Science Fables

The Backpack That Felt Lighter

Story Quiz

This quiz follows Noor and Eli as they learn the difference between mass and weight and why objects weigh less on the Moon.

1. What is mass?

A. The force pulling an object downward
B. The amount of matter in an object
C. The amount of space around an object
D. The speed at which an object falls

2. What is weight?

A. The amount of matter in an object
B. The size of an object
C. The force of gravity pulling on an object
D. The temperature of an object

3. What would happen to Noor's backpack on the Moon?

A. Its mass and weight would both increase
B. Its mass would decrease, but its weight would stay the same
C. Its mass would stay the same, but it would weigh less
D. It would have no mass or weight

4. Why would the backpack feel lighter on the Moon?

A. The Moon has a weaker gravitational pull than Earth
B. The backpack would lose some of its books
C. The Moon has no gravity at all
D. The air on the Moon would push it upward

5. Which tool is commonly used to measure mass?

A. A thermometer
B. A balance or scale
C. A ruler
D. A stopwatch

Answer Key

1. B — The amount of matter in an object

Mass is the amount of matter in an object.

2. C — The force of gravity pulling on an object

Weight is the force of gravity pulling on an object.

3. C — Its mass would stay the same, but it would weigh less

Its mass would stay the same, but it would weigh less on the Moon.

4. A — The Moon has a weaker gravitational pull than Earth

The Moon has a weaker gravitational pull than Earth.

5. B — A balance or scale

A balance or scale is commonly used to measure mass.