

## Samples to Success

Sample items provide valuable insight into how students engage with different texts, tasks, and contexts, highlighting the types of opportunities they need for success in the classroom. These items offer a shared reference point for understanding proficiency expectations, complementing the assessment's role in measuring learning. By analyzing items alongside performance data, educators can gain a deeper understanding of students' strengths and areas for growth. Students thrive in environments rich with diverse materials, challenges that vary in task type, and multiple avenues for demonstrating understanding. High-quality instruction, aligned with the learning goals, is the most effective way to support students' growth and prepare them for success.



The items featured below are representative of those found on the ISA. The distinction between a student scoring proficient and above proficient on the ISA is primarily determined by the total points earned on all items, including those that require a brief written response. The ISA assesses content in clusters where a single stimulus or related stimuli are provided and then followed by a series of multiple-choice items and a single written response item. The samples below represent a single item taken from a larger cluster of items to illustrate the different types of stimuli with which students interact.

# Earth and Space Science

## Below Proficient

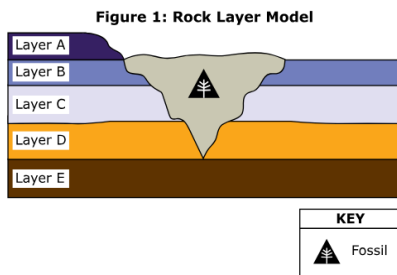
Students are studying the geologic history of Earth. They learn Earth's rock layers form over time. Figure 1 shows a rock layer model.

**Student 1 claim:**

Layer B is older than Layer C.

**Student 2 claim:**

Layer B is younger than Layer C.

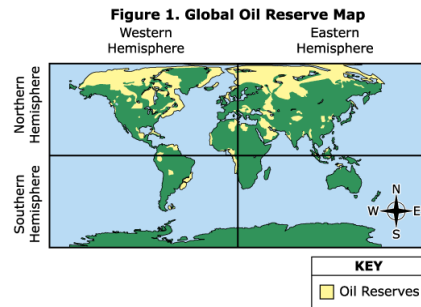


Using the information, which student's claim is supported by the model and why?

- Student 1 because B is above C.
- Student 1 because B is thinner than C.
- Student 2 because B is above C.
- Student 2 because B is thinner than C.

## Approaching Proficient

Students studied the availability and locations of global oil and natural gas reserves. Figure 1 shows a map of global oil and natural gas reserves.

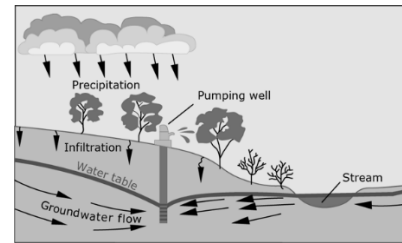


Using the information, which statement is **best** supported by the map?

- Oil is evenly distributed because it is located on every continent.
- Oil is evenly distributed because it is located in both the Northern and Southern Hemispheres.
- Oil is unevenly distributed because more is located in the Southern than in the Northern Hemisphere.
- Oil is unevenly distributed because more is located in the Northern than in the Southern Hemisphere.

## Proficient

A well must be installed near a new playground to supply drinking water. For the new well to work, it must reach the water table. A model of the well placement and water sources are shown in Figure 1.



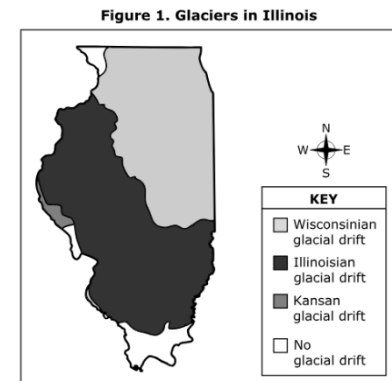
**Figure 1. Well Placement and Water Sources**

Using Figure 1, which statement **best** explains the relationship between precipitation and groundwater level?

- Higher groundwater levels tend to lead to decreased precipitation.
- Lower groundwater levels tend to lead to increased precipitation.
- An increase in precipitation will cause groundwater levels to rise.
- A decrease in precipitation will cause no change in groundwater levels.

## Above Proficient

Students are studying the ancient glacier movement in Illinois. All of Illinois had landscapes with hills and trees before the glaciers. Each glacier changed the landscape as it moved. Glacial drift is evidence of glacier movement. Figure 1 shows the locations of three glaciers.

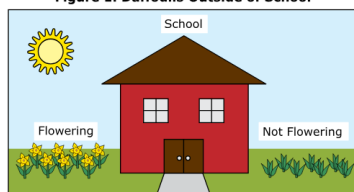


Using the information, which area **most likely** resembles the Illinois landscape before the movement of glaciers?

- Wisconsinian glacial drift
- Illinoian glacial drift
- Kansan glacial drift
- No glacial drift

**Below Proficient**

Figure 1. Daffodils Outside of School



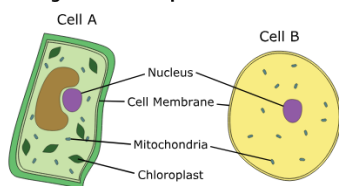
Students are learning how to grow plants. They planted genetically identical daffodils around the school. Daffodils require at least six hours of direct sunlight to produce flowers. Figure 1 shows some daffodils are flowering and some are not.

Using the information, which statement **best** explains why some daffodils are flowering and some are not?

- A. The daffodils that are flowering have a larger growing area.
- B. The daffodils that are flowering have a different genetic makeup.
- C. **The daffodils that are not flowering need more direct sunlight.**
- D. The daffodils that are not flowering need a longer growing season.

**Approaching Proficient**

Figure 1. Incomplete Cell Models



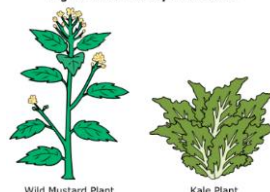
Students are studying cell structure. Figure 1 shows incomplete models of two different cells.

Using the information, which cell has a cell wall, and what is its function?

- A. Cell A has a cell wall to produce energy for the cell.
- B. Cell B has a cell wall to produce energy for the cell.
- C. **Cell A has a cell wall to provide structure and protect the cell.**
- D. Cell B has a cell wall to provide structure and protect the cell.

**Proficient**

Figure 1. Selectively Bred Plants



Students are studying selective breeding. Figure 1 shows a wild mustard plant that was selectively bred to produce kale, and selectively bred kale plant. Table 1 shows the selective breeding process used to produce kale.

Table 1. Kale Selective Breeding Steps

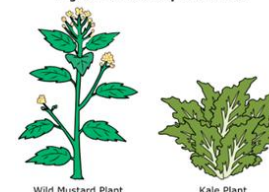
Step	Process
1	Breed parent plants that have very large leaves.
2	Breed offspring plants that have very large leaves.
3	Repeat Step 2 until all offspring have large leaves.

Using the information, why is the **second** step in selective breeding of kale important?

- A. Larger leaves are determined by the environment and will be passed down to offspring.
- B. **Larger leaves are determined by genetics and will be passed down to offspring.**
- C. Larger leaves allow the plant to grow slower and produce more offspring.
- D. Larger leaves allow the plant to grow faster and produce less offspring.

**Above Proficient**

Figure 1. Selectively Bred Plants



Students are studying selective breeding. Figure 1 shows a wild mustard plant that was selectively bred to produce kale, and a selectively bred kale plant. Table 1 shows the selective breeding process used to produce kale.

Table 1. Kale Selective Breeding Steps


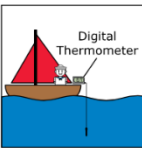
Step	Process
1	Choose and breed parent plants with the largest leaves.
2	Choose and breed the offspring that have the largest leaves.
3	Repeat the process until all offspring have large leaves.

Using the information, which statement **best** explains why large-leaved mustard plants were used to produce kale?

- A. Plants with larger leaves breed more.
- B. Plants with larger leaves have better genetics.
- C. Larger leaves make the plants less likely to survive.
- D. **Larger leaves are chosen to be passed down to future generations.**

Below Proficient

Table 1. Temperature Data for Each Thermometer

	Temperature at 0 meters (Celsius)	Temperature at 5 meters (Celsius)	Temperature at 10 meters (Celsius)
	24	24	24
	24.2	22.8	20.5

Students use two different thermometers to measure water temperature at three depths. The digital thermometer records temperature data remotely by a computer. The alcohol thermometer records temperature data by being removed from the water and recorded manually. Table 1 shows their temperature data at different water depths.

Using the information, which device produces the **most** accurate data and why?

- A. The alcohol thermometer because temperature data is recorded outside of the water
- B. The alcohol thermometer because the data readings are all the same
- C. The digital thermometer because it records temperature data directly from the water at different depths
- D. The digital thermometer because it uses electricity to work

Approaching Proficient

Figure 1. Cell Phone and Record Player



A student is researching different ways to play music. They want to share a song on social media. Figure 1 shows a cell phone and a record player. Table 1 compares the technologies that allows these devices to store, share, and play music.

Table 1. Cell Phone and Record Player Technologies

Technology	Cell Phone	Record Player
Encoding	Binary numbers in flash memory	Grooves in a vinyl record
Internet	Connected	Not connected
Sound Production	Speakers or headphones	Speakers or headphone

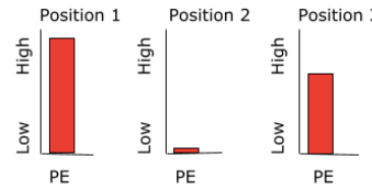
Using the information, which device is **better** for sharing music on social media and why?

- A. Record player because the quality of the music recording is better
- B. Cell phone because it transmits information that is digitally encoded
- C. Record player because it transmits a digital signal to speakers or headphones
- D. Cell phone because analog signals contain less information than digital signals

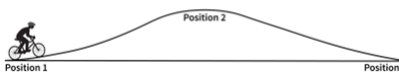
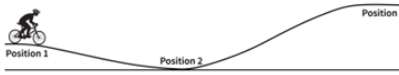


Proficient

A student is studying energy by riding a bike on a hill. Figure 1 shows the potential energy (PE) of a student on the bike at three different positions.

Figure 1. Potential Energy at Different Positions



Using the information, which model best represents the potential energy (PE) of the student at positions 1, 2, and 3?

- A. 
- B. 
- C. 
- D. 

Above Proficient

Students are testing two methods of communication. Table 1 shows the data they collected from shouting. Table 2 shows the data they collected from digital radios.

Table 1. Shouting Data

Distance Apart (m)	Signal Accuracy (%)
100	?
150	84
200	74

Table 2. Digital Radio Data

Distance Apart (m)	Signal Accuracy (%)
100	98
150	98
200	98

Using the information, predict the missing data for the shouting method. Which communication method is **more** reliable? Use evidence from the data to support your answer.

**Scoring Notes:** This is a 3-point item. One point is earned for correctly predicting the missing data for the shouting method. One point is earned for answering the question. One point is earned for providing scientific reasoning to support the answer.

**Exemplar Response:** The missing signal accuracy for the boater yelling is 94%. Digital radio is a more reliable method of communication. Digital radio has a consistently high signal accuracy while the boater yelling has decreasing accuracy with increasing distance.