

Matter is Made of Particles

READ ALOUD PASSAGE

Here is an amazing fact: everything around you is made of particles too small to see with the naked eye. A rock, a drop of water, the air you breathe, and even your own body are all made of these invisible particles. Scientists have known this for a very long time, even though no one has ever seen a single particle directly. How do scientists know particles exist if they cannot see them? They look at the clues matter leaves behind. When you dissolve salt in water, the salt seems to disappear. But you can still taste it. The salt broke apart into particles too small to see, but it is still there. When you spray perfume in a room, the smell spreads quickly in all directions because the particles travel through the air. Particles are incredibly small and incredibly numerous. A single grain of sand contains far more particles than there are grains of sand on all the beaches in the world. Even so, scientists have found many ways to measure and study them. The idea that all matter is made of particles helps explain many things we observe every day. It explains why things dissolve, why smells spread through a room, and why you can squeeze air into a tire. Wherever there is matter, there are particles.

Activity 1

Because / But / So Complete each sentence three different ways.

All matter is made of particles too tiny to see because

.....

All matter is made of particles too tiny to see but

.....

All matter is made of particles too tiny to see so

.....

Activity 2

Fill in the blank with the correct word from the word box.

WORD BOX

particles dissolve invisible evidence spread

1. All matter is made of tiny _____ that are too small to see.
2. Particles are _____ because you cannot see them with the naked eye.
3. When salt _____ in water, it breaks into particles too small to see.
4. The smell of perfume _____ through the air as particles move in all directions.
5. Clues like dissolving and spreading smells give us _____ that particles exist.

Activity 3

Circle True or False for each statement.

1. **True / False** All matter, including rocks, water, and air, is made of tiny particles.
2. **True / False** Scientists have seen individual particles directly using powerful microscopes.
3. **True / False** When salt dissolves in water, it disappears completely and is no longer present.
4. **True / False** The particles in perfume travel through the air and reach your nose.

Light and Shadows

READ ALOUD PASSAGE

Light is a form of energy. It travels in straight lines from wherever it comes from. The sun, fire, light bulbs, and glowing screens are all light sources. Without a light source, there is nothing to see. Materials react to light in different ways. Opaque materials block all light, like wood, brick, or your hand. Transparent materials let all light pass straight through, like clear glass or water. Translucent materials let some light through, but they scatter it, like wax paper or frosted glass. A shadow needs three things: a light source, an opaque object, and a surface for the shadow to land on. A shadow is really just an area where light has been blocked. The closer the light source is to the object, the bigger the shadow gets. The angle of the light changes the shadow's direction and length. The sun moves across the sky from east to west during the day. In the morning, the sun is low in the east, so shadows are long and point west. At noon, the sun is high overhead, so shadows are short. In the evening, the sun is low in the west, so shadows are long again, but now they point east. Light also bounces off surfaces. This is called reflection. Almost everything we see is reflected light, not light the object makes on its own. The moon is a good example. It does not make its own light. We only see it because it reflects light from the sun.