Year 4 Science: Solids, liquids and gases, and how they change

Name: _____ Date: _____

Try these without your notes first, then check the answer key.

Practice

1. Flour can be poured. Is it a solid, a liquid or a gas?

2. You pour 300 mL of juice from a bottle into a wide jug. How much juice is in the jug?

3. Water vapour from a shower turns into drops on a cold mirror. What is this change called?

4. At what temperature does pure water freeze?

5. Butter melts in a hot pan. Is a new substance made?

6. Why does the air in a balloon fill the whole balloon?

Fix the mistake

7. Correct this statement: "Sand can be poured, so it is a liquid."

8. Correct this statement: "When a puddle evaporates, the water disappears."

9. Correct this statement: "The white cloud above a boiling kettle is a gas."

10. Correct this statement: "When ice melts it becomes a new substance."

Answer key (for parents and tutors)

1. Flour can be poured. Is it a solid, a liquid or a gas?
   A solid, because each grain keeps its shape.
2. You pour 300 mL of juice from a bottle into a wide jug. How much juice is in the jug?
   300 mL, because a liquid keeps its volume.
3. Water vapour from a shower turns into drops on a cold mirror. What is this change called?
   Condensing.
4. At what temperature does pure water freeze?
   0 °C.
5. Butter melts in a hot pan. Is a new substance made?
   No. Melting is a physical change, and it is still butter.
6. Why does the air in a balloon fill the whole balloon?
   Air is a gas, and a gas spreads out to fill its container.
7. Correct this statement: "Sand can be poured, so it is a liquid."
   Each grain of sand keeps its own shape, so sand is a solid; powders just flow like liquids.
8. Correct this statement: "When a puddle evaporates, the water disappears."
   The water turns into water vapour, a gas we cannot see; it is still water, now in the air.
9. Correct this statement: "The white cloud above a boiling kettle is a gas."
   The white cloud is tiny drops of liquid water that have condensed; the gas itself is invisible.
10. Correct this statement: "When ice melts it becomes a new substance."
    Melting is a physical change: it is still water, just in a different state.