Earth & Space Science (Water Cycle) Grade 7 Science Grade 7 Science

Unit Overview	Content Elaborations	Unit Resources
Hydrologic Cycle, Thermal Energy Transfer.	The movement of water through the spheres of water changes state and energy is transferred, it water transfers from the hydrosphere to the atmosphere to the atmosphere and ocean mu composition and topographic/geographic influences (e.g., contin	- Textbook Ch 11.1 page 308 Ch 11.2 page316 Ch 11.3page 320 Ch 11.4page 326 Ch 13.1 page 374 Ch 13.2 page 382 Ch 14.1 page 416 Ch 14.2 page 422
		 Ch 14.2 page 422 Directed Reading A- Chapter 11 Chapter 13 Chapter 14 Discovery Education Video: The Biology of Water: The Hydrologic Cycle and Water Pollution Discovery Education Video Segment: Geography Basics: Climate, Water, and Living Patterns
		- Gizmo: Water Cycle - Gizmo:
Unit Vocabulary	Enduring Understandings (Big Ideas)	Connections
condensation Evaporation		Sepup Kit The Fruitvale Story-Groundwater Contamination.

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Runoff	
percoalation	Guest speaker from soil and water
percipitation	conservation.
watercycle	
hydrologic cycle	
erosion	
Watershed	
drainage basin	
tributary	
continential divide	
channel	
divide	
discharge	
load	
bed load	
suspended load	
dissolved load	
contamination	
pollution	
deposition	
delta	
water table	
aquifer	
porosity	
permeability	
zone of aeration	
zone of saturation	
impermeable	
recharge zone	
spring	

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cap rock	
artesian formation	
well	
artesian spring	
dry well	
underground erosion	
stalactices	
stalagmites	
dripstone column	
sinkhole	
point-source pollution	
nonpoint-source pollution	
irrigation system	
dissolved oxygen- DO	
thermal pollution	
Nitrates	
alkalinity	
neutralized	
aquatic life	
sewage	
sewage treatment plants	
primary Treatment plant	
secondary treatment plant	
septic tank	
drain field	
dripirrigation systems	
dredged	
well drilling	
pacific ocean	
atlantic ocean	

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artic ocean	
Indian Ocean	
water vapor	
sodium cholride	
salinity	
humid	
coastal area	
surface zone	
thermocline	
deep zone	
surface temperature	
thermal exchange	
sonar	
bathymetric profile	
oceanography	
Seasat satellite	
Geosat satellite	
continental shelf	
continental slope	
continental rise	
abyssal plain	
mid-ocean ridge	
rift valley	
seamount	
ocean trench	
deep ocean basin	
continental margin	
desalination	
ocean current	
surface current	

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coriolis effect	
deflect	
clockwise	
counterclockwise	
continental deflections	
global winds	
warm water current	
cold water current	
deep currents	
streamlike movements	
water density	
gulf stream	
Tropics	
British Isles	
upwelling	
coastal regions	
pressure	
atmospheric current	
delineate global climate patterns	
lithosphere	
biosphere	
hydrosphere	
atmosphere	
global climate	

Standards

OH_Academic_Content_Standards - Science (2011) - Grade 7

Strand ESS Earth and Space Science

Topic ESS.1 This topic focuses on Earth's hydrologic cycle, patterns that exist in atmospheric and oceanic currents, the relationship between thermal energy and the currents, and the relative position and movement of the Earth, sun and moon.

Content Statement ESS.1.1 The hydrologic cycle illustrates the changing states of water as it moves through the lithosphere, biosphere, hydrosphere and atmosphere.

ESS.1.1.a Thermal energy is transferred as water changes state throughout the cycle. The cycling of water in the atmosphere is an important part of weather patterns on Earth. The rate at which water flows through soil and rock is dependent upon the porosity and permeability of the soil or rock.

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Content Statement ESS.1.2 Thermal-energy transfers in the ocean and the atmosphere contribute to the formation of currents, which influence global climate patterns. ESS.1.2.a The sun is the major source of energy for wind, air and ocean currents and the hydrologic cycle. As thermal energy transfers occur in the atmosphere and ocean, currents form. Large bodies of water can influence weather and climate. The jet stream is an example of an atmospheric current and the Gulf Stream is an example of an oceanic current. Ocean currents are influenced by factors other than thermal energy, such as water density, mineral content (such as salinity), ocean floor topography and Earth's rotation. All of these factors delineate global climate patterns on Earth.

Student Assessment	Unit Refection	
Chapter Test		
Study Island		
Water Cycle		
Content	Skills	Assessment
A. Water cycle	A. Water cycle	
B. Ocean and Climate	1. Describe each part of the water cycle.	
	2. Describe how water moves through the water cycle.	
	3. Describe ground water movement.	
	4. Explore how contamination/ pollution moves through	
	each part of the water cycle.	
	5. demonstrate how topographical maps, aerials maps, or	
	different types of maps can show water flow in drainage	
	patterns and watersheds.	
	B. Ocean and Climate	
	1. describe ocean currents.	
	2. Identify the three factors that form deep currents.	
	3. List the three factors that control surface currents.	
	4. Explain how currents affect climate.	
	5. Identify the properities of ocean water	
	6. Describe the interaction between the ocean and the	
	atmosphere.	
	7. Describe technologies for studying the ocean floor	
	8. Classify subdivisons and features of the two major	
	regions of the ocean floor.	
	9. Demonstrate how current and climate patterns on a	
	global level are studied by using a variety of maps, models and	
	technology, remote sensing, LANDSAT, and satellite images.	