

Genetics

Brainpop—Genetic Mutations

Name:

Period:

Watch the Brainpop on genetic mutations, then answer the questions below. You can also check Chapter 7, Section 2 of your textbook if you are getting stuck.

_____ 1. In the movie, Tim says that genetic mutations are permanent changes to DNA or RNA. What does this mean?

- a. The changes are minor
- b. The changes can't be undone
- c. The changes are major
- d. The changes can be undone

_____ 2. Which of the following traits is encoded in your DNA?

- a. Your personality
- b. Your likes and dislikes
- c. Your intelligence
- d. Your eye color

_____ 3. What types of living organisms have no genetic material at all?

- a. insects
- b. bacteria
- c. plants
- d. all living organisms have genetic material

_____ 4. Why do most changes to DNA have no effect at all?

- a. Because they're too minor to have any effect
- b. Because the changes are offset by RNA, which cannot change
- c. Because the changes are quickly repaired
- d. Because the changes only occur in a few cells

_____ 5. Which word describes the majority of permanent genetic mutations?

- a. helpful
- b. minor
- c. injurious
- d. beneficial

_____ 6. What usually happens to a cell whose DNA has been damaged?

- a. It has trouble manufacturing certain proteins
- b. Its genetic material leaves the nucleus
- c. It is able to produce twice as many proteins as a normal cell
- d. It shrinks to half its normal size

_____ 7. How are cancerous cells different from normal cells?

- a. they are shaped differently than normal cells
- b. they divide more frequently than normal cells
- c. they contain chemicals not found in normal cells
- d. they need more oxygen than normal cells

_____ 8. Which of the following is an example of a beneficial mutation?

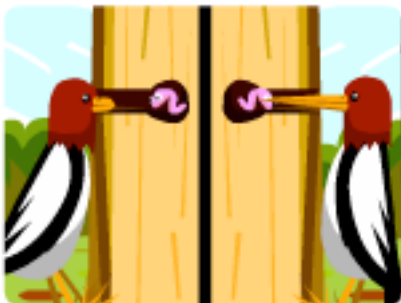
- a. When an organism's lifespan becomes shorter
- b. When an organism becomes unable to reproduce
- c. When an organism's body becomes deformed
- d. When an organism develops immunity to a disease

_____ 9. When a beneficial mutation spreads through an entire population of organisms, that population...

- a. is beneficial
- b. has evolved
- c. goes extinct
- d. keeps mutating

_____ 10. When do random or spontaneous mutations happen?

- a. during cell division
- b. when cells are exposed to hazardous chemicals
- c. when cells are exposed to certain viruses
- d. when cells are exposed to radiation



Look at the cartoon of the birds from the video. What does this have to do with genetic mutations?