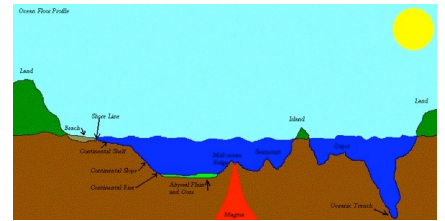





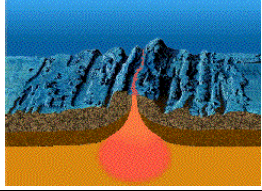

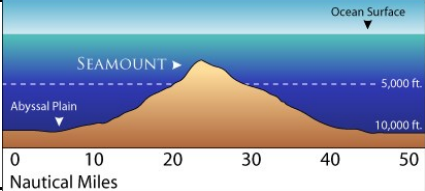
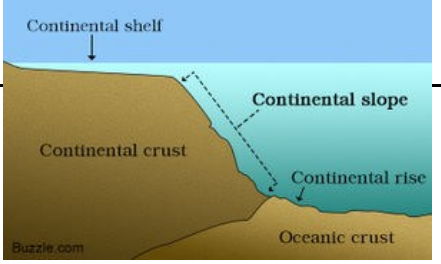
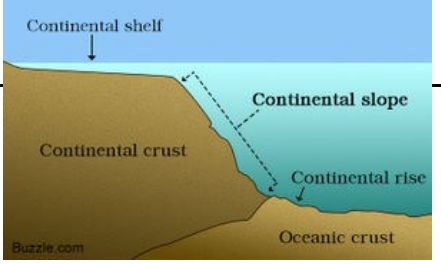
# Subsurface Topography

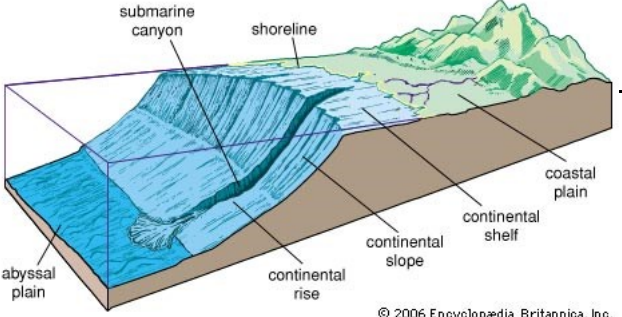
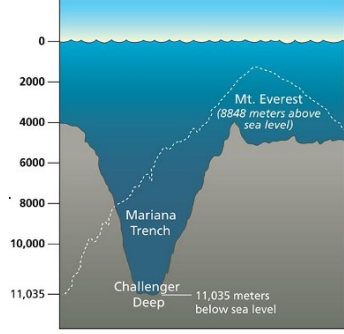
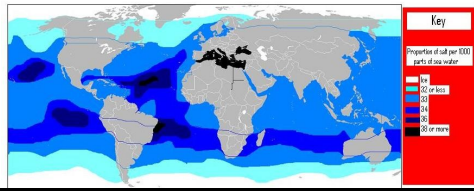
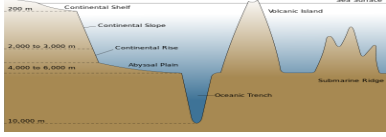
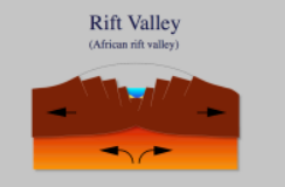
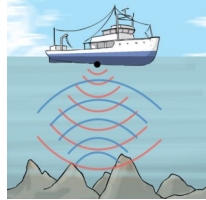

S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.

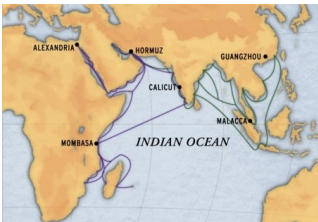
A. Ask questions to determine where water is located on Earth's surface (oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative proportion of water at each location.

C. Ask questions to identify and communicate, using graphs and maps, the composition, location, and subsurface topography of the world's ocean.



Term	Info	Picture
Pacific Ocean	The largest and deepest ocean in the world	
Arctic Ocean	Ocean found at the North Pole	
Atlantic Ocean	The second largest ocean, the ocean found on the coast of Georgia	
Mid-Ocean Ridge	Located at the middle of an ocean floor Location of seafloor spreading. Divergent plate boundary.	
Volcanic Island	Island formed from a volcano. Rises above sea level.	
Seamount	An underwater mountain. A SINGLE underwater mountain.	
Continental Shelf	The first part you walk out onto in the ocean.	
Continental Slope	The area where the continental shelf slopes downward towards the deep ocean floor. Between the continental shelf and continental rise.	

Term	Info	Picture
Continental rise	Area between the continental slope and abyssal plain.	 <p>© 2006 Encyclopædia Britannica, Inc.</p>
Abyssal plain	A large plain (flat) area of the ocean floor. Silt and sediment settles on the abyssal plain. Between the continental rise and mid-ocean ridge or the mid-ocean ridge and ocean trenches. 40% of the ocean floor.	
Ocean trench	Convergent boundary between oceanic and continental crust. Subduction occurs, the more dense oceanic crust sinks below the continental crust. Very deep area of ocean.	
Salinity	The amount of salt in water. "Saltiness"	<p><b>Salinity of the Oceans</b></p> 
Subsurface Topography	The study of the surface of the ocean floor; topography studies the shape of the land.	
Rift Valley	Lowland region between two divergent tectonic plates.	<p><b>Rift Valley</b> (African rift valley)</p> 
SONAR	"Sound Navigation And Ranging" Maps the ocean floor using sound waves. It measures the time it takes for the sound to travel to and from a feature on the ocean floor.	
Southern Ocean	Ocean by Antarctica. Newest named ocean, in Geography it considered to just be part of the Pacific and Atlantic. but a separate ocean by Oceanographers.	

Term	Info	Picture
Indian ocean	Ocean south of Asia/surrounding India. Third largest ocean.	 A map of the Indian Ocean region. The ocean is labeled 'INDIAN OCEAN' in the center. Several trade routes are shown as purple lines connecting various ports. Key locations marked include ALEXANDRIA on the Mediterranean coast, HORMUZ at the Persian Gulf, GUANGZHOU on the Chinese coast, MALACCA in Southeast Asia, and MOMBASA on the East African coast. The Indian subcontinent is also visible.

## Learning Targets:

1. I can recall the names and identify the locations of the oceans.
2. I can compare the oceans in terms of depth and area.
3. I can describe the composition of ocean water.
4. I can describe the ocean floor.
5. I can compare the subsea topography and land topography.
6. I can compare and contrast ridges and trenches in terms of formation and function.

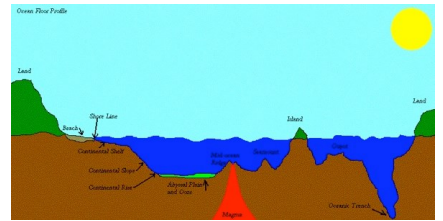


# Subsurface Topography

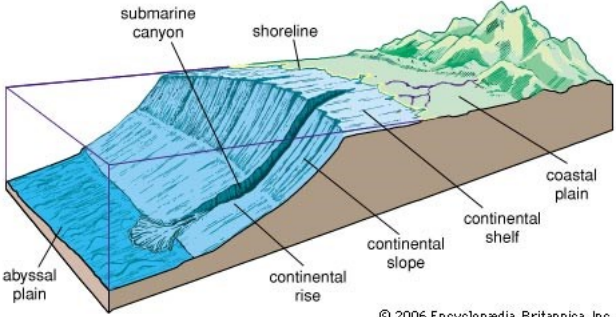
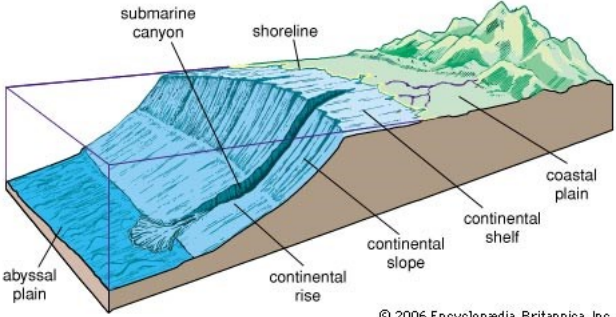
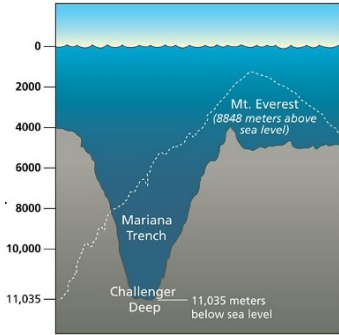
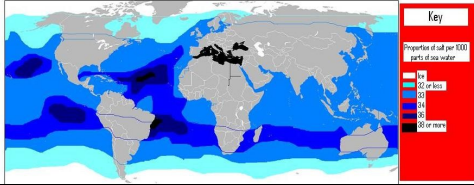
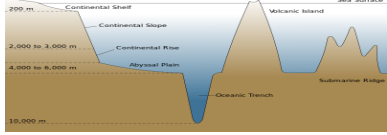
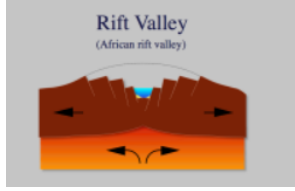
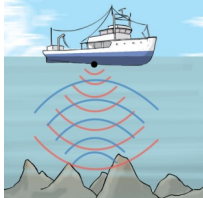
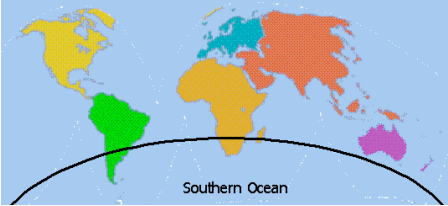
S6E3. Obtain, evaluate, and communicate information to recognize the significant role of water in Earth processes.

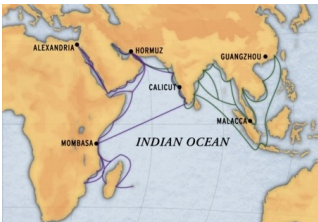
A. Ask questions to determine where water is located on Earth's surface (oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative proportion of water at each location.

C. Ask questions to identify and communicate, using graphs and maps, the composition, location, and subsurface topography of the world's ocean.



Term	Info	Picture
Pacific Ocean		
Arctic Ocean		
Atlantic Ocean		
Mid-Ocean Ridge		
Volcanic Island		
Seamount		
Continental Shelf		
Continental Slope		

Term	Info	Picture
Continental rise		 <p>submarine canyon, shoreline, abyssal plain, continental rise, continental slope, continental shelf, coastal plain</p> <p>© 2006 Encyclopædia Britannica, Inc.</p>
Abyssal plain		 <p>submarine canyon, shoreline, abyssal plain, continental rise, continental slope, continental shelf, coastal plain</p> <p>© 2006 Encyclopædia Britannica, Inc.</p>
Ocean trench		 <p>Mt. Everest (8848 meters above sea level) Mariana Trench Challenger Deep (11,035 meters below sea level)</p>
Salinity		 <p><b>Salinity of the Oceans</b></p> <p>Key Parts per thousand (ppt) of sea water</p> <ul style="list-style-type: none"> <li>34</li> <li>35</li> <li>36</li> <li>37 or more</li> </ul>
Subsurface Topography		 <p>200 m, Continental Shelf, 2,000 to 3,000 m, Continental Slope, Continental Rise, 4,000 to 6,000 m, Abyssal Plain, Oceanic Trench, Submarine Ridge, 10,000 m, Sea Surface, Mid-ocean Island</p>
Rift Valley		 <p><b>Rift Valley</b> (African rift valley)</p>
SONAR		
Southern Ocean		 <p>Southern Ocean</p>

Term	Info	Picture
Indian ocean		 A map of the Indian Ocean region. The ocean is labeled 'INDIAN OCEAN' in the center. Key locations marked include ALEXANDRIA on the Nile delta, HORMUZ at the Persian Gulf, GUANGZHOU on the coast of China, CALICUT on the southwest coast of India, and MALACCA in the Malay Peninsula. Blue lines represent trade routes connecting these locations across the ocean.

## Learning Targets:

1. I can recall the names and identify the locations of the oceans.
2. I can compare the oceans in terms of depth and area.
3. I can describe the composition of ocean water.
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