Worksheet: Particulate Nature of Matter

NIOS · Class 8 · Science · 8 questions · 12 marks

Name: _____	Date: _____	Score: _____ / 12

Q1. Which of these has a definite volume but no definite shape? *[1 mark]*

A) A gas

B) Both a solid and a gas

C) A solid

D) A liquid

Q2. In which state of matter is the interparticle spacing the greatest? *[1 mark]*

A) It is the same in all three

B) Solid

C) Liquid

D) Gas

Q3. Two teaspoons of sugar are added to water and the level rises. After the sugar dissolves the level falls back somewhat. What does this show? *[1 mark]*

A) Some of the sugar has been destroyed

B) There are spaces between the water particles, which the sugar particles occupy

C) The water has evaporated

D) Sugar particles are smaller than water particles

Q4. Assertion (A): Air in a sealed syringe can be compressed, but water cannot. Reason (R): The interparticle spacing in a gas is much larger than in a liquid. *[1 mark]*

A) A is false but R is true

B) A is true but R is false

C) Both A and R are true, and R is the correct explanation of A

D) Both A and R are true, but R is not the correct explanation of A

Q5. A grain of potassium permanganate is dropped into a tumbler of still water, which is not stirred. After some time the whole tumbler is uniformly pink. What does this show? *[1 mark]*

A) The colour is caused by light passing through the water

B) The water has been heated

C) Potassium permanganate is a liquid

D) The water particles are in constant motion

Q6. Why does the chapter describe the chalk-grinding argument as something to 'imagine' rather than something you can carry out? Does that weaken the conclusion? *[3 marks]*

Q7. Sugar dissolves in water but sand does not. Which explanation does the chapter give? *[1 mark]*

A) Sand is a solid and sugar is not

B) Sand's constituent particles are held together too strongly for water particles to pull apart

C) Sand particles are too large to fit between water particles

D) Sand has no constituent particles

Q8. Rice flour poured between jars flows and takes the shape of each one. Explain carefully why it is nevertheless a solid, and name one test that settles it. *[3 marks]*