

### Why Does Ice Float?

#### 1 Getting Started

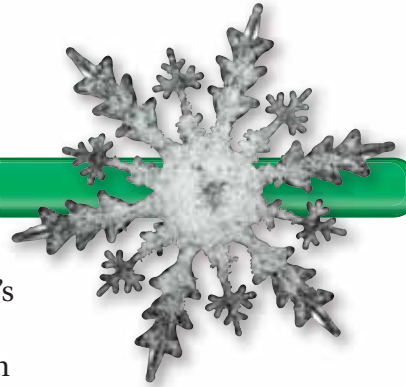
Among the planets in our solar system, Earth is clearly the “water planet.” Water occurs on Earth’s surface as a liquid, solid, and gas. Ocean waters cover about 70% of Earth’s surface. Fresh water in lakes and rivers covers less than 1%. Thick sheets of ice permanently cover Earth’s polar regions, and glaciers occur in its higher mountains. Water in the form of clouds covers about half of Earth’s surface at any time.

**Essential Question** How does floating ice affect you and the world in which you live?

There are three parts to this question. First, you have to understand why things float in water. Make lists of things that float in water and things that do not float in water. How can you describe, scientifically, the difference between these two types of objects?

Second, you have to discover what is special about water. Almost all other elements and compounds have the property that their solid forms sink in their liquid forms.

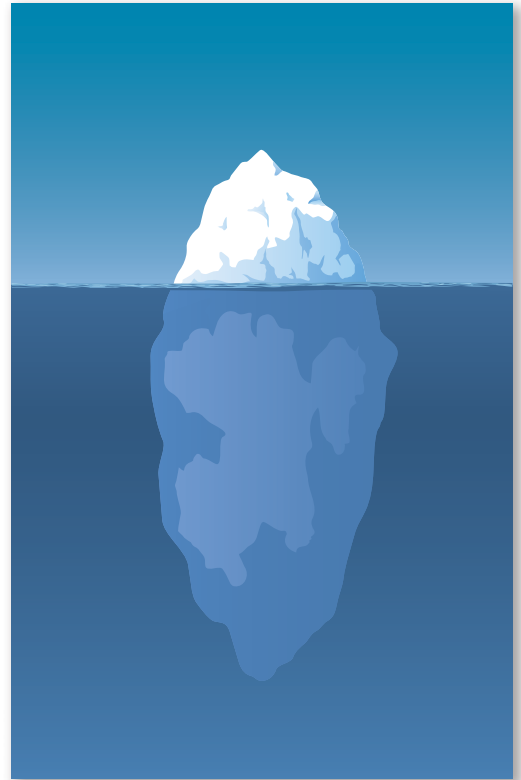
Third, you have to research how water in solid form influences the environment and living organisms. You may want to explore ocean currents, weather, and various cycles including the water cycle.



Earth's North Polar Ice Cap

## 2 Things to Include

- Does vegetable cooking oil float in water? Does ice float in vegetable oil?
- Compare the density of water and the density of ice. How do these densities relate to the fact that ice floats in water?
- What percent of an iceberg is above the water? What percent is below?
- What environmental and biological systems would not work if ice sunk in the oceans instead of floating?
- Explain how the floating of ice helps keep the oceans warm and therefore helps aquatic life exist in Earth's polar oceans.



Floating Iceberg

## 3 Things to Remember

- Add your own illustrations to your project.
- Try to include as many different math concepts as possible. Your goal is to include at least one concept from each of the chapters you studied this year.
- Organize your report in a folder, and think of a title for your report.

