

# Principle 1: Grades 3-5

## Principle 1: The Earth has one big ocean with many features.

The ocean, which covers 70% of Earth's surface, is the defining feature of the planet.

### Properties of Ocean Water

**A.**  
97% of all water on Earth is salt water in the ocean.

**A.1.**  
Only 3% of all water on Earth is fresh water stored in lakes, rivers, underground aquifers, glaciers and other places.

**A.4.**  
Salinity and temperature vary throughout the ocean.

**A.2.**  
Most of all the fresh water in the world is stored in ice caps and glaciers.

**A.5.**  
The movement of ocean water as currents is partly driven by these differences in salinity and temperature.

**A.3.**  
Fresh water melting from glaciers contributes to the ocean and can change its salinity and temperature and cause sea level to rise.

See Principle 3: B3

### Ocean Circulation

**B.**  
The ocean is a single, huge, interconnected body of water that circulates through all the ocean basins and continents.

**B.1.**  
The ocean, the largest reservoir of water on Earth, is integral to the water cycle.

**B.2.**  
Water circulates from land to the ocean and back via watersheds and the water cycle.

**B.3.**  
Lakes and glaciers are connected to the ocean via watersheds that are made up of rivers, streams and groundwater.

**B.4.**  
Watersheds drain water from inland to the ocean.

**B.5.**  
Runoff from watersheds impacts the ocean.

See Principle 3: B  
See Principle 6: A3

See Principle 5: A3

See Principles 5: B7

**B.6.**  
Water in the ocean is constantly moving and mixing vertically and horizontally.

**B.7.**  
Wind- and density-driven currents move ocean water around Earth.

**B.8.**  
Organisms travel on currents.

**B.9.**  
Tides move ocean water higher and lower, covering and uncovering the shoreline.

**B.10.**  
Waves crash on the shore, moving and mixing the water.

See Principle 2: B  
See Principle 3: A3

### Geographic and Geologic Features

**C.**  
The ocean floor has a variety of geological and geographical features comparable to those on land.

**C.1.**  
The ocean has many basins. They are called the Pacific, Atlantic, Indian, Arctic and Southern basins.

**C.2.**  
The ocean floor has other features such as mountains, plains, valleys, volcanoes, canyons, trenches and ridges.

**C.5.**  
The features of the ocean floor influence ocean circulation patterns.

**C.3.**  
The highest mountain on Earth is in the ocean. It is called Hawaii, an island in the Pacific Ocean.

**C.4.**  
The lowest point on Earth is in the ocean. It is called the Mariana Trench, and is located in the Pacific Ocean.

See Principle 2: A5