MATTER LAB / GRADE 5

Inside Matter

ACTIVITY 1 • Draw, color and explain • 20 minutes

Name: _____ Date: _____

1 Build three particle models

Imagine the same substance in three states. Draw exactly 12 equal-sized circles in each box. Use the same color for all particles.

SOLID

Particles are arranged:

_____

_____

Real-life example:

_____

LIQUID

Particles are arranged:

_____

_____

Real-life example:

_____

GAS

Particles are arranged:

_____

_____

Real-life example:

_____

2 Show how particles move

Complete each sentence. Add motion arrows to your models.

Particles in solids move _____

Particles in liquids move _____

Particles in gases move _____

THINK IT THROUGH

Why can a gas be squeezed more easily than a liquid?

_____

LIVEWORKSHEETS

Build a Matter Robot

ACTIVITY 2 • Cut, sort, paste and color • 25 minutes

Name: _____ Date: _____

Mission: Help M.A.T. sort matter! Cut the 9 cards on page 3. Place one particle card, one property card and one example card in each chamber.

Check with a partner, then glue. Color and name your robot!



SOLID	LIQUID	GAS
PARTICLE CARD	PARTICLE CARD	PARTICLE CARD
PROPERTY CARD	PROPERTY CARD	PROPERTY CARD
EXAMPLE CARD	EXAMPLE CARD	EXAMPLE CARD

My robot is called: _____

Choose one chamber. Explain why its cards belong together.

Materials: scissors, glue stick, pencil and coloring pencils.

LIVEWORKSHEETS

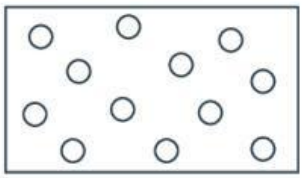
Robot Parts Workshop

ACTIVITY 2 • Cut-out cards • Print this page single-sided

Name: _____ Date: _____

Cut around the dashed borders. Keep each card whole. Match all 9 cards to the chambers on page 2 before you glue.

A



B



C



D

Keeps its volume but takes the shape of its container.

E

Spreads out to fill its container and is easily compressed.

F

Keeps its own shape and volume.

G

Ice cube
Wooden block
Metal spoon

H

Air in a balloon
Oxygen
Water vapor

I

Liquid water
Milk
Cooking oil

1 Create your own matter mascot

Draw an everyday object. Give it a face and a speech bubble!

Hello! I am a _____

My state is _____

My particles _____

_____

_____

Teacher tip: Keep this page separate from the robot board when printing.

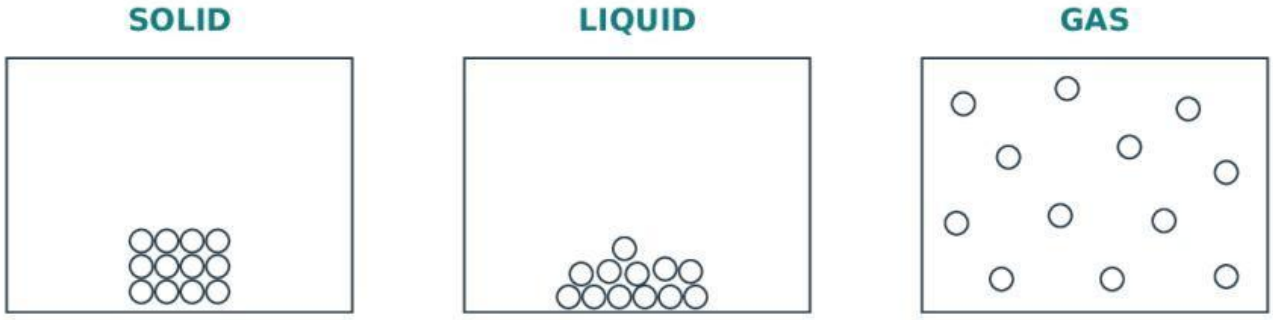
LIVEWORKSHEETS

Teacher Guide

ANSWER KEY • Print separately from the student pages

Name: _____ Date: _____

1 Inside Matter | Suggested answers



Solid Particles are packed closely in a regular arrangement. They vibrate around fixed positions. Example: an ice cube.

Liquid Particles are close together in an irregular arrangement. They move and slide past one another. Example: liquid water.

Gas Particles are far apart and spread throughout the container. They move freely in all directions. Example: water vapor.

Think it through: A gas has large spaces between its particles, so they can be pushed closer together. Liquid particles are already close together.

2 Matter Robot | Card matches

SOLID	LIQUID	GAS
B + F + G	C + D + I	A + E + H

Accept explanations linking the particle arrangement to a property or example. Mascot answers will vary; check that the state and particle description agree.

Quick success check

Look for 12 equal-sized particles in every model, correct spacing, movement descriptions and accurate card matches. Color is decorative, not a clue to state.

Model note: Circles represent particles; drawings are simplified and not to scale.

LIVEWORKSHEETS