

Name: _____ Date: _____

Answer Key: Wrangle Tiny Particles: Your 4th Grade Modern Physics Quiz

How do invisible rays power your remote control? Identify the amazing ways atoms and waves work in your daily life through basic recall and observation.

1. What is the name of the tiny, invisible packets of energy that make up a beam of light?

Answer: A) Photons

Scientists call light particles 'photons.' They are like tiny balls of energy that travel through space.

2. True or False: Modern physics helps explain how small things like atoms work.

Answer: A) True

Modern physics includes quantum mechanics, which is the study of very small particles like atoms and electrons.

3. An ___ is the smallest building block of everything around you, from your desk to the air you breathe.

Answer: B) Atom

Atoms are the tiny pieces that make up all matter in the universe.

4. Which famous scientist is known for thinking about how time and space work together?

Answer: B) Albert Einstein

Albert Einstein developed the theories of relativity, which changed how we think about time and gravity.

5. True or False: Laser light is a special type of light made of many light waves moving together in one direction.

Answer: A) True

Lasers work by organizing light waves so they are focused and strong, which is an application of modern physics.

6. Radiation can be used by doctors in ___ machines to see the bones inside your body.

Answer: C) X-ray

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X-rays are a form of high-energy light that can pass through skin but not bones, allowing doctors to see inside us.

7. What is the fastest thing in the entire universe?

Answer: C) The speed of light

According to modern physics, nothing can travel faster than the speed of light.

8. Solar panels turn the energy from ___ into electricity for our homes.

Answer: C) Sunlight

Solar panels use the photoelectric effect to turn sunlight (photons) directly into electricity.

9. True or False: Everything in the universe is made up of energy and matter.

Answer: A) True

Modern physics shows that matter and energy are the two main ingredients of the universe.

10. When you use a remote control to turn on a TV, what invisible 'messenger' travels to the TV?

Answer: B) Infrared light

Remotes use a type of invisible light called infrared to send signals to electronic devices.