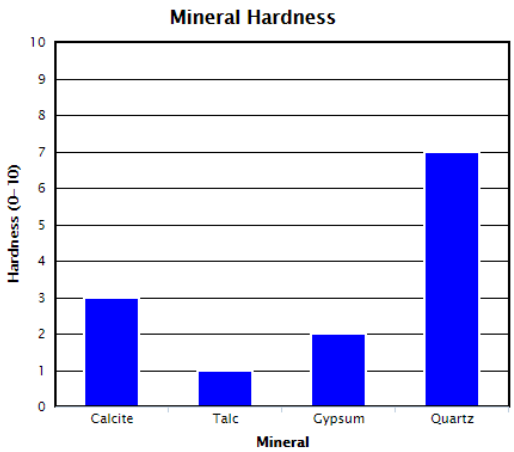
Question	Indiana Academic Standard	Correct Response
1	**3.RN.2.2:** Determine the main idea of a text; recount the key details and explain how they support the main idea. **4.RN.2.2:** Determine the main idea of a text and explain how it is supported by key details; summarize the text.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 3 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-3-elafinal.pdf
2	**3.W.5:** Conduct short research on a topic. • Identify a specific topic or question of interest (e.g., where did Benjamin Harrison grow up?). • Locate information in reference texts, electronic resources, or through interviews. • Recognize that some sources may be more reliable than others. • Record relevant information in their own words. • Present the information, choosing from a variety of formats. **4.W.5:** Conduct short research on a topic. • Identify a specific question to address (e.g., What is the history of the Indy 500?). • Use organizational features of print and digital sources to efficiently to locate further information. • Determine the reliability of the sources. • Summarize and organize information in their own words, giving credit to the source. • Present the research information, choosing from a variety of formats.	A. an article "Elephants of Africa" that describes how a herd of elephants lives in Africa C. a book *The World's Largest Elephants* that describes the life and habitat of African elephants.
3	**3.W.6.2c:** Spelling – • Using conventional spelling for high-frequency and other studied words and for adding affixes to base words. • Using spelling patterns and generalizations (e.g., word families, position-based spellings, syllable patterns, ending rules, meaningful word parts, homophones/ homographs) when writing.	There is no [question ▾] that my favorite food is pizza. I could eat it every [single ▾] day.

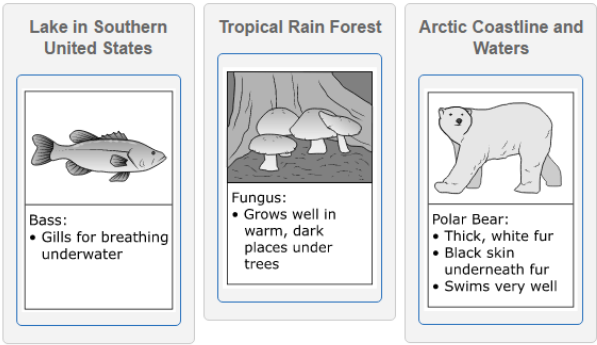
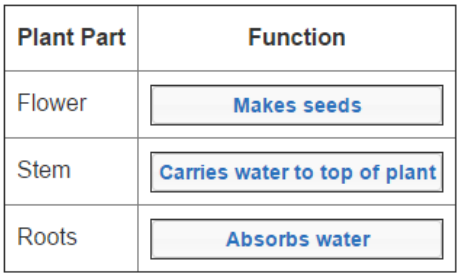
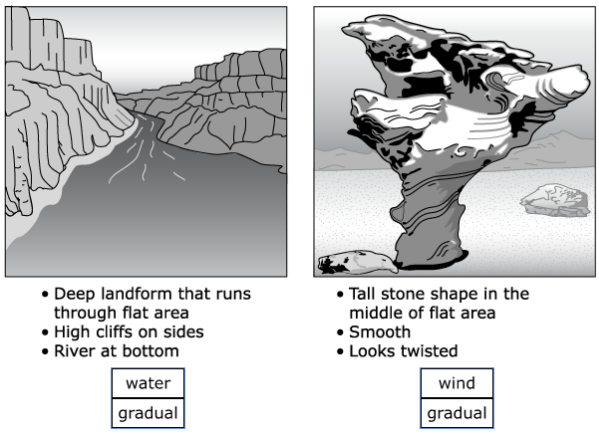
Question	Indiana Academic Standard	Correct Response
4	**3.W.3.3:** Write narrative compositions in a variety of forms that – • Establish an introduction (e.g., situation, narrator, characters). • Include specific descriptive details and clear event sequences. • Include dialogue. • Connect ideas and events using introduction and transition words. • Provide an ending **4.W.3.3:** Write narrative compositions in a variety of forms that – • Establish an introduction, with a context to allow the reader to imagine the world of the event or experience. • Organize events that unfold naturally, using meaningful paragraphing and transitional words and phrases. • Use dialogue and descriptive details to develop events and reveal characters' personalities, feelings, and responses to situations. • Employ vocabulary with sufficient sensory (sight, sound, smell, touch, taste) details to give clear pictures of ideas and events. • Provide an ending that follows the narrated experiences or events.	My family went camping at the lake last weekend. Immediately after we arrived, we set up our tents and searched for firewood. Next we built a big campfire and set out our supplies for dinner. Eventually we roasted marshmallows over the fire for dessert. Afterward we all went to our tent for some sleep. It was a great weekend, and I hope we do it again very soon!

Question	Indiana Academic Standard	Correct Response
5	**3.W.3.2:** Write informative compositions on a variety of topics that – • State the topic, develop a main idea for the introductory paragraph, and group related information together. • Develop the topic with facts and details. • Connect ideas within categories of information using words and phrases. • Use text features (e.g., pictures, graphics) when useful to aid comprehension. • Provide a concluding statement or section. **4.W.3.2:** Write informative compositions on a variety of topics that – • Provide an introductory paragraph with a clear main idea. • Provide supporting paragraphs with topic and summary sentences. • Provide facts, specific details, and examples from various sources and texts to support ideas and extend explanations. • Connect ideas using words and phrases. • Include text features (e.g., formatting, pictures, graphics) and multimedia when useful to aid comprehension. • Use language and vocabulary appropriate for audience and topic. • Provide a concluding statement or section.	 The facts may be placed in the correct boxes in any order.
6	**3.RN.2.2:** Determine the main idea of a text; recount the key details and explain how they support the main idea. **4.RN.2.2:** Determine the main idea of a text and explain how it is supported by key details; summarize the text.	**Part A:** D. Searching for a geocache is a fun experience. **Part B:** C. "One of the most exciting things about geocaching is finding 'treasures' that others leave in the cache."
7	**3.RN.2.3:** Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in processes or procedures in a text, using words such as first, next, finally, because, problem, solution, same, and different. **4.RN.2.3:** Explain the relationships between events, procedures, ideas, or concepts in a historical, scientific, or technical text, based on specific information in the text.	

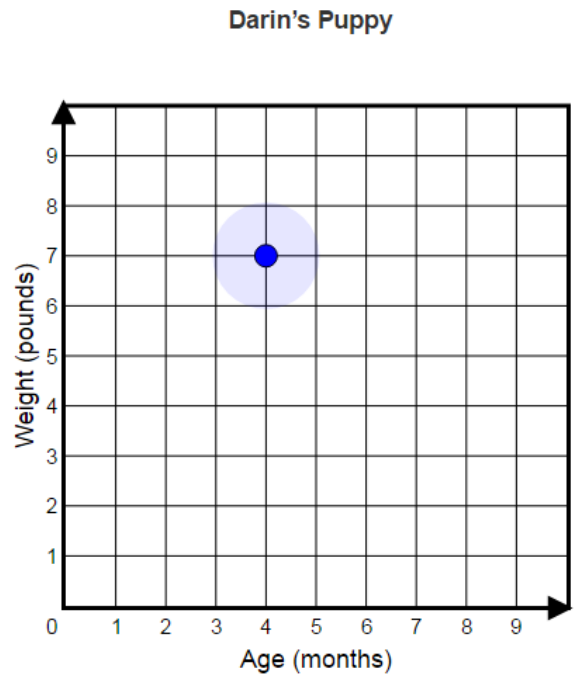
Question	Indiana Academic Standard	Correct Response
8	**3.RN.2.1:** Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. **4.RN.2.1:** Refer to details and examples in a text when explaining what a text says explicitly and when drawing inferences from the text.	B. He had to replace the toy that he took out of the cache.
9	**3.RN.4.1:** Distinguish between fact and opinion; explain how an author uses reasons and facts to support specific points in a text. **4.RN.4.1:** Distinguish between fact and opinion; explain how an author uses reasons and evidence to support a statement or position (claim) in a text.	 Yes / No "It's a fun game played by people all over the world." — Yes "The first time I went geocaching was with my mom when I was in first grade." — No "Most new phones have a GPS built in." — No "We saw that several other people had also signed the logbook." — Yes
10	**3.RV.2.1:** Apply context clues (e.g., word, phrase, and sentence clues) and text features (e.g., maps, illustrations, charts) to determine the meanings of unknown words. **4.RV.2.1:** Apply context clues (e.g., word, phrase, sentence, and paragraph clues) and text features (e.g., charts, headings/subheadings, font/format) to determine the meanings of unknown words.	We finally found the cache—a small, camouflaged bottle that blended in perfectly with the tree. No wonder it was so hard to find! Inside was a small piece of paper called a logbook.
11	**3.RL.2.3:** Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the plot. **4.RL.2.3:** Describe a character, setting, or event in a story or play, drawing on specific details in the text, and how that impacts the plot.	**Part A:** A. The cook makes Mekonnen realize that he is wrong about the fire. **Part B:** D. "'Therefore, you must be full from smelling the food.'" E. "Mekonnen understood and reluctantly granted Ayana her own land and a fine house."
12	**3.RL.2.2:** Retell folktales, fables, and tall tales from diverse cultures; identify the themes in these works. **4.RL.2.2:** Paraphrase or retell the main events in a story, myth, legend, or novel; identify the theme and provide evidence for the interpretation.	D. Being clever can solve difficult problems
13	**3.RL.2.3:** Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions contribute to the plot. **4.RL.2.3:** Describe a character, setting, or event in a story or play, drawing on specific details in the text, and how that impacts the plot.	7 "Yes, sir," Ayana answered. "I will go." 13 As the sun rose, Ayana awoke, amazed at her own good luck. She had spent the night on the mountain! She ran all the way back to town.

Grades 3-4 Section 3: Science

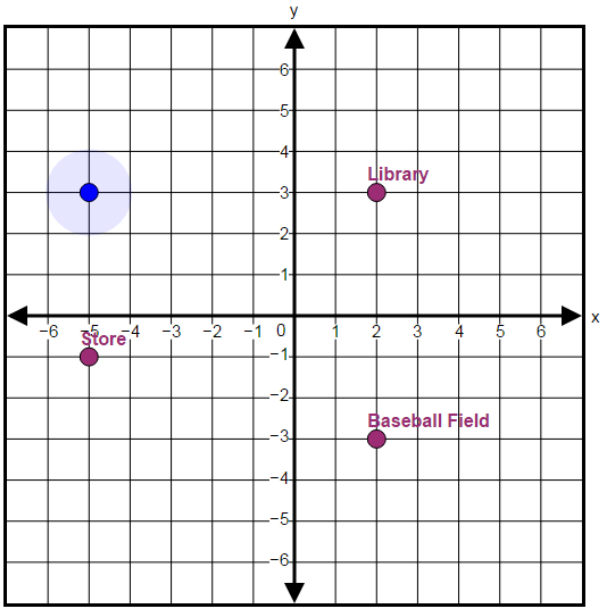
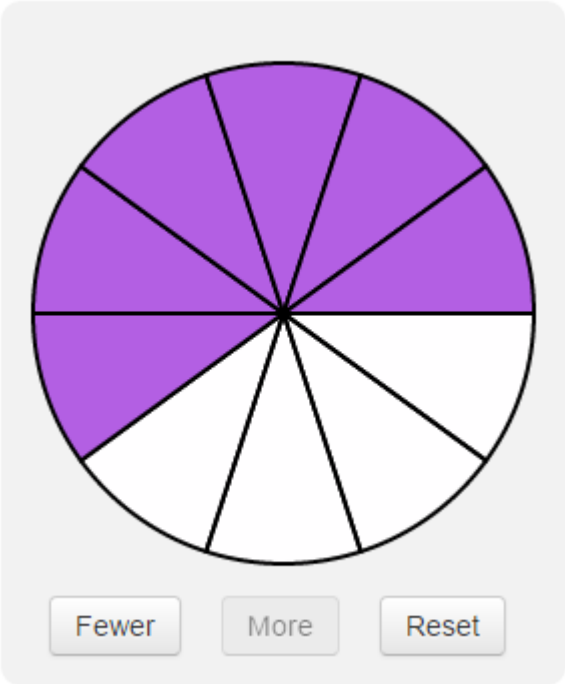
Question	Indiana Academic Standard	Correct Response
1	**4.2.3:** Describe how earthquakes, volcanoes and landslides suddenly change the shape of the land.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 4 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-4-sciencefinal.pdf
2	**4.5.8:** Identify simple patterns in data and propose explanations to account for the patterns.	D. The seeds in Pot 3 were planted deeper than the seeds in the other pots.
3	**4.5.7:** Keep accurate records in a notebook during investigations and communicate findings to others using graphs, charts, maps and models through oral and written reports.	
4	**3.1.2:** Investigate how the loudness and pitch of sound changes when the rate of vibrations changes.	The students should also observe that shorter strings have [a higher pitch than] longer strings.
5	**4.1.4:** Experiment with materials to identify conductors and insulators of heat and electricity.	Material / Insulator / Conductor Copper wire: Conductor Plastic coating on copper wire: Insulator Glass in lightbulb: Insulator Metal in lightbulb: Conductor
6	**3.4.2:** Define the uses and types of simple machines and utilize simple machines in the solution to a "real world" problem.	A. wheel and axle B. inclined plane
7	**4.4.2:** Make appropriate measurements to compare the speeds of objects in terms of the distance traveled in a given amount of time or the time required to travel a given distance.	15

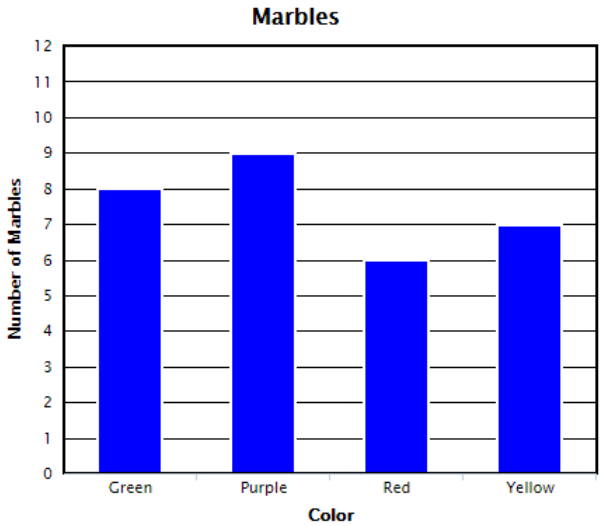
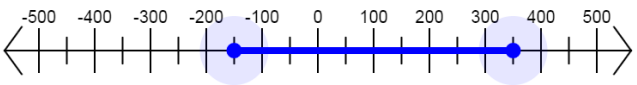
Question	Indiana Academic Standard	Correct Response
8	**4.3.2:** Observe, compare and record the physical characteristics of living plants or animals from widely different environments. Describe how each plant or animal is adapted to its environment.	
9	**4.4.3:** Investigate how changes in speed or direction are caused by forces: the greater the force exerted on an object, the greater the change.	The speed of the toy car will increase when a force is applied [in the direction of the block] . The energy of the car will [increase] after the force is applied.
10	**3.3.1:** Identify the common structures of a plant including its roots, stems, leaves, flowers, fruits and seeds. Describe their functions.	
11	**4.2.2:** Describe how wind, water and glacial ice shape and reshape earth's land surface by eroding rock and soil in some areas and depositing them in other areas in a process that occurs over a long period of time.	 The labels may be placed in the correct boxes in any order.

Grades 5-6 Section 1: Mathematics

Question	Indiana Academic Standard	Correct Response
1	**5.AT.5:** Solve real-world problems involving addition, subtraction, multiplication, and division with decimals to hundredths, including problems that involve money in decimal notation (e.g. by using equations to represent the problem).	44.71 **OR** equivalent
2	**5.M.1:** Convert among different-sized standard measurement units within a given measurement system, and use these conversions in solving multi-step real-world problems.	12 [÷] 32 [x] 16 = [6]
3	**5.C.4:** Add and subtract fractions with unlike denominators, including mixed numbers.	A. 1/2 + 1/8 = 5/8 D. 3/4 – 1/8 = 5/8 E. 3/8 – 1/4 = 1/8
4	**5.AT.7:** Represent real-world problems and equations by graphing ordered pairs in the first quadrant of the coordinate plane, and interpret coordinate values of points in the context of the situation.	**Part A:**  **Part B:** (7 , 9)
5	**5.DS.2:** Understand and use measures of center (mean and median) and frequency (mode) to describe a data set.	What is the median? 10 What is the mean? 13 What is the mode? 5

<table>
<tr><th>Question</th><th>Indiana Academic Standard</th><th>Correct Response</th></tr>
<tr><td>6</td><td>5.C.9: Evaluate expressions with parentheses or brackets involving whole numbers using the commutative properties of addition and multiplication, associative properties of addition and multiplication, and distributive property.</td><td>
<table>
<tr><th></th><th>$6 + (8 + 9)$</th><th>$(6 \times 8) + 9$</th><th>$(6 \times 8) + (6 \times 9)$</th></tr>
<tr><td>$6(8 + 9)$</td><td>○</td><td>○</td><td>●</td></tr>
<tr><td>$(8 + 9) + 6$</td><td>●</td><td>○</td><td>○</td></tr>
<tr><td>$(9 \times 6) + (8 \times 6)$</td><td>○</td><td>○</td><td>●</td></tr>
<tr><td>$(6 + 8) + 9$</td><td>●</td><td>○</td><td>○</td></tr>
</table>
</td></tr>
<tr><td>7</td><td>6.NS.5: Know commonly used fractions (halves, thirds, fourths, fifths, eighths, tenths) and their decimal and percent equivalents. Convert between any two representations (fractions, decimals, percents) of positive rational numbers without the use of a calculator.</td><td>
<table>
<tr><th></th><th>$\frac{1}{4}$</th><th>$\frac{2}{5}$</th><th>$\frac{1}{5}$</th></tr>
<tr><td>0.4</td><td>○</td><td>●</td><td>○</td></tr>
<tr><td>0.25</td><td>●</td><td>○</td><td>○</td></tr>
<tr><td>20%</td><td>○</td><td>○</td><td>●</td></tr>
<tr><td>25%</td><td>●</td><td>○</td><td>○</td></tr>
</table>
</td></tr>
<tr><td>8*</td><td>6.GM.1: Convert between measurement systems (English to metric and metric to English) given conversion factors, and use these conversions in solving real-world problems.</td><td>
Kitchen Tiles
<table>
<tr><th></th><th>Tile A</th><th>Tile B</th><th>Tile C</th></tr>
<tr><td>Width (inches)</td><td>6.00 in.</td><td>1.50 in.</td><td>4.00 in.</td></tr>
<tr><td>Width (centimeters)</td><td>15.24 cm</td><td>3.81 cm</td><td>10.16 cm</td></tr>
</table>
</td></tr>
<tr><td>9</td><td>6.C.6: Apply the order of operations and properties of operations (identity, inverse, commutative properties of addition and multiplication, associative properties of addition and multiplication, and distributive property) to evaluate numerical expressions with nonnegative rational numbers, including those using grouping symbols, such as parentheses, and involving whole number exponents. Justify each step in the process.</td><td>
Part A:
Step 2: $= 3 + (10)^2$
Part B: 53
</td></tr>
</table>

Question	Indiana Academic Standard	Correct Response
10*	**6.AF.8:** Solve real-world and other mathematical problems by graphing points with rational number coordinates on a coordinate plane. Include the use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.	**Part A:**  **Part B:** 6 or equivalent
11	**5.NS.6:** Understand, interpret, and model percents as part of a hundred (e.g. by using pictures, diagrams, and other visual models).	The student correctly shades the number of sections to show an equivalent to 60%. 

Question	Indiana Academic Standard	Correct Response
12	**5.DS.1:** Formulate questions that can be addressed with data and make predictions about the data. Use observations, surveys, and experiments to collect, represent, and interpret the data using tables (including frequency tables), line plots, bar graphs, and line graphs. Recognize the differences in representing categorical and numerical data.	
13	**6.NS.4:** Understand that the absolute value of a number is the distance from zero on a number line. Find the absolute value of real numbers and know that the distance between two numbers on the number line is the absolute value of their difference. Interpret absolute value as magnitude for a positive or negative quantity in a real-world situation.	 **Note:** Color contrast setting **White on Black** and other darker background color settings should not be used on this item type.
14	**5.M.3:** Develop and use formulas for the area of triangles, parallelograms and trapezoids. Solve real-world and other mathematical problems that involve perimeter and area of triangles, parallelograms and trapezoids, using appropriate units for measures.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 5 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: **http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notes-grade-5-math-final.pdf**

*ISTEP+ Part 2 will have "calculator" and "noncalculator" sections. Tests questions 8 and 10 may require the use of a calculator. These questions would be grouped in a "calculator" section in spring 2017.

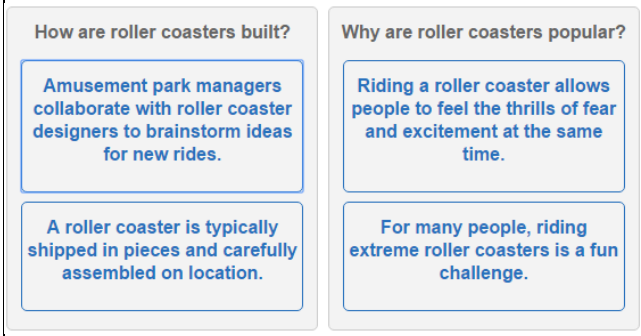
Grades 5-6 Section 2: English/Language Arts

Question	Indiana Academic Standard	Correct Response
1	**5.RN.2.3:** 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.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 5 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-5-elafinal.pdf
2	**5.W.6.2c:** Spelling – Applying correct spelling patterns and generalizations in writing.	It's ▾ exciting to study the different types of stars. You can learn about their ▾ different life cycles.
3	**5.W.6.2b:** Punctuation – • Using a comma for appositives, to set off the words yes and no, to set off a tag question from the rest of the sentence, and to indicate direct address.	Elizabeth, my sister and best friend earned a spot on the city soccer team. / Marcus, always seen wearing headphones, loves all types of music. / Learning to speak another language is difficult, isn't it? / No Caleb, was not able to attend the bake sale after school last Tuesday. Correct Punctuation: ○ ● ● ○ Incorrect Punctuation: ● ○ ○ ●

Question	Indiana Academic Standard	Correct Response
4	**5.W.3.1:** Write persuasive compositions in a variety of forms that – • Clearly present a position in an introductory statement to an identified audience. • Support the position with qualitative and quantitative facts and details from various sources, including texts. • Use an organizational structure to group related ideas that support the purpose. • Use language appropriate for the identified audience. • Connect reasons to the position using words, phrases, and clauses. • Provide a concluding statement or section related to the position presented. **6.W.3.1:** Write arguments in a variety of forms that – • Introduce claim(s), using strategies such as textual analysis, comparison/contrast and cause/effect. • Use an organizational structure to group related ideas that support the argument. • Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. • Establish and maintain a consistent style and tone appropriate to purpose and audience. • Use appropriate transitions that enhance the progression of the text and clarify the relationships among claim(s) and reasons. • Provide a concluding statement or section that follows from the argument presented.	I think it's time for me to have my own room. First, I need a quieter space for doing my homework. Last night I had to listen to my sister's television show while I was trying to study for a test. In addition, I go to bed an hour earlier than my sister because school starts earlier for me, so our schedules no longer match. Based on these reasons, I think you'll agree that it would help me to do better in school if I had a room of my own.

Question	Indiana Academic Standard	Correct Response
5	**5.W.4:** Apply the writing process to – • Generate a draft by developing, selecting and organizing ideas relevant to topic, purpose, and genre; revise to improve writing, using appropriate reference materials (e.g., quality of ideas, organization, sentence fluency, word choice); and edit writing for format and standard English conventions. • Use technology to interact and collaborate with others to publish legible documents. **6.W.4:** Apply the writing process to – • Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults. • Use technology to interact and collaborate with others to generate, produce, and publish writing.	People travel to Alaska every year to visit the beautiful waterways and vast landscape. Probably the most impressive of these landscapes are Alaska's many mountains. Of these, Mount McKinley holds the claim of being the tallest peak of any mountain within the United States. Rising more than 20,000 feet, this peak is one of Alaska's most famous landmarks.

Question	Indiana Academic Standard	Correct Response
6	**5.W.5:** Conduct short research assignments and tasks on a topic. • With support, formulate a research question (e.g., What were John Wooden's greatest contributions to college basketball?). • Identify and acquire information through reliable primary and secondary sources. • Summarize and paraphrase important ideas and supporting details, and include direct quotations where appropriate, citing the source of information. • Avoid plagiarism and follow copyright guidelines for use of images, pictures, etc. • Present the research information, choosing from a variety of sources. **6.W.5:** Conduct short research assignments and tasks to build knowledge about the research process and the topic under study. • Formulate a research question (e.g., In what ways did Madame Walker influence Indiana society?). • Gather relevant information from multiple sources, and annotate sources. • Assess the credibility of each source. • Quote or paraphrase the information and conclusions of others. • Avoid plagiarism and provide basic bibliographic information for sources. • Present information, choosing from a variety of formats.	**Source 1:** ***Uncovering China's Ancient Army*** In 1974, a farmer in a rural province of China was digging a well when he stumbled across one of the world's most amazing archaeological finds, the Terra-Cotta Army of Emperor Qin. Emperor Qin is said to have united the Chinese provinces and to have been the nation's first emperor. When Emperor Qin died, the extravagant underground city built in his honor was filled with clay representations of everything he had in life, including an army. **Source 2:** ***Astonishing Archaeology: The World's Greatest Sites*** The site of Emperor Qin's buried city primarily consists of four pits. When Chinese archaeologists began excavations of Pit 1, they were stunned to find approximately 6,000 life-size warriors made of clay. The statues depicted soldiers of various ranks and positions and are thought to have been painted with bright colors, though most of the colors have since faded.

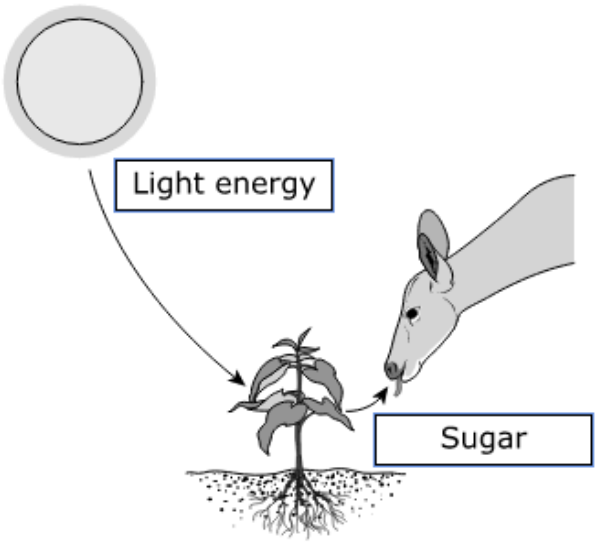
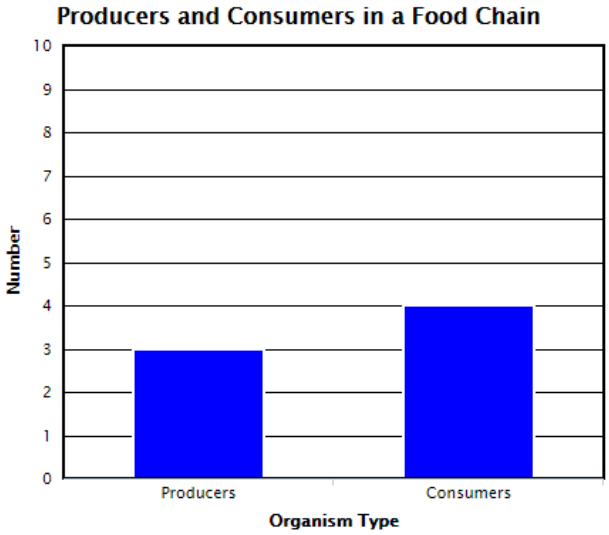
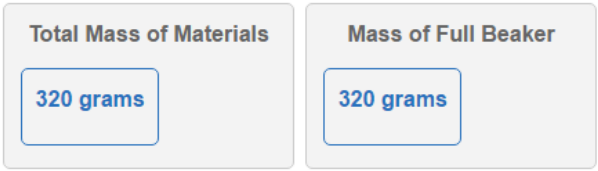
Question	Indiana Academic Standard	Correct Response
7	**5.W.4:** Apply the writing process to – • Generate a draft by developing, selecting and organizing ideas relevant to topic, purpose, and genre; revise to improve writing, using appropriate reference materials (e.g., quality of ideas, organization, sentence fluency, word choice); and edit writing for format and standard English conventions. • Use technology to interact and collaborate with others to publish legible documents. **6.W.4:** Apply the writing process to – • Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults. • Use technology to interact and collaborate with others to generate, produce, and publish writing.	 The order in which the facts appear does not contribute to scoring in this type of item. The facts need to be placed under the correct heading.
8	**6.W.5:** Conduct short research assignments and tasks to build knowledge about the research process and the topic under study. • Formulate a research question (e.g., In what ways did Madame Walker influence Indiana society?). • Gather relevant information from multiple sources, and annotate sources. • Assess the credibility of each source. • Quote or paraphrase the information and conclusions of others. • Avoid plagiarism and provide basic bibliographic information for sources. • Present information, choosing from a variety of formats.	A. *House Rabbits 101*, a book about the basics of rabbit care C. "The Rabbit Society," an Internet site about rabbit health, diet, and behavior
9	**5.RN.3.1:** Apply knowledge of text features in multiple print and digital sources to locate information, gain meaning from a text, or solve a problem.	C. to keep track of when the events took place D. to help find historical information at a later time

Question	Indiana Academic Standard	Correct Response
10	**5.RN.2.1:** Quote accurately from a text when explaining what a text says explicitly and when drawing inferences from the text. **6.RN.2.1:** Cite textual evidence to support analysis of what a text says explicitly as well as inferences drawn from the text.	1 We have arrived at Valley Forge. The location is ideal. Between the high grounds of Mount Joy and Mount Misery, we shall be prepared to defend our encampment on all sides from any attack. The winds blow cold, but we shall endure. **December 24, 1777** 2 The holidays look to be a sad state of affairs here. The men have only tonight dined on rice and vinegar. I continue to press Congress for supplies, as we have very little. **December 29, 1777** 3 We have now raised our second hut. The men built it from eighty logs carried from a mile away, using only one axe. We are prepared to build 1,000 more of these log cabins. I am hopeful the huts will provide some measure of shelter from the cold and wet conditions at the camp.
11	**5.RV.2.1:** Select and apply context clues (e.g., word, phrase, sentence, and paragraph clues) and text features to determine the meanings of unknown words. **6.RV.2.1:** Use context to determine or clarify the meaning of words and phrases.	**Part A:** C. running away **Part B:** 5 It is no wonder, then, that soldiers have begun abandoning this ragtag army. Desertion rates are increasing daily.
12	**5.RN.3.3:** Analyze multiple accounts of the same event or topic, noting important similarities and differences in the perspectives the accounts represent. **6.RN.4.3:** Compare and contrast one author's presentation of events with that of another.	**Part A:** C. General Washington cares about his soldiers' well-being. **Part B:** **Excerpt from *George Washington's Diary*** ". . . we shall be prepared to defend our encampment on all sides from any attack." "What shall it take for Congress to understand the great need of our soldiers?" "I hear the joyous news that France will soon join us in our fight!" **Weather and Lack of Provisions Taking Toll on Troops at Valley Forge** "Soldiers are falling victim to typhoid, smallpox, and pneumonia, spreading like wildfire through the camp." "Marches have ruined the soldiers' shoes, and many go without." "General Washington has accused Congress of not caring about the soldiers . . ."

Question	Indiana Academic Standard	Correct Response
13	**5.RN.4.2:** Combine information from several texts or digital sources on the same topic in order to demonstrate knowledge about the subject. **6.RN.4.3:** Compare and contrast one author's presentation of events with that of another.	A. Soldiers at Valley Forge are suffering. D. Congress is slow in getting supplies to the Continental army.
14	**5.RL.2.3:** Describe two or more characters, settings, or events in a story or play, drawing on specific details in the text, and how they impact the plot.	D. Kate is excited to do something special with her brother.
15	**5.RL.2.3:** Describe two or more characters, settings, or events in a story or play, drawing on specific details in the text, and how they impact the plot. **6.RL.2.3:** Explain how a plot unfolds in a series of episodes as well as how the characters respond or change as the narrative advances and moves toward a resolution.	**Part A:** C. Kate and Jacob are both flexible and easygoing. **Part B:** C. "Kate saw that her brother had already pulled out their parkas and snow boots." D. "She picked up a handful of snow, effortlessly rolled it into a ball, and tossed it at Jacob."

Grades 5-6 Section 3: Science

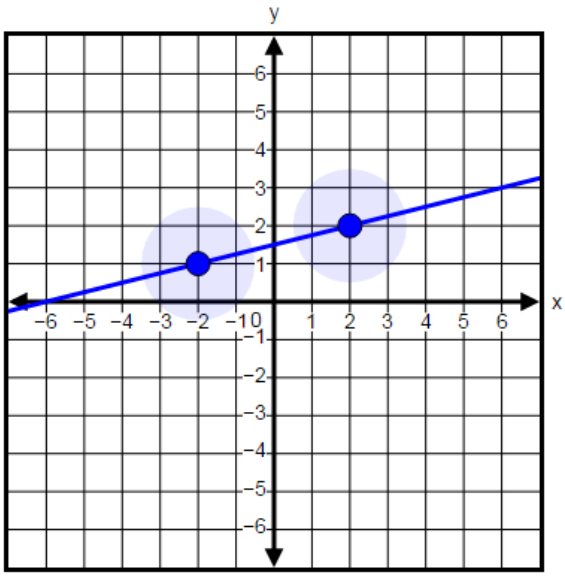
Question	Indiana Academic Standard	Correct Response
1	**6.2.5:** Demonstrate that the seasons in both hemispheres are the result of the inclination of the earth on its axis, which causes changes in sunlight intensity and length of day.	This item is Item #2 Constructed-Response of the ISTEP+ Grade 6 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-6-sciencefinal.pdf
2	**6.5.7:** Anaylze data, using appropriate mathematical manipulation as required, and use it to identify patterns. Make inferences based on these patterns.	B. 463
3	**6.3.1:** Describe specific relationships (i.e., predator and prey, consumer and producer, and parasite and host) between organisms and determine whether these relationships are competitive or mutually beneficial.	The relationship between clownfish and sea anemones is an example of mutualism because clownfish and sea anemones both benefit.
4	**6.1.6:** Compare and contrast potential and kinetic energy and how they can be transformed from one form to another.	3
5	**6.2.4:** With regard to their size, composition, distance from sun, surface features and ability to support life, compare and contrast the planets of the solar system with one another and with asteroids and comets.	Planet / Classification / Fact About Atmosphere Mercury: Rocky / Thinnest atmosphere Venus: Rocky / Highest atmospheric temperatures Earth: Rocky / Most atmospheric oxygen Jupiter: Gaseous / Deepest atmosphere
6	**5.2.4:** Use a calendar to record observations of the shape of the moon and the rising and setting times over the course of a month. Based on the observations, describe patterns in the moon cycle.	Based on the student's observations, the moon is a crescent moon and will move into the first quarter phase next.
7	**5.2.1:** Recognize that our earth is part of the solar system in which the sun, an average star, is the central and largest body. Observe that our solar system includes the sun, moon, seven other planets and their moons, and many other smaller objects like asteroids and comets.	Smallest: moon Largest: sun
8	**5.1.1:** Describe and measure the volume and weight of a sample of a given material.	B. 15 milliliters of liquid C. 17 grams of liquid

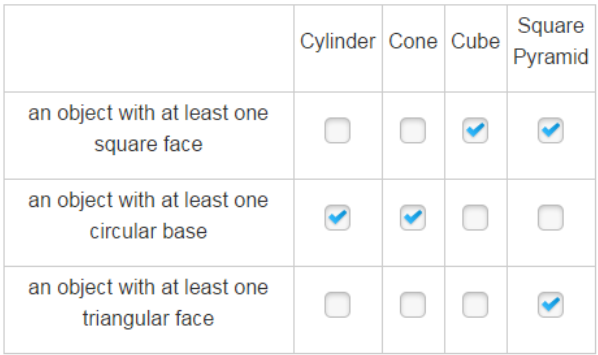
Question	Indiana Academic Standard	Correct Response
9	**6.3.4:** Recognize that plants use energy from the sun to make sugar (i.e., glucose) by the process of photosynthesis.	
10	**5.3.1:** Observe and classify common Indiana organisms as producers, consumers, decomposers, predator and prey based on their relationships and interactions with other organisms in their ecosystem.	
11	**5.1.3:** Demonstrate that regardless of how parts of an object are assembled the weight of the whole object is identical to the sum of the weight of the parts; however, the volume can differ from the sum of the volumes.	

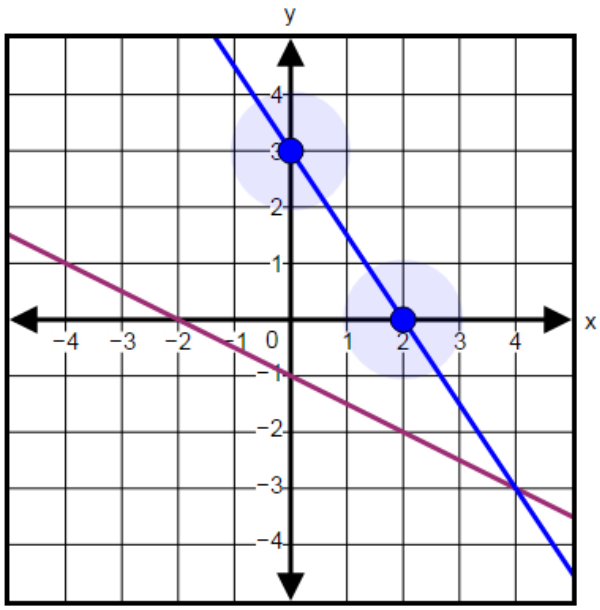
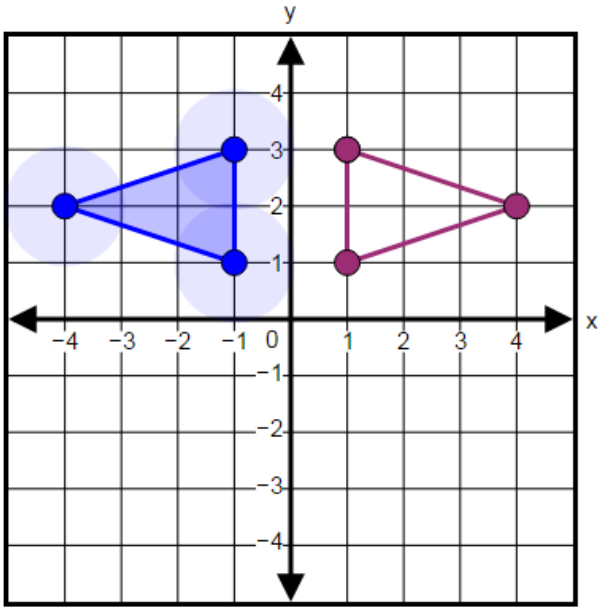
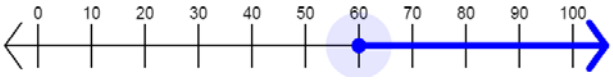
Grades 5-6 Section 4: Social Studies

Question	Indiana Academic Standard	Correct Response
1	**5.4.1:** Describe the economic activities within and among Native American Indian cultures prior to contact with Europeans. Examine the economic incentives that helped motivate European exploration and colonization.	This item is Item #3 Constructed-Response of the ISTEP+ Grade 5 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-5-soc-studiesfinal.pdf
2	**5.1.7:** Identify and locate the 13 British colonies by region (New England, Middle, Southern) and describe the political, social, and economic organization and structure of each region. Examples: Slavery, plantations, town meetings and town markets	B. Pennsylvania

Grades 7-8 Section 1: Mathematics

Question	Indiana Academic Standard	Correct Response
1*	**7.DSP.3:** Find, use, and interpret measures of center (mean and median) and measures of spread (range, interquartile range, and mean absolute deviation) for numerical data from random samples to draw comparative inferences about two populations.	The mean height of the plants in Plot A is **less than** the mean height of the plants in Plot B. The median height of the plants in Plot A is **equal to** the median height of the plants in Plot B.
2	**7.NS.3:** Know there are rational and irrational numbers. Identify, compare, and order rational and common irrational numbers (√2, √3, √5, ∏) and plot them on a number line.	**Rational Numbers**: $0.\overline{6}$, $\frac{5}{3}$, 0.025, $\sqrt{9}$ **Irrational Numbers**: π, $\sqrt{3}$ The order in which the numbers appear does not contribute to scoring in this type of item. The numbers need to be placed under the correct heading.
3	**7.AF.5:** Graph a line given its slope and a point on the line. Find the slope of a line given its graph.	

Question	Indiana Academic Standard	Correct Response
4	**7.AF.2:** Solve equations of the form px + q= r and p(x + q) = r fluently, where p, q, and r are specific rational numbers. Represent real-world problems using equations of these forms and solve such problems.	Anthony Step 1: $1.5 + 0.25p = 6$ Step 2: $0.25p = 7.5$ Step 3: $p = 30$ Solution: 30 pencils
5*	**7.DSP.4:** Make observations about the degree of visual overlap of two numerical data distributions represented in line plots or box plots. Describe how data, particularly outliers, added to a data set may affect the mean and/or median.	The median of the data set will [stay the same] and the mean of the data set will [decrease].
6	**8.GM.5:** Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations. Describe a sequence that exhibits the similarity between two given similar figures.	A. Dilate Triangle **W** by a scale factor greater than 1. D. Rotate Triangle **W** 90° counterclockwise.
7	**8.NS.1:** Give examples of rational and irrational numbers and explain the difference between them. Understand that every number has a decimal expansion; for rational numbers, show that the decimal expansion terminates or repeats, and convert a decimal expansion that repeats into a rational number.	3/11 or equivalent such as 27/99
8	**8.GM.1:** Identify, define and describe attributes of three-dimensional geometric objects (right rectangular prisms, cylinders, cones, spheres, and pyramids). Explore the effects of slicing these objects using appropriate technology and describe the two-dimensional figure that results.	
9	**8.DSP.1:** Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantitative variables. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.	positive association linear association

Question	Indiana Academic Standard	Correct Response
10	**8.AF.8:** Understand that solutions to a system of two linear equations correspond to points of intersection of their graphs because points of intersection satisfy both equations simultaneously. Approximate the solution of a system of equations by graphing and interpreting the reasonableness of the approximation.	**Part A:**  **Part B:** Determine the point on the graph where the lines intersect ▾ .
11	**8.GM.6:** Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.	
12*	**7.AF.3:** Solve inequalities of the form px +q (> or ≥) r or px + q (< or ≤) r, where p, q, and r are specific rational numbers. Represent real-world problems using inequalities of these forms and solve such problems. Graph the solution set of the inequality and interpret it in the context of the problem.	 **Note:** Color contrast setting **White on Black** and other darker background color settings should not be used on this item type.

Question	Indiana Academic Standard	Correct Response
13*	**7.C.6:** Use proportional relationships to solve ratio and percent problems with multiple operations, such as the following: simple interest, tax, markups, markdowns, gratuities, commissions, fees, conversions within and across measurement systems, percent increase and decrease, and percent error.	This item is Item #3 Constructed-Response of the ISTEP+ Grade 7 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notes-grade-7-math-final.pdf

*ISTEP+ Part 2 will have "calculator" and "noncalculator" sections. Tests questions 1, 5, 12, and 13 may require the use of a calculator. These questions would be grouped in a "calculator" section in spring 2017.

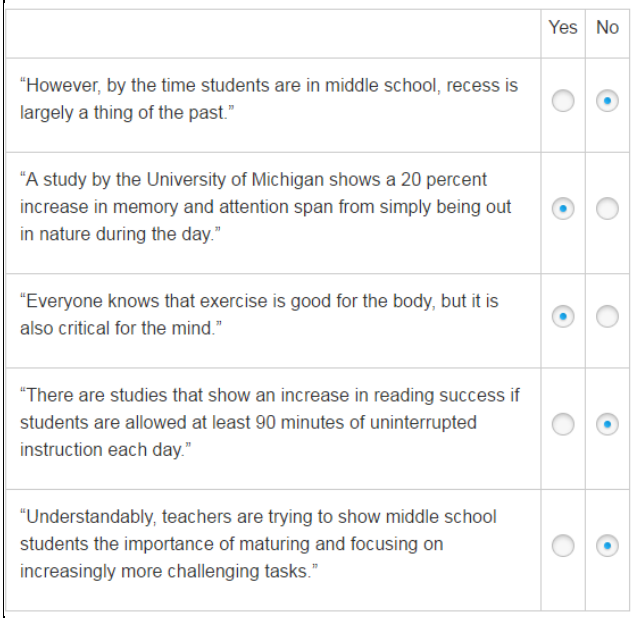
Grades 7-8 Section 2: English/Language Arts

Question	Indiana Academic Standard	Correct Response
1	**7.RL.2.1:** Cite several pieces of textual evidence to support analysis of what a text says explicitly as well as inferences drawn from the text. **8.RL.2.1:** Cite the textual evidence that most strongly supports an analysis of what a text says explicitly as well as inferences drawn from the text.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 8 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-8-elafinal.pdf
2	**7.W.4:** Apply the writing process to – ● Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults. ● Use technology to interact and collaborate with others to generate, produce, and publish writing and link to sources. **8.W.4:** Apply the writing process to – ● Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults. ● Use technology to interact and collaborate with others to generate, produce, and publish writing and present information and ideas efficiently.	Can you imagine a tree that has lived for more than 1,000 years? Standing more than 370 feet tall, redwood trees are the tallest trees in the world. Redwood trees are often described as majestic because of their pure size and beauty. People travel from all around the world to visit them. Yet their popularity has led to some concerns about their longevity and survival. Currently, conservation efforts are being made to ensure that future generations can enjoy the natural beauty and awe of the redwood trees.
3	**7.W.6.1b:** Verbs – Recognizing and correcting problems with subject/verb agreement.	Thomas Jefferson is often thought of as a great leader, but what many people do not know is that he was also a great writer. He is most noted for being the author of the Declaration of Independence. During his tenure as the third president of the United States, he also [wrote] about a variety of subjects. Throughout his political career, he was not afraid to share his opinions with his friends, other politicians, and his detractors in public letters and essays. He was such a clear and expressive writer that John Adams, one of his peers, [said] that Jefferson had "a reputation for literature, science, and a happy talent of composition."

Question	Indiana Academic Standard	Correct Response
4	**7.W.3.1:** Write arguments in a variety of forms that – ● Introduce claim(s), acknowledge alternate or opposing claims, and use appropriate organizational structures. ● Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. ● Establish and maintain a consistent style and tone appropriate to purpose and audience. ● Use effective transitions to create cohesion and clarify the relationships among claim(s), reasons, and evidence. ● Provide a concluding statement or section that follows from and supports the argument presented. **8.W.3.1:** Write arguments in a variety of forms that – ● Introduce claim(s), acknowledge and distinguish the claim(s) from alternate or opposing claims, and organize the reasons and evidence logically. ● Support claim(s) with logical reasoning and relevant evidence, using accurate, credible sources and demonstrating an understanding of the topic or text. ● Use effective transitions to create cohesion and clarify the relationships among claim(s), counterclaims, reasons, and evidence. ● Establish and maintain a consistent style and tone appropriate to purpose and audience. ● Provide a concluding statement or section that follows from and supports the argument presented.	Most of us think nothing of accepting a car ride to school over waiting for the school bus. Doing so means sleeping in later, getting to school quicker, and maybe even picking your own music to listen to. However, have you noticed how crowded the roads are around 7 or 8 a.m.? Your one extra car, multiplied by hundreds if not thousands of other kids choosing not to take the school bus that day, adds up to a lot of unnecessary traffic and pollution. That's why this year, we're starting a campaign to educate students about all the reasons why taking the bus to school can make a difference.

Question	Indiana Academic Standard	Correct Response
5	**7.W.4:** Apply the writing process to – ● Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults. ● Use technology to interact and collaborate with others to generate, produce, and publish writing and link to sources. **8.W.4:** Apply the writing process to – ● Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach; and edit to produce and strengthen writing that is clear and coherent, with some guidance and support from peers and adults. ● Use technology to interact and collaborate with others to generate, produce, and publish writing and present information and ideas efficiently.	What advantages did steamboats offer over other forms of travel? Steamboats could move faster than most boats being used at the time. Unlike many types of existing river craft, steamboats were able to move upstream. How did steamboats affect the economy of Indiana? Shipbuilders and fuel suppliers increased as more steamboats were used. Steamboats required canals, dams, and locks to be built in order to navigate the rivers. The order in which the facts appear does not contribute to scoring in this type of item. The facts need to be placed under the correct heading.

Question	Indiana Academic Standard	Correct Response
6	**8.ML.2.1:** Identify and analyze persuasive and propaganda techniques used in visual and verbal messages by electronic, print and mass media, and identify false or misleading information.	The Three Gorges Dam, which spans the Yangtze River in China, is the world's largest hydroelectric dam system. Completed in 2012, the dam took nearly eighteen years to build at a cost of approximately twenty-four billion dollars, making it the most expensive dam system ever built. The dam was designed not only to generate clean power but also to decrease the risk of flooding, store and distribute water during droughts, and make the river easier for ships to use. At full production, the dam is capable of generating 22,500 megawatts of electricity. As the country is highly dependent on coal for much of its energy, clean hydropower is a major benefit. However, building the dam meant the loss of more than 1,300 villages, 140 towns, and 13 cities and the displacement of over 1.4 million people. Countless buildings, artifacts, and monuments that represent over five thousand years of history have now been submerged and lost forever.
7	**7.RN.3.3:** Determine an author's perspective or purpose in a text, and analyze how the author distinguishes his or her position from the positions of others. **8.RN.3.3:** Determine an author's perspective or purpose in a text, and analyze how the author acknowledges and responds to conflicting evidence or viewpoints.	C. The author acknowledges both sides but leans heavily on the "pro" side.
8	**7.RN.2.2:** Analyze the development of two or more central ideas over the course of a text; provide a detailed, objective summary of the text. **8.RN.2.2:** Analyze the development of a central idea over the course of a text, including its relationship to supporting ideas; provide a detailed, objective summary of the text.	A. Recess is still important for middle school students. D. A number of studies link recess breaks to increased academic performance. E. Recess can provide additional benefits, too, such as stress reduction and social cooperation.

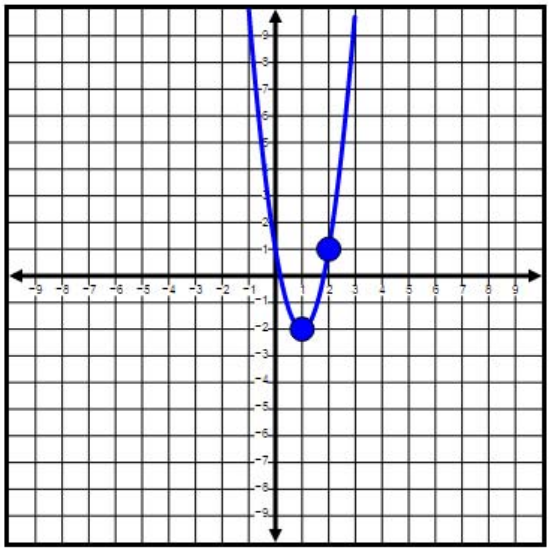
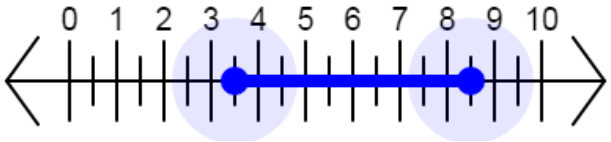
Question	Indiana Academic Standard	Correct Response
9	**7.RN.4.1:** Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient to support the claims, noting instances of bias and stereotyping. **8.RN.4.1:** Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound and the evidence is relevant and sufficient; recognize when irrelevant evidence is introduced.	 Yes / No "However, by the time students are in middle school, recess is largely a thing of the past." — No "A study by the University of Michigan shows a 20 percent increase in memory and attention span from simply being out in nature during the day." — Yes "Everyone knows that exercise is good for the body, but it is also critical for the mind." — Yes "There are studies that show an increase in reading success if students are allowed at least 90 minutes of uninterrupted instruction each day." — No "Understandably, teachers are trying to show middle school students the importance of maturing and focusing on increasingly more challenging tasks." — No
10	**7.RV.2.1:** Use context to determine or clarify the meaning of words and phrases. **8.RV.2.1:** Use context to determine or clarify the meaning of words and phrases.	D. not participating in
11	**7.RL.2.2:** Analyze the development of a theme or central idea over the course of a work of literature; provide a detailed summary that supports the analysis.	**Part A:** A. Unexpected events that cannot be changed must be accepted. **Part B:** B. "They hadn't been successful in saving their ship, so he knew that walking back to town was the only sensible thing left to do." E. "'Nothing, Captain,' Alexander said, and he meant it. 'You don't control the weather.'"
12	**7.RL.2.3:** Analyze the interaction of elements in a work of literature (e.g., how setting shapes the characters or plot).	A. They are forced to stay focused on their task. D. They learn to appreciate daily comforts because of the harsh environment. F. They are aware of the dangers and are motivated to overcome a unique challenge.
13	**7.RV.2.1:** Use context to determine or clarify the meaning of words and phrases. **8.RV.2.1:** Use context to determine or clarify the meaning of words and phrases.	D. harsh environment

Question	Indiana Academic Standard	Correct Response
14	**7.RN.2.1:** Cite several pieces of textual evidence to support analysis of what a text says explicitly as well as inferences drawn from the text. **8.RN.2.1:** Cite the textual evidence that most strongly supports an analysis of what a text says explicitly as well as inferences drawn from the text.	5 Surprisingly, the *Baychimo* was spotted sailing gracefully along the Alaskan coast a few days later. Again, the captain and his crew hiked across the snow expecting to save the ship. When they examined the *Baychimo*, they decided that it was too damaged to be salvaged, and they officially abandoned the ship. 6 However, the *Baychimo* had other plans. Several documented cases prove that the *Baychimo* was spotted multiple times for decades after it was officially abandoned. In 1933, a group of hunters found and boarded the mysterious ship. Another unexpected blizzard trapped the group on the *Baychimo* for almost two weeks. They disembarked and let the ship sail alone and unmanned back out to sea. The ship was found several more times over a period of decades. No one ever succeeded in gaining control of the vessel. The final reported sighting was in 1969, by a group of local residents who stumbled upon the ship caught in ice yet again.
15	**7.RL.4.2:** Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.	**Part A:** B. the intensity of the weather **Part B:** **The Alaskan Mile** "It was hard to believe that only yesterday his ship had been there, sitting in the ice waiting to be rescued." "It took far too much strength to shout above the howling wind, and energy was in low supply already." "In the Alaskan wilderness, even the best hikers were at risk." **The *Baychimo*** "Attempts to dislodge the ship were unsuccessful, and the crew decided to head toward the town of Barrow in an effort to gain assistance." "Another unexpected blizzard trapped the group on the *Baychimo* for almost two weeks." "The final reported sighting was in 1969, by a group of local residents who stumbled upon the ship caught in ice yet again."
16	**7.RL.4.2:** Compare and contrast a fictional portrayal of a time, place, or character and a historical account of the same period as a means of understanding how authors of fiction use or alter history.	B. "The Alaskan Mile" shows the captain's connection with the ship; the article "The *Baychimo*" does not.

Grades 7-8 Section 3: Social Studies

Question	Indiana Academic Standard	Correct Response
1	**7.2.3:** Describe how major forms of governments of Japan, North Korea, India, South Africa and China currently protect or violate the human rights of their citizens.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 7 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-7-soc-studiesfinal.pdf
2	**7.3.1:** Formulate a broad understanding of the location of countries of Africa, Asia and the Southwest Pacific.	B. 2

Grade 10 Section 1: Mathematics

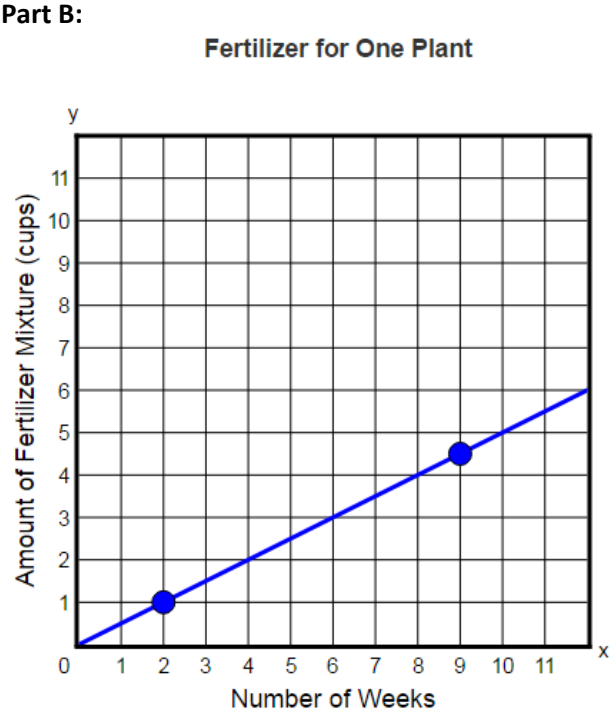
Question	Indiana Academic Standard	Correct Response
1	**AI.QE.3:** Graph exponential and quadratic equations in two variables with and without technology.	Linear Quadratic Exponential 
2*	**8.NS.2:** Use rational approximations of irrational numbers to compare the size of irrational numbers, plot them approximately on a number line, and estimate the value of expressions involving irrational numbers.	**Part A:** C. $\sqrt{14}$ D. $\frac{\sqrt{50}}{2}$ **Part B:**  **Part C:** The length of side *QR*, in inches, is greater than 7 and is less than 8. **Note:** Color contrast setting **White on Black** and other darker background color settings should not be used on this item type.

Question	Indiana Academic Standard	Correct Response
3	**AI.L.5:** Represent real-world problems that can be modeled with a linear function using equations, graphs, and tables; translate fluently among these representations, and interpret the slope and intercepts.	**Part A:**

Fertilizer Mixture

Number of Cups of the Mixture	Number of Ounces of Fertilizer
3	$\frac{3}{4}$
6	$\boxed{1\frac{1}{2}}$
$\boxed{9}$	$2\frac{1}{4}$
$\boxed{12}$	3
15	$\boxed{3\frac{3}{4}}$
20	5

Part B:



Part C:

Answer 104 cups

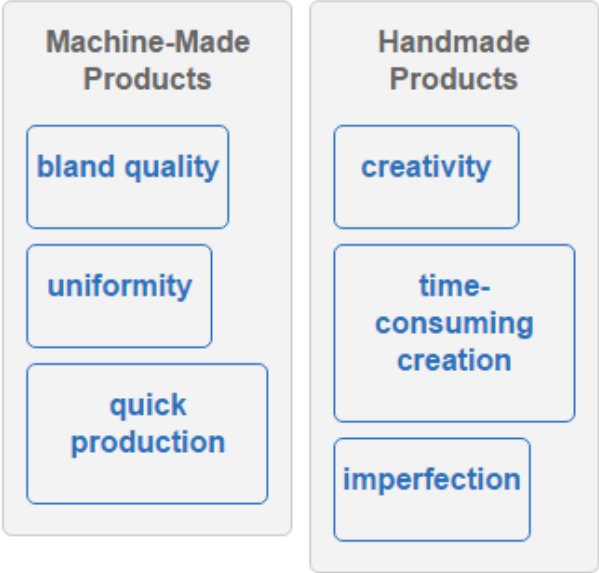
Question	Indiana Academic Standard	Correct Response
4*	**AI.QE.5:** Represent real-world problems using quadratic equations in one or two variables and solve such problems with and without technology. Interpret the solution and determine whether it is reasonable.	This item is Item #2 Constructed-Response of the ISTEP+ Grade 10 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notes-grade-10-math-final.pdf

*ISTEP+ Part 2 will have "calculator" and "noncalculator" sections. Tests questions 2 and 4 may require the use of a calculator. These questions would be grouped in a "calculator" section in spring 2017.

Grade 10 Section 2: English Language Arts

Question	Indiana Academic Standard	Correct Response
1	**9-10.RL.2.3:** Analyze how dynamic characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	This item is Item #1 Constructed-Response of the ISTEP+ Grade 10 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-10-elafinal.pdf
2	**9-10.W.3.1:** Write arguments in a variety of forms that – ● 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 effective transitions 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 consistent style and tone appropriate to purpose and audience. ● Provide a concluding statement or section that follows from and supports the argument presented.	The widening of the highway is unnecessary and would be detrimental to both citizenry and the environment. Residents living in the affected area already have to contend with heavy traffic and exhaust fumes. Widening the highway would simply compound these negatives. [Furthermore ▾], wildlife residing in the natural green spaces would be severely affected by the increase in traffic.
3	**9-10.W.4:** Apply the writing process to – ● Plan and develop; draft; revise using appropriate reference materials; rewrite; try a new approach, focusing on addressing what is most significant for a specific purpose and audience; and edit to produce and strengthen writing that is clear and coherent. ● Use technology to generate, produce, publish, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically (e.g., use of publishing programs, integration of multimedia).	**White-water rafting is a recreational activity and extreme sport in which participants navigate an inflatable raft down a river.** **Because rivers are so varied in their environmental features, they are given a rating so people know how difficult a rafting experience may be.** **A Class 1 river is for novice rafters to maneuver, while a Class 5 river presents challenges for even the most experienced rafters.** **Whatever class of river, both novice and expert rafters enjoy the sport because of the thrill they get bouncing through the rapids at the river's mercy.** **If rafters follow all safety precautions and work cooperatively, white-water rafting can be a fun and exciting experience.**

Question	Indiana Academic Standard	Correct Response
4	**9-10.W.6.1b:** Verbs – Forming and using verbs in the indicative, imperative, interrogative, conditional, and subjunctive moods.	If I were more confident, I [would audition] for the lead in the class play. If I spend more time rehearsing my audition routine, I [may audition] for the next play.
5	**9-10.RV.2.4:** Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy).	The students attending the inauguration [respectfully] listened to the speeches. At all times, [respectful] behavior was expected at the memorial services. The young boy showed [respect] for his grandmother's wish to be left alone. The councillors retired to their [respective] chambers.
6	**9-10.RL.2.1:** Cite strong and thorough textual evidence to support analysis of what a text says explicitly as well as inferences and interpretations drawn from the text.	D. "'Yes, you had another!' he retorted, though not until after she had closed the door."
7	**9-10.RL.2.3:** Analyze how dynamic characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	**Part A:** B. Suspicious **Part B:** B. "'So that's it,' he said. 'That's what you're hinting at.'"
8	**9-10.RV.2.1:** Use context to determine or clarify the meaning of words and phrases.	25 Alone, he lay breathing rapidly, his emaciated chest proving itself equal to the demands his emotion put upon it. "Fine!" he repeated, with [husky] indignation. "Fine way to cure a sick man! Fine!" Then, [after a silence], he gave forth whispering sounds as of [laughter], his expression the while remaining sore and far from humour.
9	**9-10.RL.2.3:** Analyze how dynamic characters (e.g., those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.	B. "And she still kept up the affectation of being helpfully preoccupied with the table, and did not look at her husband—perhaps because they had been married so many years that without looking she knew just what his expression would be, and preferred to avoid the actual sight of it as long as possible." D. "'You mustn't let yourself get nervous,' she said."

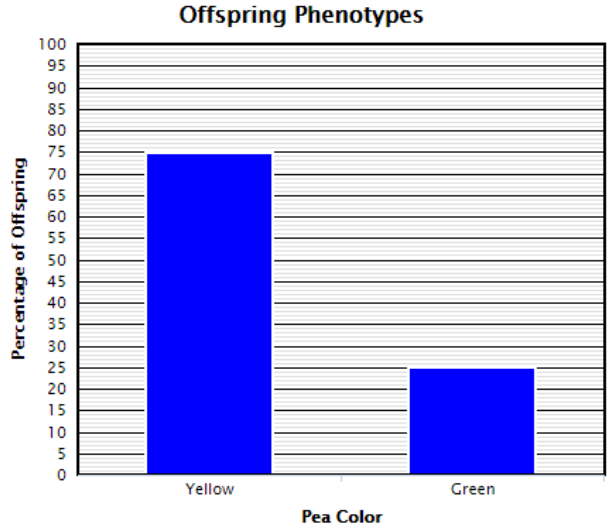
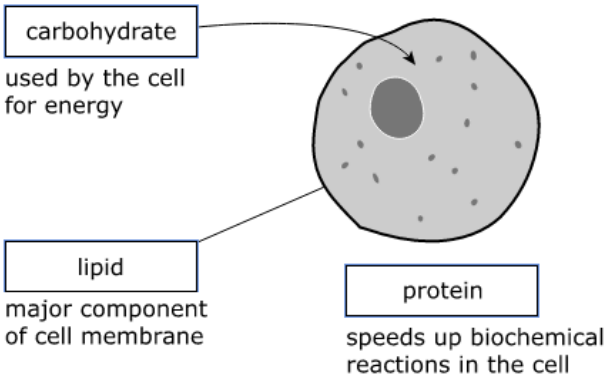
<table>
<tr><th>Question</th><th>Indiana Academic Standard</th><th>Correct Response</th></tr>
<tr><td>10</td><td>9-10.RV.3.1: Analyze the meaning of words and phrases as they are used in works of literature, including figurative and connotative meanings; analyze the impact of specific word choices on meaning and tone, including words with multiple meanings.</td><td>
<table>
<tr><th>Mrs. Adams's Statements</th><th>Tone</th></tr>
<tr><td>"She paused for a moment, not looking at him, then added, cheerfully, 'So that you can fly around and find something really good to get into.'"</td><td>Hopeful</td></tr>
<tr><td>"'Why, I'm not doing any hinting, Virgil.'"</td><td>Scheming</td></tr>
<tr><td>"'Virgil, if you don't owe it to me to look for something different, don't you owe it to your children?'"</td><td>Pleading</td></tr>
<tr><td>"'Don't tell me you won't do what we all want you to, and what you know in your heart you ought to!'"</td><td>Demanding</td></tr>
</table>
</td></tr>
<tr><td>11</td><td>9-10.RN.3.3: Determine an author's perspective or purpose in a text, and analyze how an author uses rhetoric to advance that perspective or purpose.</td><td>B. The author exposes how commerce's methods contradict the artistic process.</td></tr>
<tr><td>12</td><td>9-10.RN.2.3: 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.</td><td>


The order in which the facts appear does not contribute to scoring in this type of item. The facts need to be placed under the correct heading.
</td></tr>
<tr><td>13</td><td>9-10.RN.2.1: Cite strong and thorough textual evidence to support analysis of what a text says explicitly as well as inferences and interpretations drawn from the text.</td><td>Part A:
A. its originality
Part B:
D. ". . . slight variations caused by natural human methods add to the beauty and interest of a thing . . . "</td></tr>
</table>

Question	Indiana Academic Standard	Correct Response
14	**9-10.RN.4.1:** Delineate and evaluate the argument and specific claims in a text, assessing whether the reasoning is valid and the evidence is relevant and sufficient; identify false statements and fallacious reasoning.	3 The way to beauty is not by the broad and easy road; it is along difficult and adventurous paths. Every piece of craft work should be an adventure. It cannot be an adventure if commerce steps in and says "I will dye all your yarn for you; you will always then be able to match your colour again; there need be no variation; every skein shall be as all the others; you can order so many pounds of such a number and you can get it by return of post; and you can have six or seven hundred shades to choose from." It is all so easy, so temptingly easy, —but how DULL! The deadly yards of stuff all so even and so exactly dyed; so perfect that the commerce-ridden person says, "this is almost as good as the stuff
15	**9-10.RN.2.3:** 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.	more, and in those they could not command precise uniformity. They knew that the slight variations caused by natural human methods add to the beauty and interest of a thing, and that a few good colours are worth any number of indifferent ones. 5 It is quite certain that a great many of the handicrafts that have depended upon commercial dyes would produce *infinitely better work* if they dyed their raw material themselves. 6 It may be objected that life is not long enough; but the handicrafts are out to create more life, not out to produce quantity nor to save time. 7 The aim of commerce is material gain; the aim of the crafts is to make life, and no trouble must be spared to reach that end. It

Grade 10 Section 3: Science

Question	Indiana Academic Standard	Correct Response
1	**B.9.1:** Develop explanations based on reproducible data and observations gathered during laboratory investigations.	This item is Item #2 Constructed-Response of the ISTEP+ Grade 10 Released Part 1 Applied Skills (open-ended) Items and Scoring Notes document at the following link: http://www.doe.in.gov/sites/default/files/assessment/spring-2016-istep-released-items-and-scoring-notesgrade-10-sciencefinal.pdf
2	**B.2.3:** Explain that most cells contain mitochondria (the key sites of cellular respiration), where stored chemical energy is converted into useable energy for the cell. Explain that some cells, including many plant cells, contain chloroplasts (the key sites of photosynthesis) where the energy of light is captured for use in chemical work.	A. A large surface area allows most cells to produce the usable energy they need for metabolism more quickly.
3	**B.2.5:** Explain that cells use proteins to form structures (e.g., cilia, flagella), which allow them to carry out specific functions (e.g., movement, adhesion and absorption).	C. movement of dust and mucus out of the lungs
4	**B.3.5:** Describe how energy from the sun flows through an ecosystem by way of food chains and food webs and how only a small portion of that energy is used by individual organisms while the majority is lost as heat.	0.1 **OR** 1/10 **OR** equivalent
5	**B.5.3:** Describe the process by which DNA directs the production of protein within a cell.	The unique shapes of proteins are determined by DNA. This is because the order of the [nucleotides] within the DNA provide a code for specific [amino acids] to be linked together to form the proteins.
6	**B.2.4:** Explain that all cells contain ribosomes (the key sites for protein synthesis), where genetic material is decoded in order to form unique proteins.	B. rough endoplasmic reticulum D. nucleus E. ribosomes
7	**B.9.5:** Apply standard techniques in laboratory investigations to measure physical quantities in appropriate units and convert quantities to other units as necessary.	A botanist is testing the effect of an organic fertilizer on the crop yield of apple trees. In order to determine the amount of fruit produced, the botanist should use a [scale] to measure the [mass] of the harvested apples.

Question	Indiana Academic Standard	Correct Response
8	**B.7.3:** Determine the likelihood of the appearance of a specific trait in an offspring given the genetic make-up of the parents.	
9	**B.8.5:** Describe how organisms with beneficial traits are more likely to survive, reproduce, and pass on their genetic information due to genetic variations, environmental forces and reproductive pressures.	These adaptations cause the insect populations to be more common on ▾ the bush where they live because camouflage gives them an advantage ▾
10	**B.8.3:** Use anatomical and molecular evidence to establish evolutionary relationships among organisms.	Molecular Evidence of Relationship: similarity of genes Anatomical Evidence of Relationship: embryological studies Little Evidence of Relationship: analogous structures
11	**B.1.1:** Describe the structure of the major categories of organic compounds that make up living organisms in terms of their building blocks and the small number of chemical elements (i.e., carbon, hydrogen, nitrogen, oxygen, phosphorous and sulfur) from which they are composed.	

Change Log

Date	Grades/Subject/Question	Change
10-31-16		Final Version