

## Introduction (5 minutes)

Welcome to the properties of solids, liquids, and gases worksheet! This activity is designed for 9-year-old students to learn about the different states of matter and their characteristics.

The worksheet is divided into several sections, each with a variety of questions and activities to cater to mixed-ability groups.

## Section 1: Multiple Choice Questions (15 minutes)

Choose the correct answer for each question:

1. What is the main difference between a solid and a liquid?

- a) Solids have a fixed shape and volume, while liquids take the shape of their container and have a fixed volume.
- b) Solids have a fixed shape and volume, while liquids have a fixed shape and volume.
- c) Solids take the shape of their container and have a fixed volume, while liquids have a fixed shape and volume.
- d) Solids and liquids have the same properties.

Answer: a) Solids have a fixed shape and volume, while liquids take the shape of their container and have a fixed volume.

2. What happens when a solid is heated?

- a) It melts into a liquid.
- b) It freezes into a gas.
- c) It remains a solid.
- d) It disappears.

Answer: a) It melts into a liquid.

3. What is an example of a gas?

- a) Water
- b) Air
- c) Ice
- d) Rock

Answer: b) Air

Section 2: Short Answer Questions (20 minutes)

Answer the following questions in complete sentences:

1. Describe the properties of a solid.

2. What is the difference between a liquid and a gas?

3. Give an example of a liquid changing to a gas.

Section 3: Activities (25 minutes)

Complete the following activities:

Activity 1: Sorting Game

Sort the following objects into solids, liquids, and gases:

- Water
- Air
- Rock
- Ice
- Oil
- Gasoline

Object	State of Matter
Water	
Air	
Rock	
Ice	
Oil	
Gasoline	

Activity 2: Drawing

Draw a picture of a solid, liquid, and gas, and label each one.

[Space for drawing]

### Activity 3: Writing

Write a short story about a day in the life of a water molecule, describing its changes from solid to liquid to gas.

[Space for writing]

## Section 4: Differentiated Activities (20 minutes)

Complete the following activities based on your ability level:

### For Lower-Ability Students:

Match the following words to their definitions:

- Solid: \_\_\_\_\_
- Liquid: \_\_\_\_\_
- Gas: \_\_\_\_\_

Complete the following sentence: A solid has a \_\_\_\_\_ shape and volume.

### For Higher-Ability Students:

Research and write about a real-world application of the properties of solids, liquids, and gases.

[Space for writing]

Design an experiment to demonstrate a change of state (e.g., melting, freezing, evaporating).

[Space for experiment design]

## Section 5: Conclusion (5 minutes)

*Congratulations on completing the properties of solids, liquids, and gases worksheet! We hope you learned something new and had fun along the way.*

Remember to review the material and ask your teacher if you have any questions.

## Assessment Rubric

*The following points will be allocated to each section:*

- Multiple choice questions: 20 points
- Short answer questions: 30 points
- Activities: 30 points
- Differentiated activities: 20 points

Total: 100 points

