



# Science Toolkit: Grade 6 Objective 4.C.1.a

Student Handout: Science: Grade 6 Objective 4.C.1.a

Standard 4.0 Chemistry

Topic C. States of Matter

Indicator 1. Provide evidence and examples illustrating that many substances can exist as a solid, liquid, or gas depending on temperature.

Objective a. Use evidence from investigations to describe the effect that adding heat energy to different types of matter has on changing matter from one state to another.

Selected Response (SR) Item

Question

Use the information and the table below to answer the following:

A group of students used lab equipment to investigate 25 milliliters each of three different liquids. The students then researched additional information about the three liquids. The results of the investigations and research are shown in the table below.

THREE LIQUIDS

Liquid	Color	Size of a Molecule Compared to a Water Molecule	Volume at Room Temperature (mL)	Mass (g)	Melting Point (°C)	Boiling Point (°C)
Water	Colorless	Same	25	25	0	100
Olive oil	Light yellow	Much larger	25	22.5	-6	300
Rubbing alcohol	Colorless	Larger	25	19.5	-89	82

Which change occurs when heat energy is added to the liquids?

- A. The liquids change mass.
- B. The liquids change state of matter.
- C. The molecules in the liquids become larger.
- D. The molecules in the liquids become lighter.

Correct Answer

- B. The liquids change state of matter.

## Question

Use the information and the table below to answer the following:

A group of students used lab equipment to investigate 25 milliliters each of three different liquids. The students then researched additional information about the three liquids. The results of the investigations and research are shown in the table below.

THREE LIQUIDS

Liquid	Color	Size of a Molecule Compared to a Water Molecule	Volume at Room Temperature (mL)	Mass (g)	Melting Point (°C)	Boiling Point (°C)
Water	Colorless	Same	25	25	0	100
Olive oil	Light yellow	Much larger	25	22.5	-6	300
Rubbing alcohol	Colorless	Larger	25	19.5	-89	82

Which change occurs when heat energy is added to the liquids?

- A. The liquids change mass.
- B. The liquids change state of matter.
- C. The molecules in the liquids become larger.
- D. The molecules in the liquids become lighter.