Matter Can Change

Matter is all around us: solids, liquids, and gases. Matter is anything that takes up space. Did you know that matter can be changed? There are many ways to change the shape, size, texture, appearance, and state of matter.

Temperature can change matter. Water can change state when you add heat. Solid ice melts to liquid water. In contrast, liquid water freezes to solid ice when it is cold enough. Liquid water can be boiled to change into gas, or steam. Solid candle wax melts to liquid wax when it is heated. Not all matter freezes when it is cold, however. Candle wax “freezes” to a solid at room temperature. It does not need to be put in the freezer to be a solid.

Mixtures are another way to change matter. A mixture is different types of matter mixed together to make a new substance. An example of a mixture that you might have tried is trail mix. There are peanuts, chocolate chips, dried fruit, Cheerios, and whatever else you like, mixed together. You can separate the mixture if you wanted to by sorting out all of those individual substances again.

Sometimes matter can change state, shape, appearance, and texture, but the material is still the same. This is called a physical change. Solid wood can be cut into smaller pieces, but it is still wood. Other physical changes happen when you tear paper, squeeze Play-Doh, bend a straw, or pour water on a towel. The size, shape and appearance might change, but the change can be undone.

When matter changes into a new substance, and it cannot be changed back, it is called a chemical change. When you make Jell-O, for example, the powder mixture is dissolved to water, and that new substance hardens into Jell-O. This change can never be reversed (undone). Burning paper is another chemical change. The paper burns to ashes and can never change back to paper again. Popcorn goes through a chemical change from a kernel to fluffy, white popcorn when heat is added to the kernel. Burnt toast is another example of a chemical change.
Matter Can Change – Questions

1. Matter is __________________________________________________________________________

2. State something you can do to change matter. ____________________________________________

3. What happens when you heat solid ice? _________________________________________________

4. Solid wax ________________________ to a liquid when you ________________________ it up.

5. Explain how to change liquid water into steam. __________________________________________

6. Do you need to freeze matter to turn it into a solid? ___________ Explain using evidence from the text.

7. In your own words, explain what a physical change means. ________________________________

8. According to the article, solid wood can be cut to change its size and shape. Give another example of a physical change by cutting.

9. In your own words, explain what a chemical change means. ________________________________

10. Give an example of a chemical change. _________________________________________________

11. Write a short story about a time when you saw matter change size, shape, state, or appearance. Be sure to name the matter that changed, how it changed, and why it changed.
Matter Can Change – Questions Answer Key

1. Matter is _____all around us; anything that takes up space____________________________

2. State something you can do to change matter. ___heat, freeze, mix, rip, squeeze, bend, etc_______

3. What happens when you heat solid ice? _____it melts to liquid water___________________

4. Solid wax ___________melts_____________ to a liquid when you ________heat__________ it up.

5. Explain how to change liquid water into steam. ____________________________________________

6. Do you need to freeze matter to turn it into a solid? ____no____ Explain using evidence from the text.

7. In your own words, explain what a physical change means. ________________________________

8. According to the article, solid wood can be cut to change its size and shape. Give another example of a physical change by cutting.

9. In your own words, explain what a chemical change means. ________________________________

10. Give an example of a chemical change. ____burnt toast, burn paper, making jello, etc___________

11. Write a short story about a time when you saw matter change size, shape, state, or appearance. Be sure to name the matter that changed, how it changed, and why it changed.

    ______any plausible answer that includes all three criteria earns full points.________________________