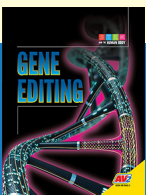


Using information found in the book, verify whether the following statements are true or false. Check your answers in the book. List the page number where you found the information beside your answer.

Statement 1	<div style="border: 1px solid black; padding: 10px; width: fit-content;">Children cannot inherit traits from their parents.</div>	<input type="radio"/> True <input type="radio"/> False	Page Number <input style="width: 50px; height: 30px;" type="text"/>
Statement 2	<div style="border: 1px solid black; padding: 10px; width: fit-content;">Doctors hope to use gene therapy on the p53 gene to treat several types of cancer.</div>	<input type="radio"/> True <input type="radio"/> False	Page Number <input style="width: 50px; height: 30px;" type="text"/>
Statement 3	<div style="border: 1px solid black; padding: 10px; width: fit-content;">Scientists performed the first trial of human gene therapy in 1990.</div>	<input type="radio"/> True <input type="radio"/> False	Page Number <input style="width: 50px; height: 30px;" type="text"/>
Statement 4	<div style="border: 1px solid black; padding: 10px; width: fit-content;">In sickle cell anemia, white blood cells have the wrong shape.</div>	<input type="radio"/> True <input type="radio"/> False	Page Number <input style="width: 50px; height: 30px;" type="text"/>
Statement 5	<div style="border: 1px solid black; padding: 10px; width: fit-content;">Cancer is often caused by a mutation in a gene.</div>	<input type="radio"/> True <input type="radio"/> False	Page Number <input style="width: 50px; height: 30px;" type="text"/>



Draw a Diagram

Follow the instructions below to complete the activity.

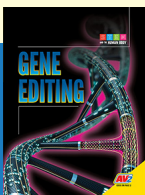
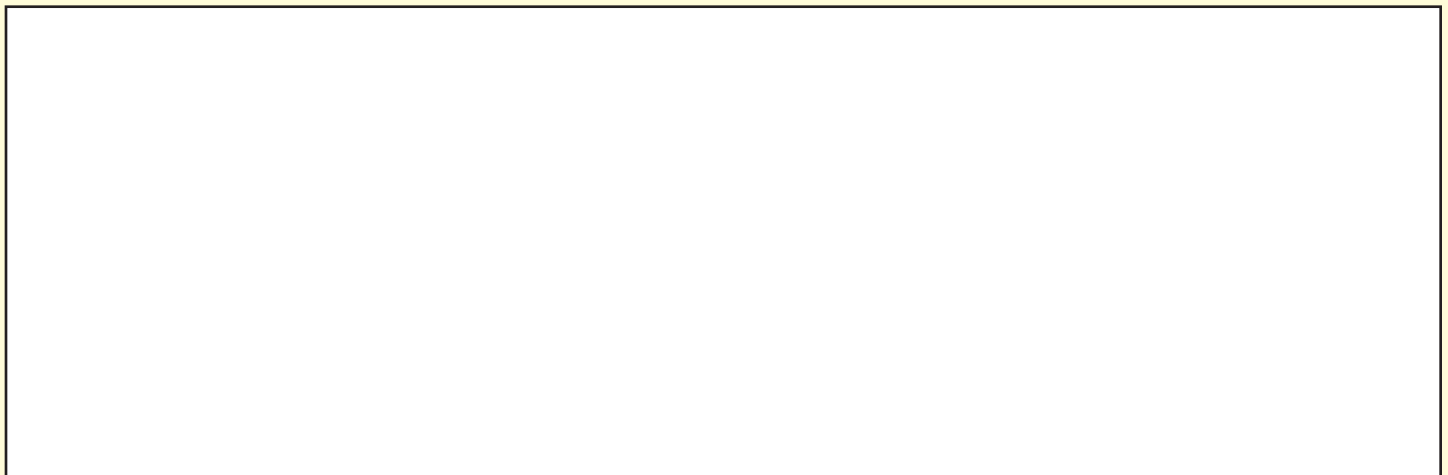
NAME

DATE

Draw and label a diagram of the gene editing process.



Briefly describe the gene editing process. What are the two main tools? How do they work together to change DNA?



NAME

DATE

Using information from the book, select an answer from the right and write the letter in the box beside the statement.

There are about this many genes in the human body.

A. 2018

Scientists have found this many genes that every human needs in order to live.

B. 20,000

In this year, scientists used gene therapy to treat a young boy with sickle cell anemia.

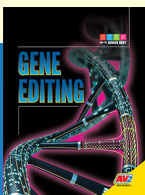
C. 2

In this year, a pair of twin girls became the first people born with edited genes.

D. 3,230

The first gene therapy trial took this many years and 11 treatments to complete.

E. 2017

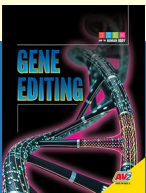


NAME

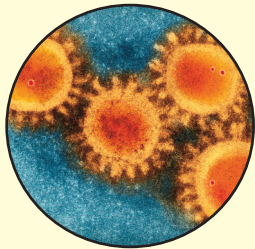
DATE

Using the information found in the book, fill in the missing information below.

1. Genes are sections of . They are in every cell in the human body.
2. Genetic research began with the study of plants.
3. Sickle cell anemia is an inherited disorder that changes healthy red blood cells into a crescent, or sickle, shape.
4. Genes tell the body to make , which are the body's building blocks.
5. The system is the body system that uses specialized cells to fight infections.
6. cells are the cells that make a baby.



Using information found in the book, match each image to the sentence that fits it best. Write the number for each sentence in the space provided.



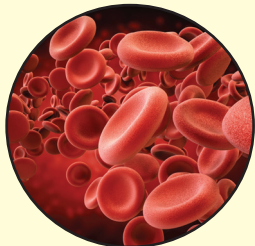
Sentence 1

By studying bacteria, scientists discovered that genes could move between cells.



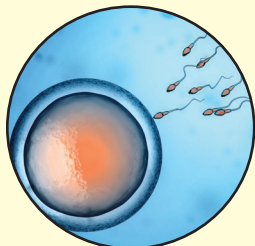
Sentence 2

Healthy red blood cells are round and flexible, traveling easily through blood vessels.



Sentence 3

In the mid-1800s, Gregor Mendel saw that some peas had wrinkly skin while other peas were smooth.



Sentence 4

Germ cells include male gametes, or sperm, and female gametes, or egg cells.



Sentence 5

Many viruses cause infection, but they can also be made into useful tools for gene therapy.

Key Words Match-Up

Write the words from the list below in the box above the correct definition for each word.

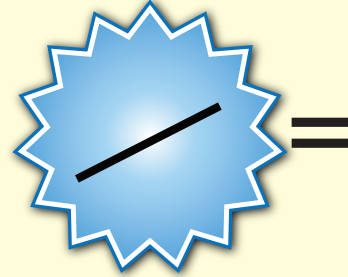
NAME

DATE

KEY WORDS

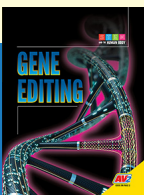
bacteria	immune system
cell	inherit
DNA	mutation
genetic	resistant
germline	

Your Score is



%

- the body system that uses specialized cells to fight infections
- microscopic, single-celled living things that can be useful or harmful
- able to stop something from working
- an unexpected change in a gene
- the smallest unit of a living organism that can function and perform tasks
- relating to traits and molecules inherited from parents
- to receive something from one's parents
- the germ cells and the changes to germ cells that are inherited through multiple generations
- the genetic material in the cells of living organisms



NAME

DATE

1

What are the body's building blocks called?

2

What do we call the process of giving someone a gene they are missing?

3

What are genes and where are they found?

4

Who began studying gene therapy with pea plants?

5

What are the two types of cells in the human body?

6

In what year did scientists use human gene therapy for the first time?

7

What type of gene therapy can be used to delete bad genes?

8

What two main tools do scientists use in gene editing?

9

What genetic disease makes the body produce thin, curved blood cells?

10

What new gene editing tool could be used to treat cancer in the future?

