Name _____ Date _____

TED ED Video: Understanding CRISPR and Gene Editing

1. What defines every living thing according to the video?

a. Their environment

b. Their genes

c. Their species

d. Their diet

2. What is CRISPR primarily used for in modern science?

a. Building larger structures

b. Gene editing

c. Water purification

d. Food preservation

3. How do Cas proteins function in the CRISPR system?

a. They store DNA

b. They cut up DNA

c. They create viruses

d. They replicate RNA

4. What happens when a virus invades a bacterium?

a. The bacterium dies

b. The Cas proteins cut out viral DNA

c. The immune system is activated

d. The bacterium changes its color

5. What is the role of guide RNA in the CRISPR process?

a. It acts as a food source

b. It directs Cas9 to the target gene

c. It repairs broken DNA

d. It creates new viruses

6. What type of DNA repair process is prone to mistakes?

a. Homology directed repair

b. Nonhomologous end joining

c. DNA replication

d. RNA synthesis

7. What potential applications of CRISPR are mentioned in the video?

a. Creating larger fruit and resistant mosquitoes

b. Developing new video games

c. Building stronger materials

d. Enhancing musical abilities

Answer Key:

b 00:00:06 - 00:00:30

b 00:00:30 - 00:00:53

b 00:01:14 - 00:01:36

b 00:01:36 - 00:01:58

b 00:02:44 - 00:03:07

b 00:03:27 - 00:03:50

a 00:04:10 - 00:04:33