

Telling physical and chemical changes apart

Grade 7 science (Year 8 · Class 7) · Test

Name: _____ Date: _____ Class: _____ Mark: ____ / 20

This test checks the difference between physical and chemical changes, the signs of a reaction and word equations. You have 45 minutes and 20 marks. Write full sentences for explanations and use the full names of substances in equations.

Level: Grade 7 science (Year 8 · Class 7) · **Curriculum:** MS-PS1-2

Time: 45 minutes · 8 questions · Total: 20 marks · Calculator allowed

Question 1 Defining the changes (2 marks)

- Define a physical change. (1 mark)
- Define a chemical change. (1 mark)

Question 2 Classify three changes (3 marks)

Classify each change as physical or chemical.

- Grinding pepper into powder. (1 mark)
- Toasting a slice of bread until it turns brown. (1 mark)
- Wax melting in a warm room. (1 mark)

Question 3 Signs and boiling (2 marks)

- State two signs that a chemical change may have happened. (1 mark)
- Explain why bubbles in boiling water are not a sign of a chemical change. (1 mark)

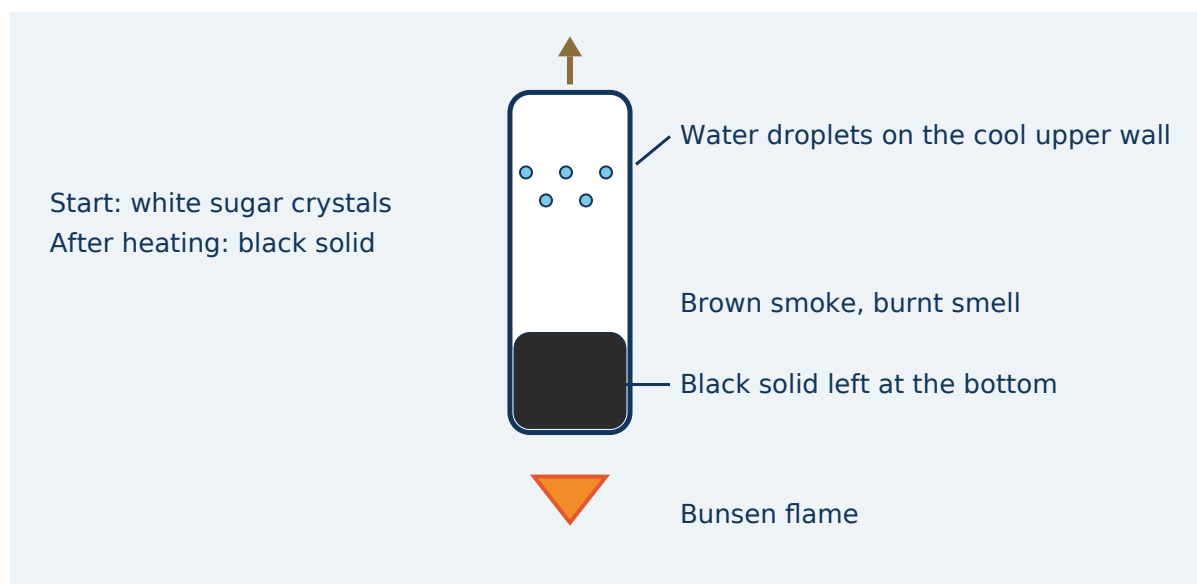
Question 4 Word equation (3 marks)

Sulfur burns in oxygen to make sulfur dioxide.

- Write the word equation. (2 marks)
- State which substance is the product. (1 mark)

Question 5 Heating sugar (3 marks)

A student heats white sugar in a test tube, as shown.



Sugar heated in a test tube.

- State two observations that show a chemical change. (2 marks)
- State whether the black solid can be turned back into sugar by cooling. (1 mark)

Question 6 Dissolving or burning (3 marks)

Explain why dissolving salt in water is a physical change but burning wood is a chemical change. (3 marks)

Question 7 Metals in acid (2 marks)

Three metal strips are placed in dilute hydrochloric acid. Strip P fizzes and shrinks. Strip Q shows no change. Strip R fizzes slowly.

- State which strips undergo a chemical change. (1 mark)
- Explain your answer. (1 mark)

Question 8 A rusting nail (2 marks)

Ibrahim in Kano says that rusting is a physical change because the nail still looks like a nail. Explain why he is wrong. (2 marks)