Name _____ Date _____

Explaining Events and Finding the Main Idea in a Science Text: How a Bean Seed Sprouts

Directions: Read the passage about how a kidney bean sprouts. Use the passage to choose one answer for each question.

How a Bean Seed Sprouts

A dry kidney bean seed looks like a small stone. Inside it, though, a tiny young plant is waiting. The seed also holds a supply of food, and a seed coat covers it all.

The seed needs water, air and the right temperature to start growing. In damp soil, the bean soaks up water. As it takes in water, it swells and its coat softens.

The first root usually pushes through the softened seed coat before any other part comes out. It grows down into the soil. There it holds the young plant in place and starts to take in water.

Next the young shoot grows up, bent like a hook. The rounded top of the bend pushes through the soil first, so the tender tip stays tucked behind it. The hook pulls two thick seed leaves up behind it. In the light, the hook opens and the shoot straightens.

The seed leaves are thick because they hold the stored food. The young plant lives on that food at first, so it can grow in dark soil without sunlight.

In the light, the first true leaves open and grow. They use sunlight to make new food. The more food these leaves make, the less the plant depends on the food stored in its seed leaves. Later, as that stored food runs low, the seed leaves slowly shrink.

1. Which idea brings together the changes described across the whole passage?
   A. The passage explains how different parts of the bean help it get water, reach the light and get food as it grows.
   B. The passage explains how changes in the soil help the bean get water, reach the light and get food as it grows.
   C. The passage explains how soil temperature speeds up or slows down the growth of the root, shoot and leaves.
   D. The passage explains how to care for a bean from the time it is planted until its first true leaves open.

2. The second paragraph names three things a bean seed needs to start growing. Which one does it go on to describe?

A. sunlight
B. water
C. the right temperature
D. air

3. Before the first root comes out, what does the second paragraph say happens to the seed's size and its coat?

A. The seed gets smaller and its coat wrinkles.
B. The seed swells and its coat softens.
C. The seed stays the same size and its coat starts to peel.
D. The seed swells and its coat splits open.

4. After the first root grows down, what two jobs does the passage say it begins doing there?

A. It holds the plant in place and starts to take in water.
B. It grows small side roots and carries water toward the stem.
C. It holds the plant in place and starts to take in minerals.
D. It uses oxygen from the soil and takes in minerals.

5. Which detail from the fourth paragraph explains how the shoot helps protect its growing tip on the way up?

A. The seed leaves push through the soil first with the tip between them.
B. A hard cap goes through the soil first, with the tip tucked behind it.
C. The old seed coat covers the tip as the shoot rises.
D. The rounded bend goes through the soil first, with the tip tucked behind it.

6. The young bean can grow for a while in the dark. What detail in the fifth paragraph explains how it gets the food it needs?

A. It uses food stored in its first root.
B. It uses food its first root takes in from the soil.
C. It uses food stored in its thick seed leaves.
D. It uses food stored in its seed coat.

7. What gives the bean a new source of food, and what clue in the last paragraph shows that the bean is using up its first supply?

A. The stem begins to make food, and the shoot gets thinner.
B. The roots take in food from the soil, and the first root stops growing.
C. The true leaves use sunlight to make food, and the part of the bean that stored its first food changes color.
D. The true leaves use sunlight to make food, and the part of the bean that stored its first food slowly shrinks.