LESSON WORKSHEET · GRADE 6 · Enrichment · not in IN 2023 Gr 6

Particle Model of Matter & States of Matter

Fill in each part when its number appears on the slide.

Name: _____ **Date:** _____

PART 1 · TARGET

I can use the particle model to explain the states of matter and changes of state.

PART 2 · WARM-UP

1. Name the three common states of matter and one example of each.

   _____

2. What happens to a puddle on a hot, sunny day? What is that process called?

   _____

3. Why does a cold soda can get wet on the outside on a warm day?

   _____

PART 3 · PREDICTION

Which particles are moving right now: the ones in your desk, your water bottle, or the air?

Circle one: [ ] Only the air [ ] The water and the air [ ] All three

PART 4 · VOCABULARY

Word	Meaning
Particle	
Thermal energy	
Temperature	
Melting / freezing	

PART 5 · PARTICLES ARE ALWAYS MOVING

All matter is made of _____ that are always _____. _____ measures their average speed.

Check: What happens to particles when temperature rises?

Circle one: (A) They move faster (B) They get bigger (C) They stop (D) They disappear

PART 6 · SOLIDS, LIQUIDS, GASES

In a _____, particles vibrate in place. In a _____, they slide past each other. In a _____, they spread far apart.

Check: Which state has a definite volume but takes the shape of its container?

Circle one: (A) All three (B) Liquid (C) Solid (D) Gas

PART 7 · ADDING AND REMOVING ENERGY

Adding _____ causes melting and evaporation. Removing it causes _____ and freezing.

Check: On the heating curve, why is the line flat at 0 °C?

Circle one: (A) The heater turned off (B) Particles stopped moving (C) The ice is cooling (D) Energy is breaking particles free to melt the ice

PART 8 · EVAPORATION, CONDENSATION, SUBLIMATION

_____ is gas turning into liquid. _____ is solid turning straight into gas.

Check: Water droplets form on a cold mirror after a shower. This is:

Circle one: (A) Sublimation (B) Condensation (C) Evaporation (D) Melting

PART 9 · WORKED EXAMPLE

Final answer from the example: _____

PART 10 · WE DO

Explain why a balloon shrinks when you put it in the freezer.

Answer: _____

PART 11 · YOU DO

Water vapor touches a cold window and forms droplets. Which describes the particles?

Circle one: (A) They turn into new substances (B) They lose energy, slow down, and move closer together (C) They gain energy and spread out (D) They stop moving completely

PART 12 · WORK TIME: THE MUSEUM OF MOVING PARTICLES

Write each code piece as you earn it: Exhibit A: ____ Exhibit B: ____ Exhibit C: ____ Exhibit D: ____ Exhibit E: ____

Final code: _____

PART 13 · WRAP-UP

Was your prediction in Part 3 right? One thing I learned today:

_____

_____