

# S U M M A R I E S

## **INVESTIGATION 1: Water in Three States**

In Investigation One, you explored three states of matter. During this Investigation, you:

1. made observations about ice.
2. made observations about liquid water.
3. made observations about water vapor.
4. observed water changing states as it melted and evaporated.

Through these experiments, you found that:

1. solids have a definite shape.
2. liquids take the shape of their container.
3. gases have no definite shape and can be difficult to see.
4. matter can change states.

## **INVESTIGATION 2: Volume and Water**

In Investigation Two, you continued to explore properties of matter. During this Investigation, you:

1. poured water from one container into another container.
2. estimated and tested how many of a smaller container would fit into a larger container.
3. estimated and tested the size of a metal cube and gram cube.
4. put a solid in water and observed the change in volume in a graduated cylinder.
5. changed the shape of an object and measured it's volume.

Through these experiments, you found that:

1. containers of different shapes can hold the same volume.
2. estimation is not as accurate as prediction.
3. placing a solid in water displaces the water.
4. changing the shape of an object does not change the object's volume.

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## **INVESTIGATION 3: Density and Water**

In Investigation Three, you explored density. During this Investigation, you:

1. predicted and tested whether objects would float or sink in water.
2. compared the density of objects to the density of water and predicted and tested whether the objects would float or sink.
3. observed an ice cube as it melted in oil.

Through these experiments, you found that:

1. density determines floating and sinking.
2. different states of matter can have different densities.

## **INVESTIGATION 4: Weight and Density**

In Investigation Four, you explored weight. During this Investigation, you:

1. designed your own experiment to compare the weights of different objects.
2. predicted and tested whether objects would float or sink in water.

Through these experiments, you found that:

1. the weight of an object does not determine whether it floats or sinks.
2. weight is not the same as density.

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## **INVESTIGATION 5: Exploring Buoyancy**

In Investigation Five, you explored buoyancy. During this Investigation, you:

1. molded clay into different shapes and tested whether it would float or sink.
2. tested different ways to make a falcon tube float and sink.
3. tested different ways to make a weigh dish float and sink.

Through these experiments, you found that:

1. buoyancy can be changed.
2. buoyancy is not the same as density.
3. air is less dense than water.