



ZAC NEWTON INVESTIGATES

Bodies and Brains

Zac and friends learn about the human body through visits with Wilhelm Roentgen, Edward Jenner, Leonardo da Vinci, Rosalind Franklin, and Watson and Crick.

What did you learn?

QUESTIONS

1. Which taste do taste buds pick up?
 - a. Sweet
 - b. Sour
 - c. Umami
 - d. All of the above
2. Which part of your brain controls balance, posture, and coordination?
 - a. Cerebellum
 - b. Occipital lobe
 - c. Frontal lobe
 - d. Hypothalamus
3. DNA is shaped like a ...
 - a. Wheel
 - b. Ladder
 - c. House
 - d. Car
4. Which scientist proved that DNA had a double helix shape?
 - a. Maurice Wilkins
 - b. Edward Jenner
 - c. Rosalind Franklin
 - d. Leonardo da Vinci
5. Can you describe how your eyes see objects?
6. Can you describe how your muscles straighten your knee?

TRUE OR FALSE?

- | | |
|---|--|
| _____ 1. Orion is a huge cloud of dust and gas. | _____ 4. The blood-brain barrier does not let anything through to the brain. |
| _____ 2. You need your sense of smell to help you taste stuff. | _____ 5. The small intestine is about 40 feet (12 meters) long. |
| _____ 3. Your nervous system has the job of keeping bad things out of your body, like viruses and bacteria. | _____ 6. <i>Chyme</i> is the name Anton van Leeuwenhoek gave to the tiny living things that he discovered. |

ANSWERS

- 1. d. All of the above.** According to page 27, we know that, "Not all taste buds detect the same taste. Some pick up sweet tastes, some sour, some salty, and some bitter. Some pick up a meaty taste called *umami*." So, the correct answer is D.
- 2. a. Cerebellum.** According to page 50, we know that the cerebellum "controls balance, posture, and coordination." So, the correct answer is A.
- 3. b. Ladder.** According to page 80, we know that, "... DNA is shaped like a ladder, but one that has been twisted." So, the correct answer is B.
- 4. c. Rosalind Franklin.** According to page 93, we know that, "Rosalind Franklin (1920-1958) was a British chemist who proved that DNA had a double helix shape." So, the correct answer is C.
- 5.** According to pages 28 and 29, we know that, "The light enters your eye through the pupil—the black spot in the middle. Behind the pupil, you have a lens, kind of like the lens of a magnifying glass. The lens gathers the light, projecting it onto the back of the eye ... The image falls onto the back of eye, on a part called the retina. The retina has millions of special cells that sense light and color. They send this information to the brain. The brain flips the image right-side up."
- 6.** According to page 64, we know that, "If the muscles on the top of the thigh contract, they pull on the front of the leg, straightening the knee."

TRUE OR FALSE? ANSWERS

- 1. False.** According to page 13, we know that, "Nebula ... [is] a huge cloud of dust and gas." So, the correct answer is False.
- 2. True.** According to page 26, we know that, "... you need your sense of smell to help you taste stuff." So, the correct answer is True.
- 3. False.** According to page 34, we know that, "Your immune system has the job of keeping bad things out of your body, like viruses and bacteria." So, the correct answer is False.
- 4. False.** According to page 46, we know that the blood-brain barrier "only lets through water, oxygen, nutrients, and a few other things the brain needs." So, the correct answer is False.
- 5. False.** According to page 57, we know that, "The small intestine is actually around 20 feet long, or 6 meters." So, the correct answer is False.
- 6. False.** According to page 71, we know that, "Animalcules is the name Anton van Leeuwenhoek gave to the tiny living things that he discovered." So, the correct answer is False.