Hidden Matter Parts

Read for evidence that matter is made of atoms.

SC.5.P.8.4 "Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each sentence that explains what matter is made of or why atoms cannot be seen with your eyes. Your markings will help you find evidence for atomic theory.

The Parts You Cannot See

1. Pick up a steel paper clip. It looks like one smooth, solid piece, and your eyes cannot spot separate parts in it. Scientists explain this observation with atomic theory. Atomic theory says that all matter, including the steel in the clip, is made of extremely tiny particles called atoms. Atoms are far too small to be seen with your eyes alone.

2. Magnification can make very small things appear larger. A classroom hand lens may help you see details on a leaf, but it cannot show individual atoms. Scientists use powerful tools and experiments to gather evidence about atoms. Even these tools often create measurements or images that scientists interpret. Atoms remain much smaller than the details you usually examine with a hand lens.

3. This idea applies to every kind of matter. A drop of water, a grain of salt, the air in a balloon, and a wooden desk are all made of atoms. The materials have different properties because their atoms can be different kinds and can be joined or arranged in different ways. Although you cannot see atoms without special magnification, they are part of every object and substance around you.

2 ANSWER WITH EVIDENCE

Use the passage

1. According to atomic theory, what is the steel in a paper clip made of?

2. How can a paper clip look like one smooth piece but still be made of parts?

3. Why can a classroom hand lens not show individual atoms?

4. Name two kinds of matter from the last paragraph. What do they have in common?

3 YOUR TURN

Your own words

Choose an object not named in the passage. In Panel 1, draw it as you can see it. In Panel 2, draw a model of many tiny atoms that make up the object, label both panels, and write one sentence explaining how the model supports atomic theory.

ANSWER KEY

Hidden Matter Parts

GRADE 5 · SC.5.P.8.4

PART 1 · READ AND MARK

Underline each sentence that explains what matter is made of or why atoms cannot be seen with your eyes. Your markings will help you find evidence for atomic theory. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	According to atomic theory, what is the steel in a paper clip made of?	**The steel is made of extremely tiny particles called atoms.**
2	How can a paper clip look like one smooth piece but still be made of parts?	**It is made of atoms, but atoms are too small to be seen with eyes alone.**
3	Why can a classroom hand lens not show individual atoms?	**A hand lens can magnify small details, but individual atoms are much smaller than the details it can show.**
4	Name two kinds of matter from the last paragraph. What do they have in common?	**Answers will vary. Any two of water, salt, air in a balloon, and a wooden desk are correct. Both are made of atoms.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Panel 1 label: Glass marble. Panel 2 label: Model of tiny atoms in a glass marble, shown larger than real size. Sentence: The glass marble is matter, so atomic theory says it is made of atoms that are too small to see with my eyes.

Accept equivalent wording that states all matter is made of atoms too small to see without magnification. For the model, accept any object not named in the passage if both panels and the sentence accurately connect the object to atoms.