Student Name _____

SSID _____ **DOB** _____

P

School Name _____ **District Name** _____

Illinois Science Assessment

Grade 5
Science
Test Booklet

Practice Test

Section 1

Welcome! Today you will be taking the Illinois Science Assessment for Grade 5.

Read the information and question for each item carefully and then choose the best answer(s) for each question. You may look back at each item in this section as often as necessary. All answers requiring a written response must be written into the answer response box provided.

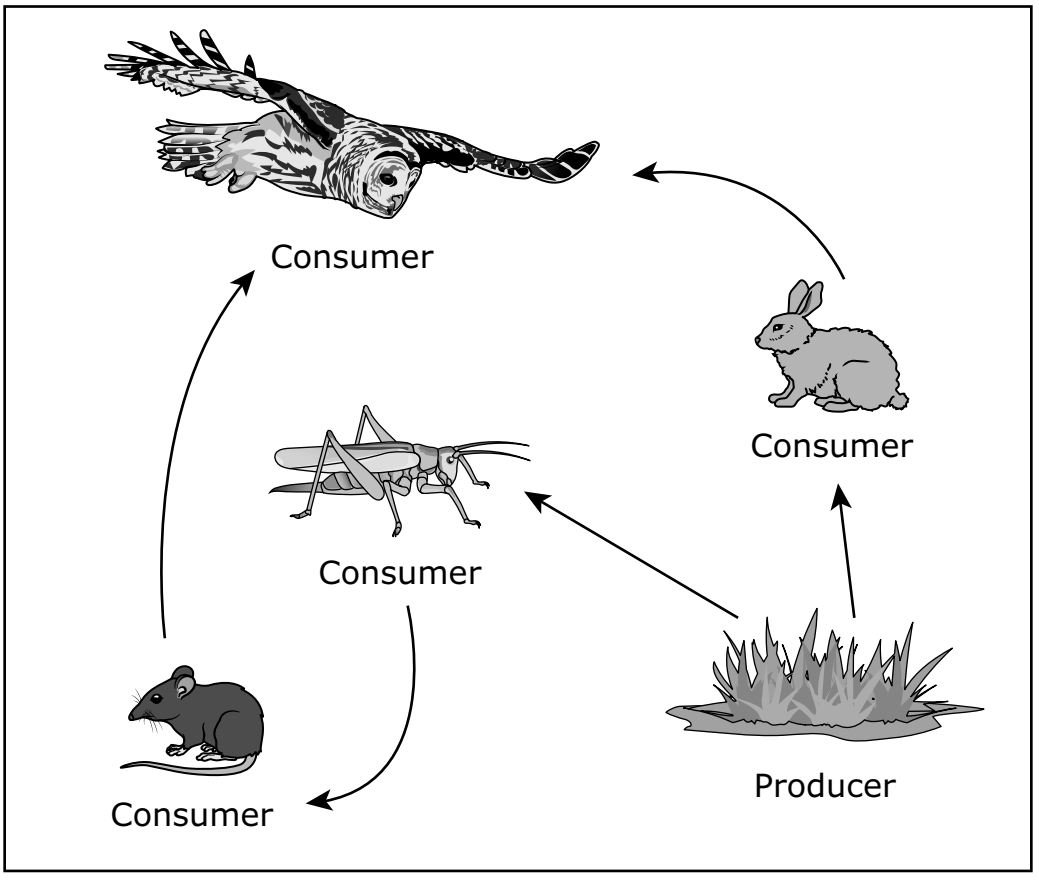
When you finish you may review any questions and your answers. If you have questions, raise your hand and a test administrator will help you.

Please turn the page to begin.

Practice_LS5_06_1

1. Students are studying relationships in ecosystems. Figure 1 shows a partial food web of an ecosystem.

Figure 1. Partial Food Web



Which statement describes a relationship between producers and consumers?

A. Producers are a source of food for some consumers.

B. Consumers are a source of food for some producers.

C. Producers rely on only consumers to recycle nutrients back into the soil.

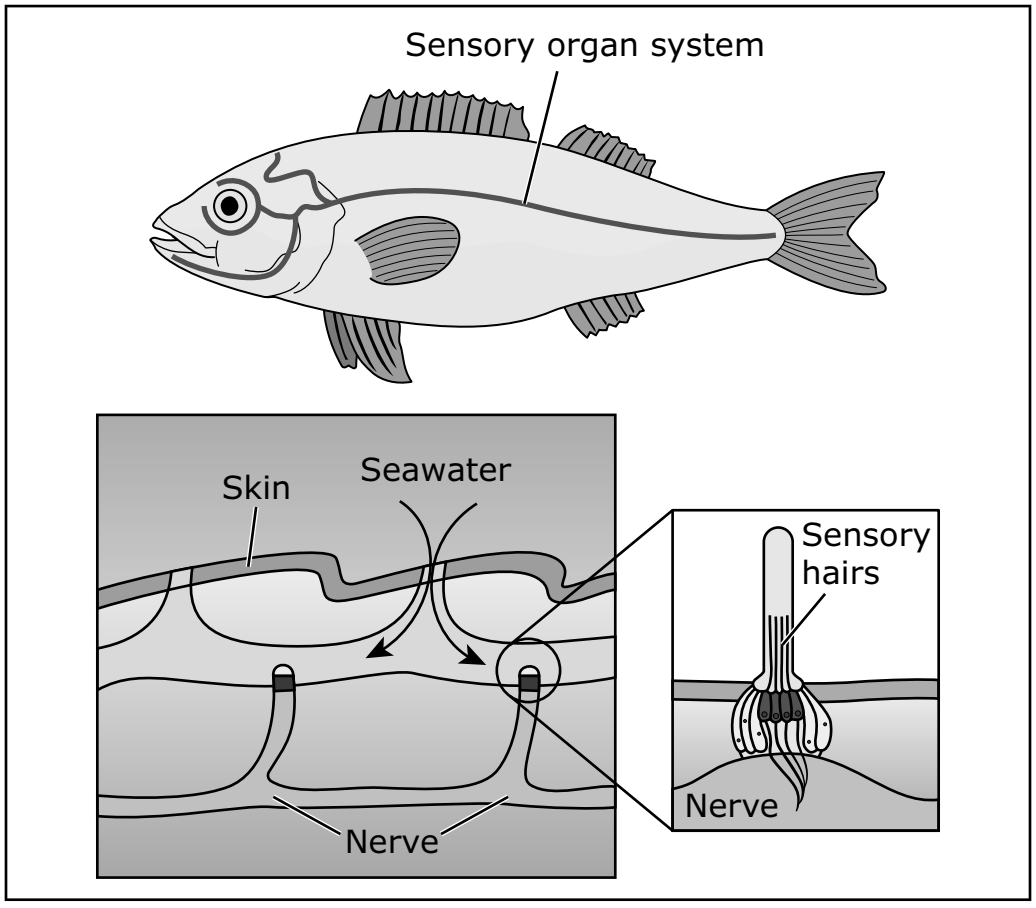
D. Consumers rely on only producers to recycle nutrients back into the soil.

GO ON TO NEXT PAGE

Practice_LS5_05_2

2. Fish have a special sensory organ system that includes a line on both sides of their body. The line detects the movement of other animals and objects in the water. Figure 1 shows the fish sensory organ system.

Figure 1. Fish Sensory Organ System



Which statement describes the path of information in the fish when it responds to movement in the water?

A. The eyes send signals to the sensory hairs, which then send signals to the muscles.

B. The sensory hairs send signals to the brain, which then sends signals to the muscles.

C. The eyes send signals to the brain, which then sends signals to the sensory hairs, which then send signals to the muscles.

D. The sensory hairs send signals to the eyes, which then send signals to the brain, which then sends signals to the muscles.

Practice_LS5_07_2

3. Students are studying cacti that live in different environments. Table 1 compares two different species of cactus found in different areas of the United States.

Table 1. Characteristics of Different Cactus Types

Type	Characteristics
1	• Short, round pads that grow in clusters close to the ground • Found in rocky or sandy soils • Has many spines clumped together on each pad
2	• Tall stems with branching arms • Covered in spines • Pleat-like ridges that allow the plant to expand when absorbing water

Which type of cactus is better adapted for areas that have cold winters, and why?

A. Type 1, because many spines help protect the plant from sun damage

B. Type 1, because growing close to the ground helps keep the plant warm

C. Type 2, because branching arms help absorb more water

D. Type 2, because water in the stem freezes when the temperatures drop

GO ON TO NEXT PAGE

Practice_ES5_04

4. Students are studying different climates. Table 1 shows the average precipitation, measured in millimeters per year (mm/year), for different countries around the world. Table 2 shows the average temperatures for each country during January and July in 2023.

Table 1. Average Precipitation by Country

Country	Average Precipitation (mm/year)
Australia	534
Chile	1,522
Ireland	1,118
South Africa	460
United States	715

Source: World Bank, 2024

Table 2. Average Temperature by Country in 2023

Country	Average January Temperature (°C)	Average July Temperature (°C)
Australia	29	15
Chile	14	5
Ireland	6	15
South Africa	24	11
United States	2	23

Source: Copernicus Climate Change Service

Write your response to the following in the space provided.

- Identify which country experiences winter during the same time of the year as the United States. (1 point)
- Describe **one** piece of evidence that supports your answer. (1 point)
- Describe **one** difference in the climate between the country you identified and the United States. (1 point)

GO ON ▶

Practice_ES5_06_4

5. A city is investigating how to prepare for earthquakes. Which investigation will **best** determine the likelihood of an earthquake in the city?

A. Locate the nearest rivers and aquifers.

B. Locate the nearest ocean and coastline.

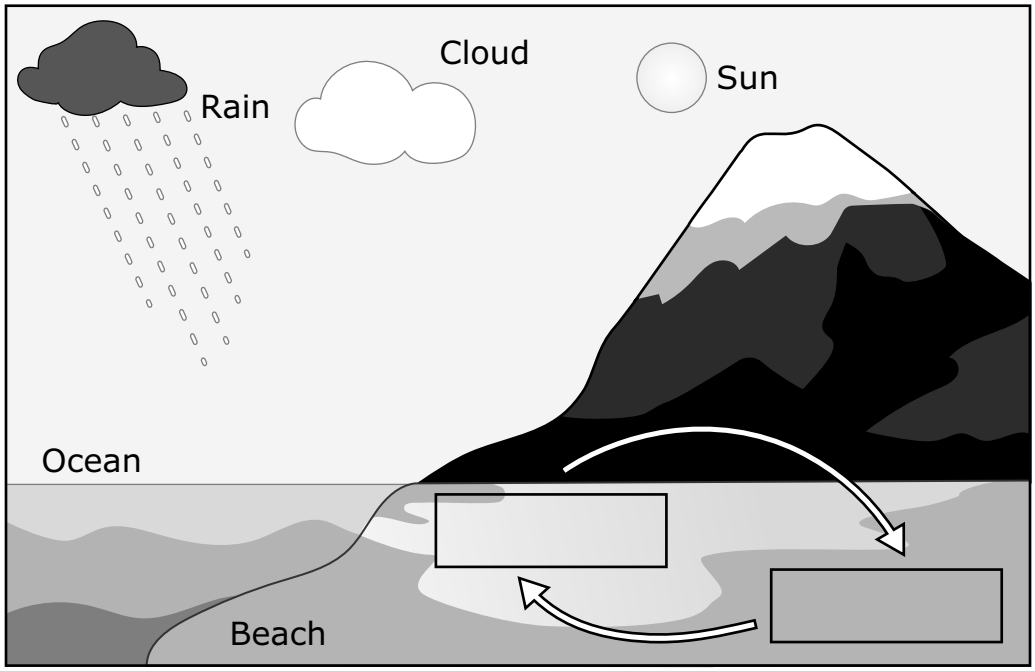
C. Locate the nearest natural sources of gas and oil.

D. Locate the nearest tectonic plate boundaries and faults.

Practice_ES5_08_3

6. Students create a model to show how some of Earth's systems interact when water floods onto the beach. Figure 1 shows the students' model.

Figure 1. Model of System Interactions



Which labels **best** complete the model when added to the boxes in Figure 1?

A. Geosphere and Biosphere

B. Biosphere and Atmosphere

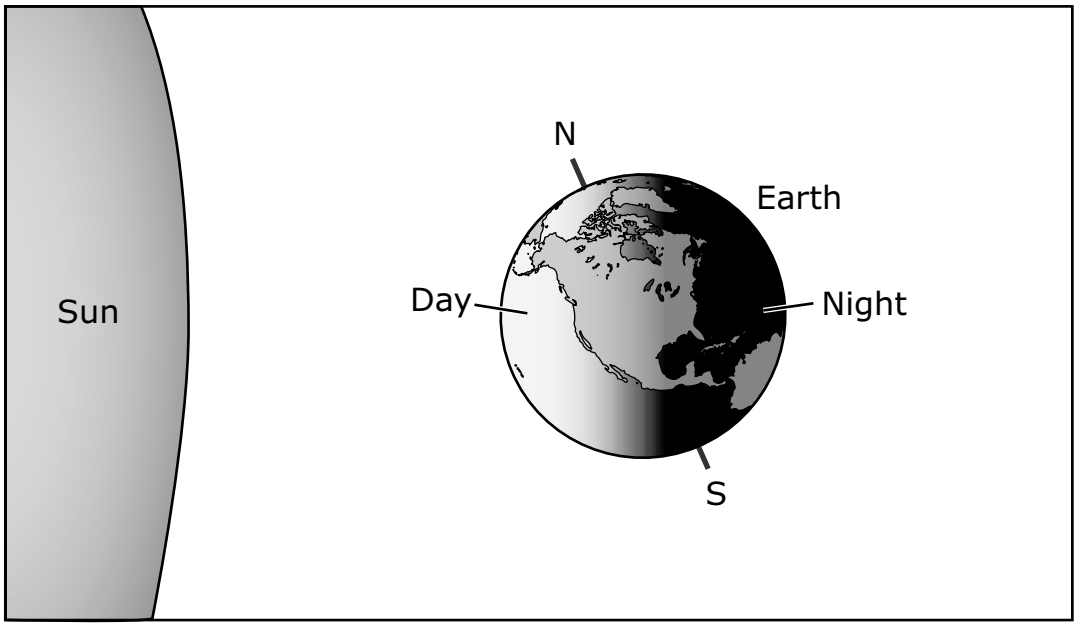
C. Hydrosphere and Geosphere

D. Atmosphere and Hydrosphere

Practice_ES5_07_3

7. Students are studying the relationship between the Sun and Earth. Figure 1 shows day and night in a model of the Sun and Earth.

Figure 1. Model of the Sun and Earth



Which statement **best** explains the patterns of day and night on Earth?

A. As the Sun rotates, it shines on different parts of Earth at different times.

B. As the Sun orbits Earth, it shines on different parts of Earth at different times.

C. As Earth rotates, the Sun shines on different parts of the planet at different times.

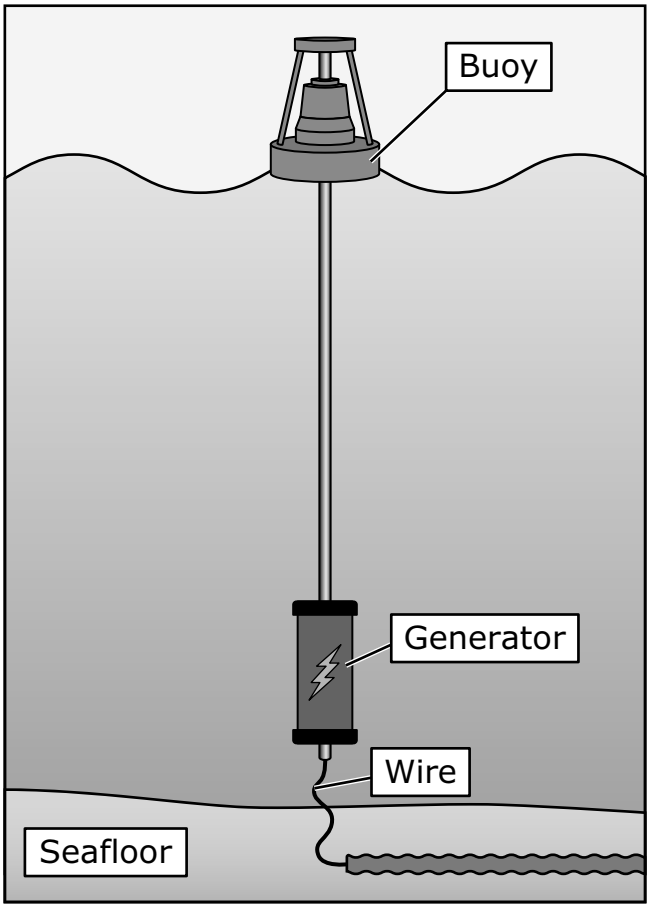
D. As Earth orbits the Sun, the Sun shines on different parts of the planet at different times.

GO ON TO NEXT PAGE

Practice_PS5_02

8. A wave buoy is a device used to convert energy. The device is made of a buoy and a generator that produces electricity. The buoy floats on deep ocean water, and the generator is attached to the buoy above and the seafloor below. Figure 1 shows a model of the device.

Figure 1. Model of Device



Write your response to the following in the space provided.

- Describe the type of energy that the wave buoy converts into electrical energy. (1 point)
- Explain how larger waves will affect the electrical energy produced by the generator. (1 point)
- Identify **one** type of energy that the wave buoy **cannot** convert into electrical energy given its current design. (1 point)

GO ON ▶

GO ON ▶

Practice_PS5_06_2

9. A teacher heated 100 grams (g) of three different liquids in open beakers for 5 minutes. Table 1 shows the weights of each liquid before and after heating.

Table 1. Weights of Liquids

Liquid	Weight before Heating (g)	Weight after Heating (g)
X	100	97
Y	100	92
Z	100	89

Which statement **best** explains why the weight of each liquid changed?

A. Heating caused some liquid to burn.

B. Heating caused some liquid to change into gas.

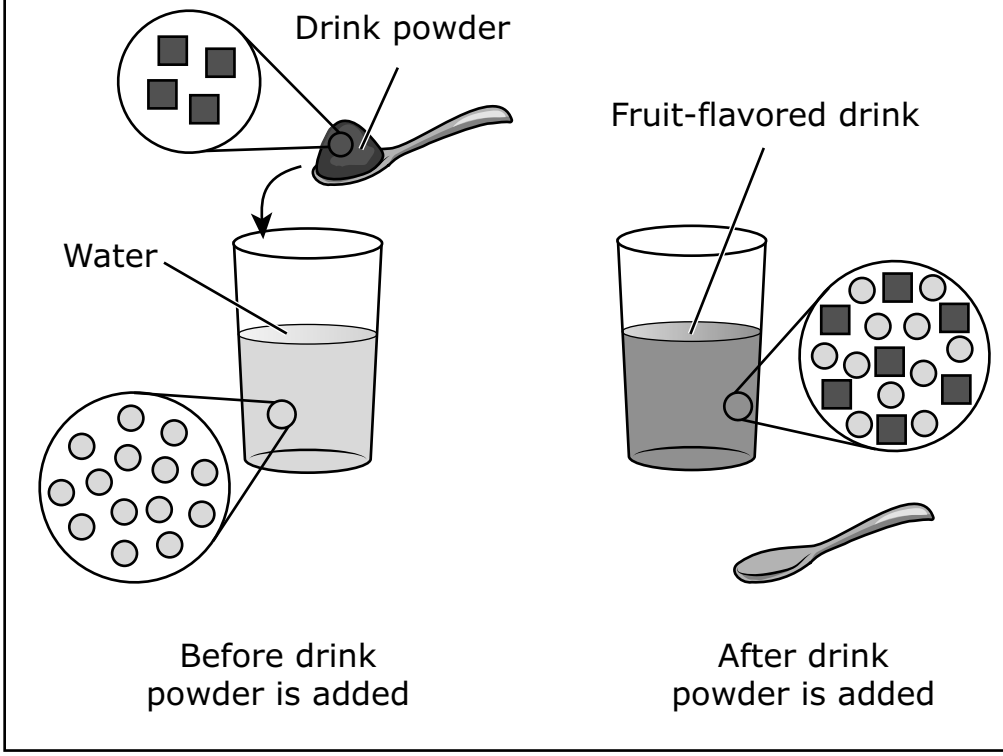
C. Heating caused some liquid particles to get smaller.

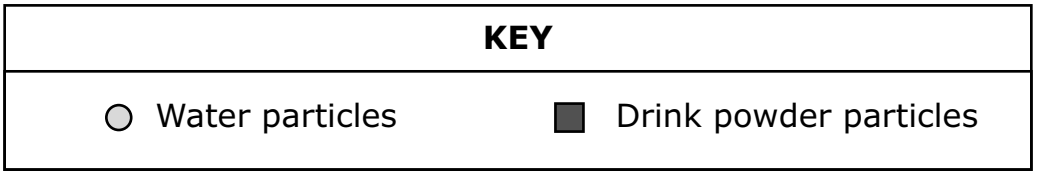
D. Heating caused some liquid particles to be destroyed.

Practice_PS5_07_3

10. Students make a fruit-flavored drink. They add a drink powder to a glass of water. Figure 1 shows a model of the particles before and after the drink powder is added to the water.

Figure 1. Before and After Drink Powder Is Added to Water





Which statement **best** describes what happens to the drink powder when it is mixed into the water?

A. The particles of drink powder increase in size.

B. The particles of drink powder change into water particles.

C. The particles of drink powder spread throughout the water.

D. The particles of drink powder change phase from solid to gas.

Practice_PS5_08_3

11. Students mix grape-flavored powder, water, and ice cubes together in a pitcher to make a grape drink. Figure 1 shows the mixture in the pitcher and the total mass in grams (g). Table 1 shows the mass of the pitcher and the components in the pitcher.

Figure 1. Mixture in Pitcher before Ice Cubes Melt

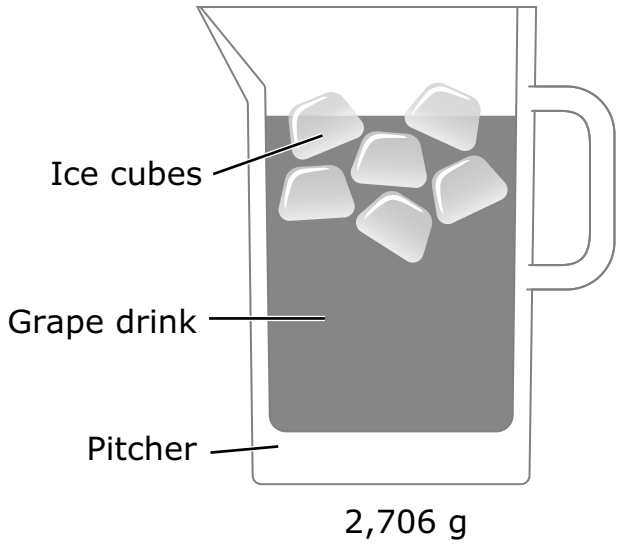


Table 1. Mass of Components

Component	Mass (g)
Grape-flavored powder	6
Liquid water	2,000
Ice cubes	?
Pitcher	500
Total of all four components	2,706

What will the total mass of **water** in the pitcher be **after** all the ice cubes fully melt?

A. 200 g

B. 1,500 g

C. 2,200 g

D. 2,706 g

Practice_PS5_05

12. Students mixed vinegar and baking soda in a bottle to inflate a balloon. Figure 1 shows the bottle before and after the vinegar and baking soda were mixed. Table 1 shows the masses of the items before mixing. The students made claims about the total mass of the items after the baking soda and vinegar were mixed.

Student A claim: The total mass of the items will be 43 grams after mixing.

Student B claim: The total mass of the items will be less than 43 grams after mixing.

Figure 1. Before and After Mixing Vinegar and Baking Soda

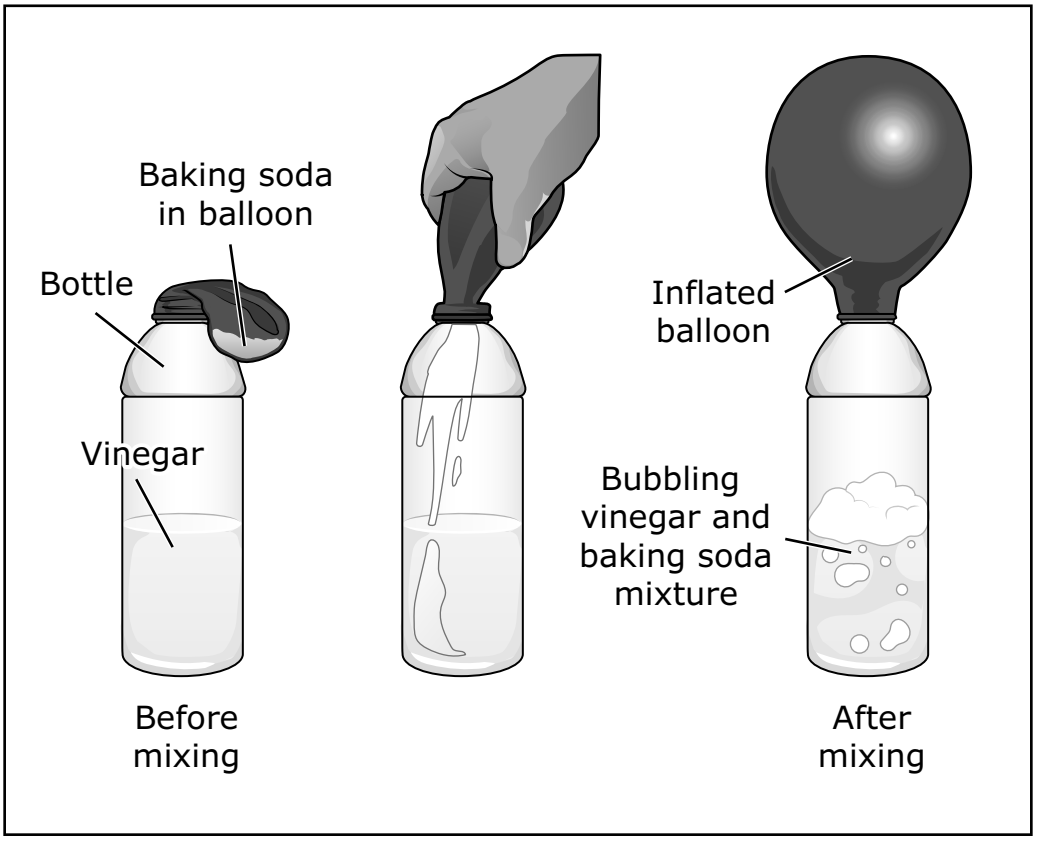


Table 1. Mass of Items before Mixing

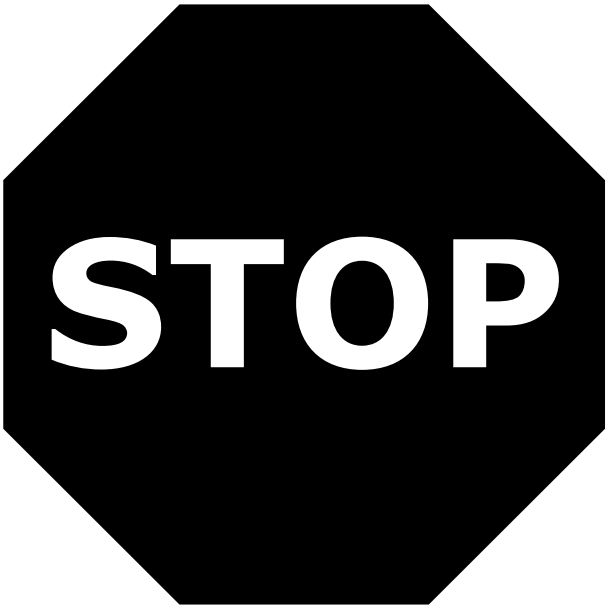
Item	Mass (g)
Balloon	5
Bottle	8
Baking soda	10
Vinegar	20

Write your response to the following in the space provided.

- Which student claim is **best** supported by the information in Figure 1 and Table 1? (1 point)
- Describe **one** piece of evidence from Figure 1 to support your answer. (1 point)
- Describe **one** piece of evidence from Table 1 to support your answer. (1 point)

GO ON ▶

STOP



You have come to the end of the test.

- **Review your answers.**
- **Then, close your test booklet and raise your hand to turn in your test materials.**

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