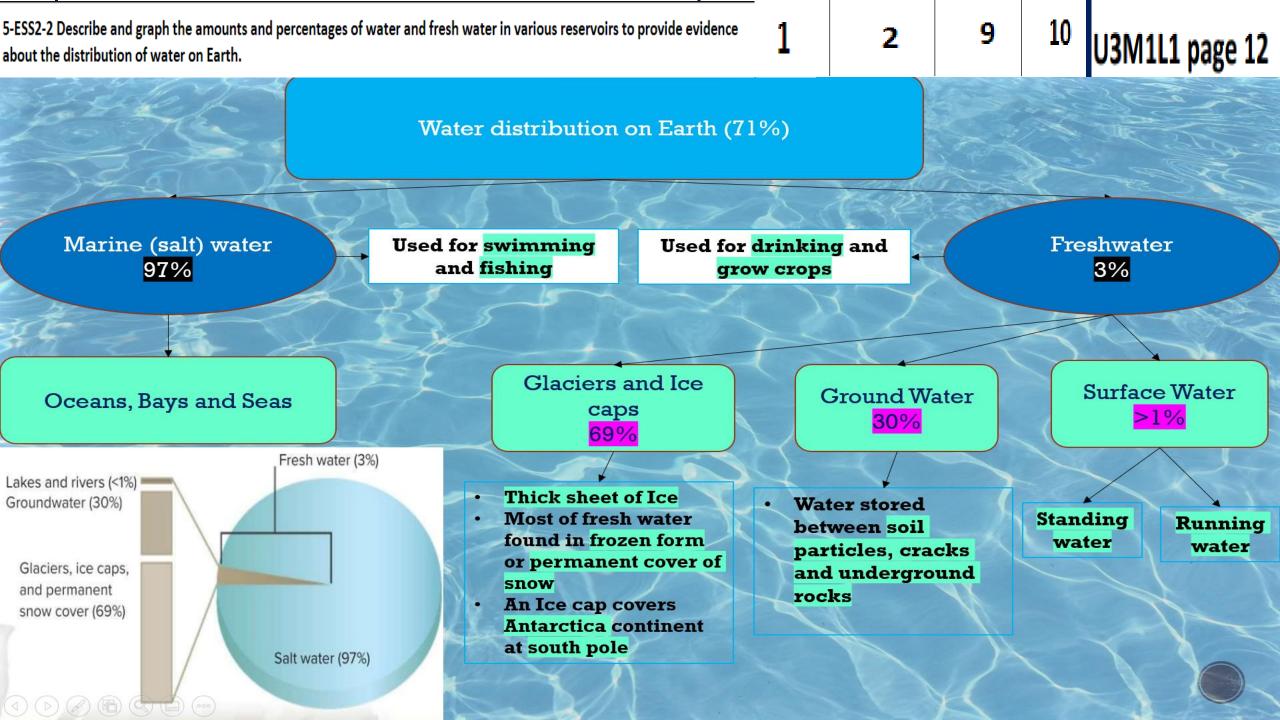


Science EOT exam coverage for general 5th grade

Prepared by Mr. Amr Osama

Q 1-5 (writing) Q 6-20 (Multiple choices)



Ground water

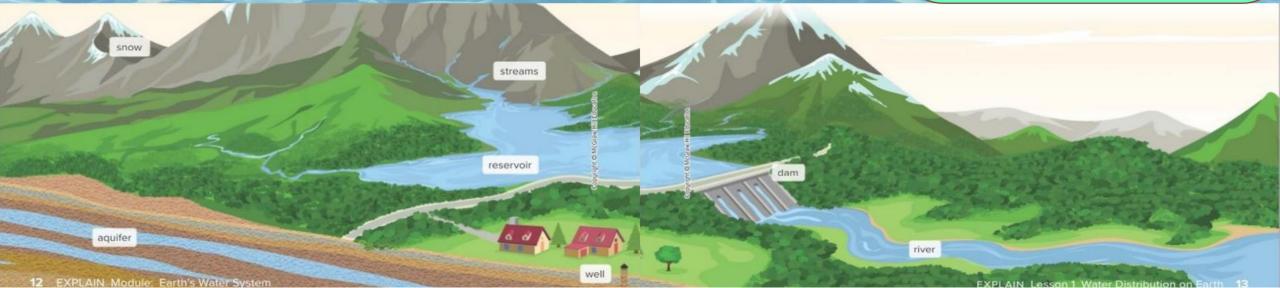
Water seeps in soil, then trapped in aquifers or underground rocks, and it can be found by digging, drilling, or pumping the water up through wells

Running water

Streams and rivers provide sources of freshwater for homes, farms and business, so many cities, and civilizations were built next to running freshwater sources

Standing water

- Lakes and reservoirs are also usable freshwater
- Reservoir: artificial lake for storing water behind dams ,and released when it's needed
- Storage: water being kept on surface, ground or as water feature



Use evidence from the lesson to explain how water is distributed on Earth's surface.

Lesson 1 Vocabulary Words (pages 12-13)

Sample answer: Earth is mostly covered with water. Most of the water on Earth (97 percent) appears as salt water. The remaining three percent of water appears as fresh water, most of which is frozen in glaciers. Liquid water is found underground or in rivers, ponds, and lakes.

- 1. All water on Earth is recycled through
 - A. the water cycle
 - B. pockets of nitrogen
 - C. exhaled gases
 - D. dead plant and animal matter
- 2. True or False The hydrosphere covers about 70% of Earth's surface.
- A. True
- B. False
- 3. About _____ of the world's water is salty ocean water.
 - A. 12 percent
 - B. 43 percent
 - C. 47 percent
 - D.)97 percent



A **glacier** is a thick sheet of ice that moves slowly across land.



An _____ is a covering of ice over a large area



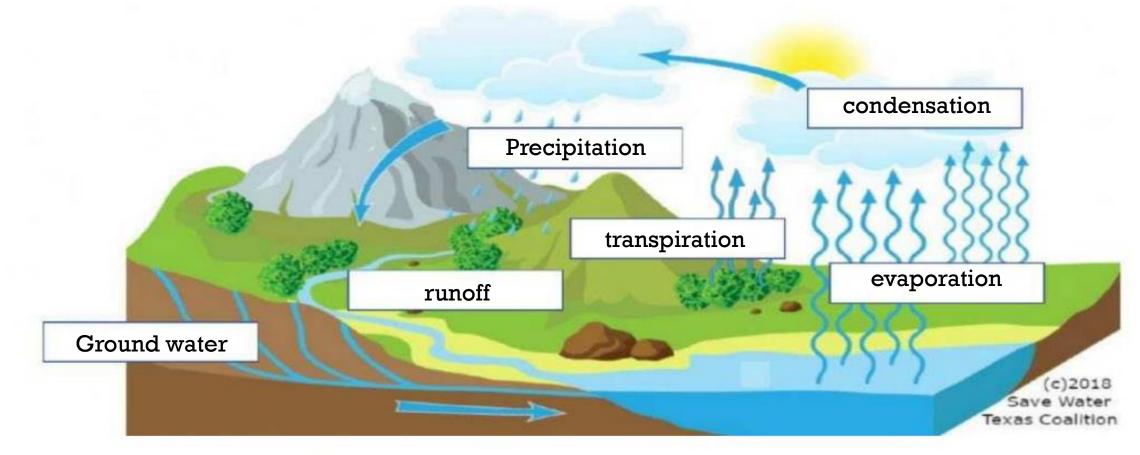
A reservoir is an artificial lake used to store water made by building a dam on a river.



storage is the process of storing water on Earth's surface.



Ground is water stored underground between rocks and soil.



Evaporation : liquid water changing to a gas or water vapor

Condensation : gas changing into a liquid

Precipitation : water that falls from the atmosphere and reaches Earth in the form of rain,

snow, sleet, or hail

Runoff : water that flows downhill

_____ Transpiration ____: water evaporating from the leaves of plants



Acid rain

- Multiplication of toxic algae in the water due to washing of fertilizers and lawns from farms
- These algae are harmful and affect water quality (water becomes green)
- Resulted when gases like nitrogen oxide, and sulfur dioxide combine with oxygen or water to form acid then reach the surface as precipitation
- These gases are released from volcanoes and burning fossil fuels
- It can affect lakes, streams, marshes, living organisms, soil, even other wildlife in the ecosystem
- Some plants and animals can adapt with acidic waters, some are not
- Acidic lakes have no fish
- Even an animal can adapt with acidic water, its food may not

 Any harmful substance affects earth's resources

Pollution

- Oil spills: when an oil rig in gulf of Mexico exploded and releases 4.9 million barrels of oil equal to 300 Olympic sized pools
- Using insecticides: after passing law in USA in 1974 farmer used safer ways in pests controlling



Reduce:

- decrease the usage of water or use less water
- You can take shorter showers
- Turning water off during brushing teeth

REDUCE

Recycle:

- Complicated process which is done in water treatment facilities
- Water is recycled from pipes, to be recycled and used again



- Use water more than once
- Rainwater can be collected to be used again in water plants





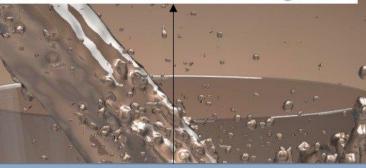


Do not leave water running when you are not using it.



Use water-conserving showerheads and take shorter showers.





Use a water-saving washing machine and wash full loads of clothes.

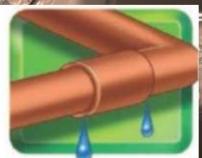


Water conservation:

 Using of resources wisely to slow down the consumption



Fix leaking pipes or faucets.



Grow plants that do not require frequent watering, and water your plants after dark so the water does not evaporate.



If you use a dishwasher, use a water-saving model and do not run it unless it is full.



Some types of plants and animals can live in acidic waters. Others are acid-sensitive and will be lost as acid rain enters the ecosystem. Some acidic lakes have no fish. Even if a species of fish or animal can tolerate moderately acidic water, the animals or plants it eats might not.



1. What can be done to reduce or prevent further acid rain damage?

Sample answer: If we reduce the burning of fossil fuels or keep more of the chemicals that cause acid rain from going into the atmosphere, there will be less acid rain.

Explain how humans affect Earth's water resources.

Sample answer: Humans affect water resources both positively and negatively. Humans build structures like the one in the photo to collect water to be used. These structures can affect the ecosystems around the water. Humans can also cause pollution and practice conservation, both of which impact water resources on Earth's surface.

- 1. What will most likely happen if lake water becomes polluted by humans?
 - A.) Animals in the lake will die.
 - B. There will be more fish in the lake.
 - C. The pollution will not hurt the plants or animals in the water.
 - D. It will change the soil around the lake into pebbles.



- How can we use conservation to help preserve water resources?Circle all that apply.
 - A. Take shorter showers
 - B. Collect rainwater to water indoor plants
 - C. Dump dirty water into the sewers
 - D. Turn off the faucet while brushing my teeth
 - E. Shower at the same time every day

Lesson 2 Vocabulary Words (Pages 26-29)



<u>Algal bloom</u> is a sometimes harmful, rapid increase in the amount of algal found in water.



Acid rain is harmful rain caused by the burning of fossil fuels.

Conservation

_ is the practice of using resources wisely.



Removing the weathered rocks from one place to another and forms natural bridges

Deposition

Eroded material are dropped in other places

- 1. Both work together to change the landforms
- 2. As water runs downhill it washes soil and rocks to rivers
- 3. Fast Moving river has more energy, so it carries larger sediments and flow in straight paths
- 4. Slow Moving river has less energy and enters meanders (looped curved paths) and carries smaller sediments
- 5. Slow rivers deposit sediments inside meanders, but Fast rivers erode meanders from outside
- 6. <u>Delta:</u> Formed when water enters larger body of water like oceans and lakes; then the sediments are deposited and dropped in the bottom
- 7. Alluvial fan: Formed when water enters steep or canyon, then the stream becomes shallower, and sediments are dropped



When water that is carrying sediment enters a larger body of water, the sediment is dropped, forming a delta.

Deposition

is the dropping off eroded soil and rock.



<u>Erosion</u> is rock moving from one place to another.



A _____ Flood plain ____ is a piece of land near a body of water that is likely to flood.

When
a rushing river
runs out of a narrow
canyon, it slows down
and becomes shallower.
Sediment is dropped,
causing an alluvial
fan to form.

Explain how the hydrosphere interacts with Earth's other systems.

Sample answer: The hydrosphere affects Earth's other systems as it goes through the water cycle. Precipitation in the atmosphere causes weather, and moving water on Earth's surface can change or affect the land. The hydrosphere is essential for the biosphere to have resources to survive.



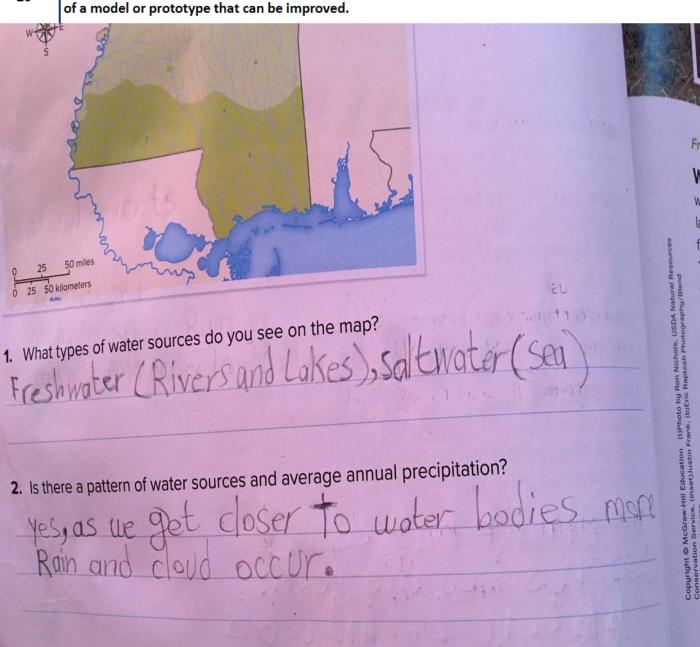
Effects of Hydrosphere: Impacts are observed by running water

Hurricanes: very large swirling storm form on tropical oceans causes strong winds, walls of clouds and pounding rains

Storm surges: caused by moving of hurricane toward coast ,winds and waves force large amount of water onshore causing floods

Floods: caused by

- 1. Running water over ground in streams and rivers
- 2. Collection of water on dry land
- 3. Water moves in rivers faster than normal
- 4. Water overflows banks or beaches
- Heavy rain, so wetlands reduce chances of floods due to soaking up water
- 6. Draining wetlands along riverbank
- 7. Cutting down plants and trees along riverbank
- Floods: causes
- Good effect: by carrying and depositing sediments and soil deposits
- 2. Floodplain: formed when water rises
- 3. Bad effect: by damaging homes and streets by mud



Mississippi Water Sources

Look at the map of different water sources in Mississippi.



What types of water sources do you see on the map?
 Sample answer: There are lakes, rivers, and an ocean.

ocean.

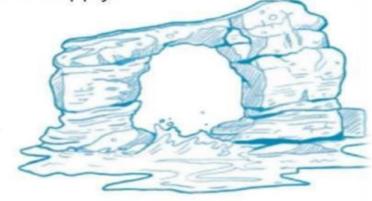
2. Is there a pattern of water sources and average annual precipitation?

Sample answer: There seems to be more rain in the southern part of the state, closer to the

- 1. How is erosion an effect of the hydrosphere? Circle all that apply.
 - (A.) Erosion can be caused by moving water.
 - B. Erosion can be caused by precipitation.
 - C.) The movement of glaciers causes erosion.
 - D. The hydrosphere contains all of the land on Earth.
- 2. How does erosion shape the land?
 - A. Earth's surface is changed by living things.
 - B. Erosion does not change the shape of the land.
 - C. Erosion happens only in the winter.
 - D. Erosion carries the sediment and rock to another location, which changes the shape of the land.
- 3. Oceans are one of Earth's systems and can affect Earth's other systems.
 - A. True
 - B.)False

Explain.

Sample answer: Oceans are an important part of the hydrosphere, which is one of Earth's systems. As part of the hydrosphere, ocean waves can affect the shore. Oceans also support a wide variety of living things in the biosphere.





Types

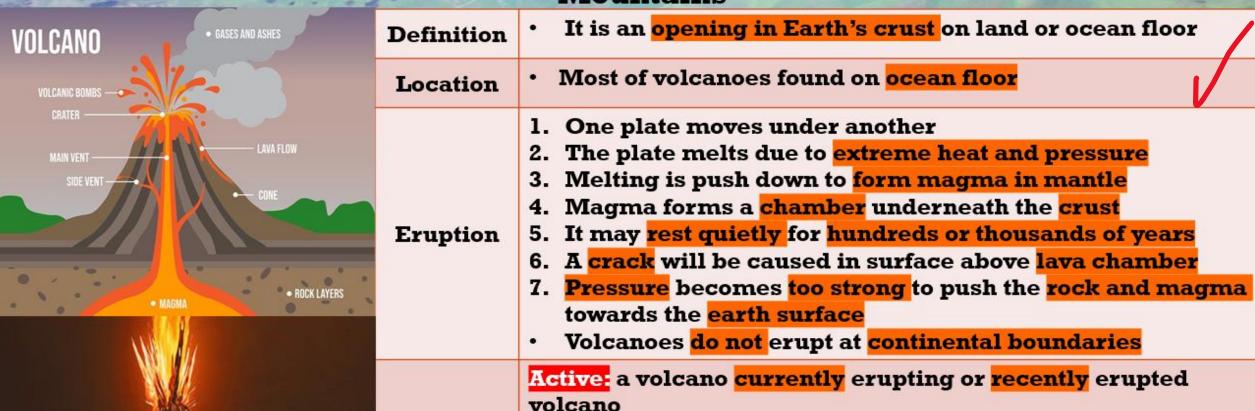
Landforms:

Physical feature found on crust, changed by erosion, deposition and plate movement



Mountains

Volcanoes

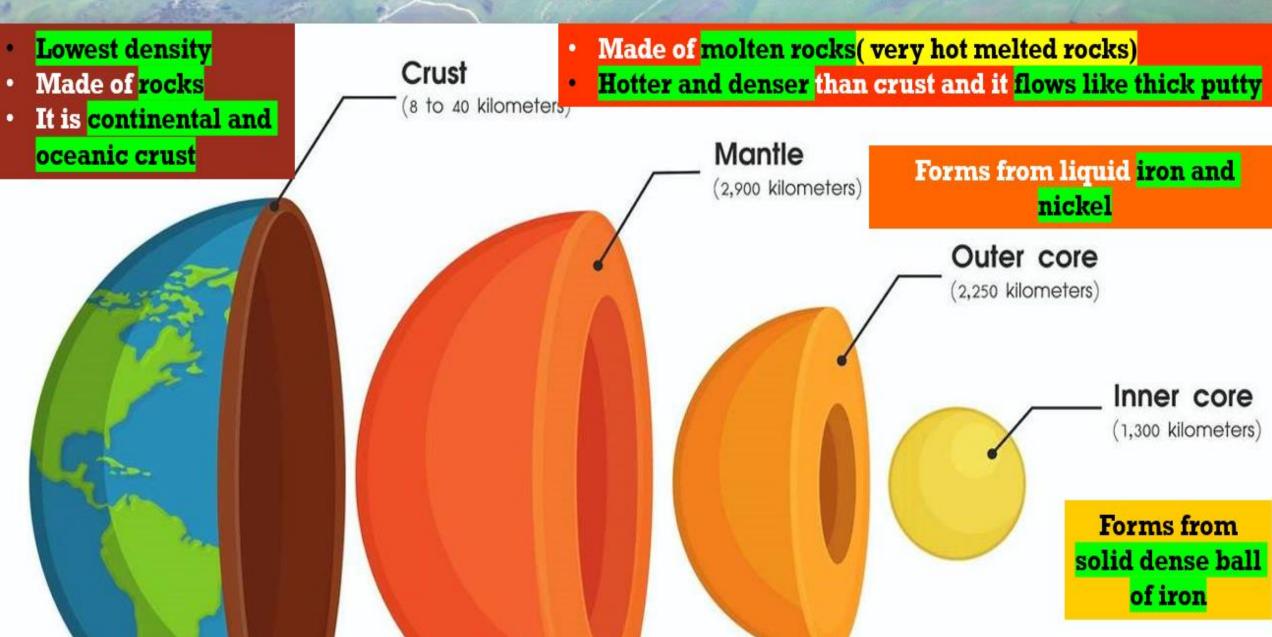


erupt on the future

Extinct: A volcano will not erupt again

Dormant: a volcano not erupted for some time, but it may

GEOSPHERE LAYERS



Types of soil

Туре	composition	use	location
Forest	 Thin layer of topsoil with little humus Minerals is too deep due to frequent rain 	 Topsoil home for many living organisms Plants with long roots 	• Northeast and Southeast of USA
Desert	 Too little humus and sandy soil Rich in minerals No much rain to wash minerals away 	 Raising of animals Crops can be grown if there is water 	Southwest of USA
Grassland or prairie	 Rich in humus Rich in minerals Nutrients are not washed away deeply 	Good for growing crops	Between Roky mountain and Eastern woods
		Corn ,wheat and rye	Texas to North Dakota



Lesson 1 Vocabulary Words (pages 70-75)

A <u>Hot spot</u> is an area where molten rock within the mantle rises to the Earth's surface

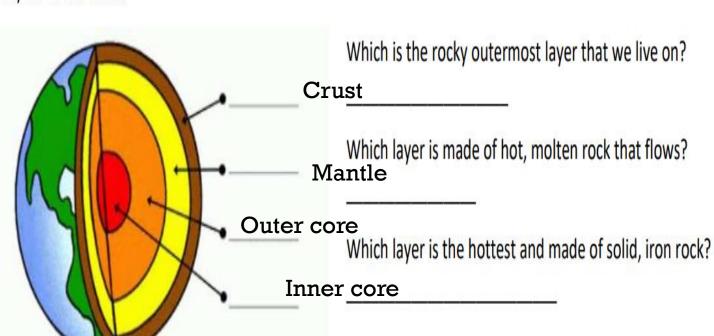
A <u>Landslide</u> is a sudden movement of rocks and soil down a slope

Minerals are solid, non-living substances found in nature (in the ground)

Magma is very hot, melted rock found in the Earth's mantle

A Volcano is an opening in Earth's surface where melted rock or gases is forced out

Layers of the Earth



Explain how the geosphere interacts with other systems on Earth.

Sample answer: One example of how the geosphere interacts with other systems is when the geosphere and hydrosphere interact. Moving rivers shape the land, and rainwater flows downhill and collects at the bottom of a mountain.

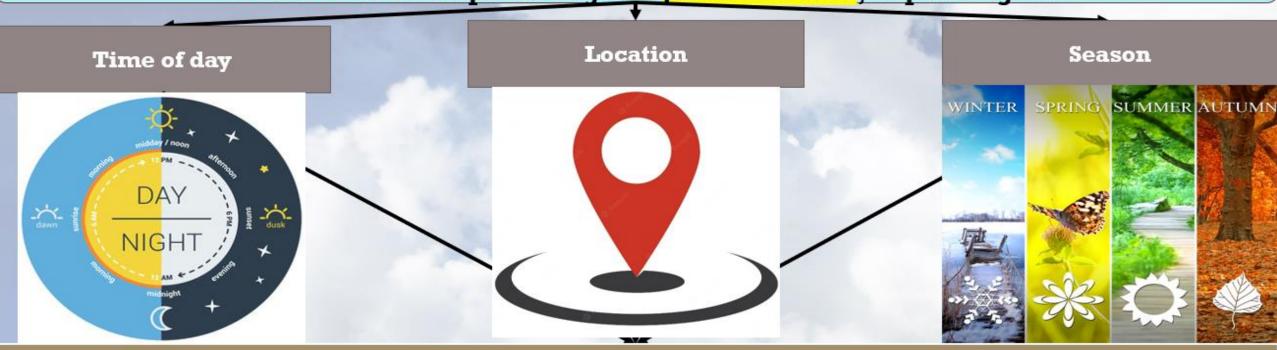
 Explain one of the interactions of the geosphere and another one of Earth's systems that you learned about in the lesson. Include how this interaction results in change over time.

Sample answer: I learned that soil can take thousands of years to form. Soil forms because of erosion from wind and water. The type of soil that forms affects what types of plants can grow in the soil. Over time, soil can affect the pH levels of the water that runs through it.

- **2.** Which is an example of a process in the geosphere that causes slow changes?
 - A. earthquakes
 - B.) glaciers
 - C. volcanoes
 - D. landslides

Weather:

Condition of atmosphere at given place and time, depending on

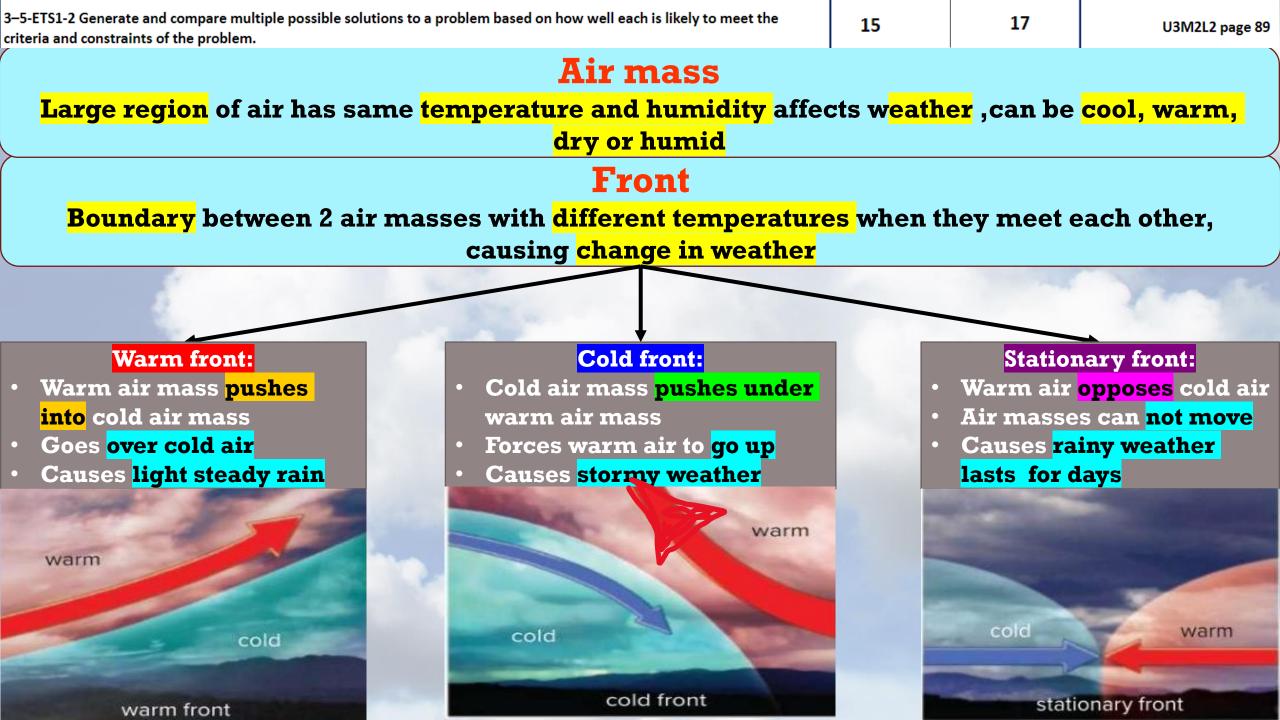


Causes different forms of precipitation (rain, snow, sleet, or hail)



Clouds are formed by condensation of water vapor





Winter storms

temperature is cold to

form ice on surface

Storm

Weather events (storms)

Violent disturbance in atmosphere, causing sudden change in air pressure, then rapid motion of air

Tornado and Derecho

long-lasting windstorm

with some thunderstorms

		Strongest form of	•	Hurricane with wind	•	Cold ,dry air meets
features	• Rainy storm with thunder and lightening	thunderstorm	:	speed of 119 km/h		warm, humid air
		Rotating funnel shaped	•	Occur near <mark>equator</mark>	•	Blizzards : snowstorm
		cloud with wind speed of		,where <mark>ocean is warm</mark>		when <mark>snow or sleet</mark>
		512 km/h when cold dry air	•]	From <mark>space</mark> looks like		occur with <mark>high wind</mark>
		meets warm humid air		Spiral clouds, heaviest		and <mark>cold temperature</mark>
		Change direction		rain and <mark>fastest winds</mark>	•	Ice storms: when rain
		• Derecho is widespread		are near to <mark>eye</mark>		falls and ground

Effects

Cause Flash floods Strong winds

thunderstorm

Breaking buildings Lifting cars Uprooting trees

Tornado causes:

Terrible damage

Derecho causes: Same as tornado, but in one direction on straight path

Cause

the hurricane

Tropical storms

Eye: central hole in

- coastal flooding
- Severe wind damage

Power outages, so be prepared by supplies before storm

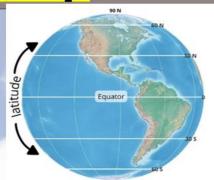
Cause

Climate

Average weather pattern of a region over long time ,it's determined by temperature and rainfall, so it can be determined by

Latitude:

- Location distance north or south of the equator
- Areas near to equator are hotter are more humid than areas far from it, because it receives more energy due to earth's shape



Interaction with hydrosphere

Distance from large water bodies affects the average temperature, and rainfall

How does climate affect plants?

Sample answer: Climate affects whether plants can get what they need to survive, such as how much precipitation occurs in the area and what the average temperature is.

Plants:

- They require different levels of precipitation, sunlight and heat
- Temperate forests have different weather during 4 seasons
 Temperate trees (oak) responds by losing leaves before winter



Interaction with geosphere

Areas with high altitudes have cooler climate





City	Average Temperature in January	Average Snowfall in January
Albany, NY	-5°C (23°F)	45.7 cm (18 inches)
Tahoe City, CA	-2°C (29°F)	101.6 cm (40 inches)
Reno, NV	2°C (36°F)	15.2 cm (6 inches)

- 1. What can you interpret about the data in the chart?
 - A.) Albany, NY is cold in January with a lot of snow.
 - B. Tahoe City, CA is cold in January with little snow.
 - C. Reno, NV is cool in January with a lot of snow.
- 2. How is evaporation a cause of precipitation?

Sample answer: Water evaporates from Earth's surface. After forming a gas, the water vapor condenses around tiny particles of dust to form clouds. When enough water vapor is present, it grows heavier and it falls to Earth as precipitation in the form of rain, hail, sleet, or snow.

Lesson 2 Vocabulary Words (Pages 88-93)

An ___Air Mass ___ is a large region of air that has the same temperature and humidity.

Climate ___ is the average weather in a region over time.

Hydrosphere and Atmosphere

Weather is the condition of the atmosphere in each place at a given time.

2. How is evaporation a cause of precipitation?

Sample answer: Water evaporates from Earth's surface. After forming a gas, the water vapor condenses around tiny particles of dust to form clouds. When enough water vapor is present, it grows heavier and it falls to Earth as precipitation in the form of rain, hail, sleet, or snow.

Francisco la accediac		independent of the	-41		L-auth-
Explain how the	armosphere	interacts with	other st	/stems on	Farm
	- dellioppilele	HILCH GOLD TITLE	01110101	00011100	

Sample answer: The atmosphere interacts
with the hydrosphere and geosphere to form
weather and influence climate. The weather
and climate from these interactions affect
the living things in the biosphere.

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REVIEWING QUESTIONS

INSTRUCTIONS



Please read the question carefully, take your time and understand the question





Solve the questions which are provided in this pdf



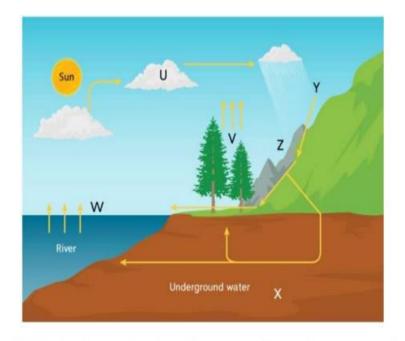
Here you are some links
for important
assessments with
answers, solve all of
them by clicking on the
pictures in the table

File	Link	File	Link
Module test 1	The second second	Module 1 Answers	GET ANSWERS
Module test 2	Control of the second s	Module 2 Answers	GETANSWERS
Assessment 1		Assessment 1 Answers	ANSWERS
Assessment 2		Assessment 2 Answers	ANSWERS





- A) They have similar populations and animals. Their biospheres are mostly the same, and their food webs work closely together.
- They are all found close to the Equator. Geospheres and hydrospheres found close to the Equator interact to create a moist atmosphere.
 - C) They are bordered by grasslands. These similar geosphere patterns create the moist broadleaf forest climate.
 - D) They are all close to the ocean. The hydrosphere interacts with the atmosphere and creates a moist environment.



Which places in the diagram show the water changing from a liquid to a gas? Select the **two** that apply.

- ☐ A) place U
- B) place V
 - C) place W
 - D) place X
 - ☐ E) place Y
 - ☐ F) place Z

The manager of a company plans to mine and process the rocks of the mountain shown in the diagram. The people who live in the area are concerned that the mining will hurt the mountain ecosystem. Which statement describes how mining will **most likely** affect the ecosystem?

- A) It will help it by bringing new organisms and materials into the area.
- O B) It will help it by opening up the ground, so more water can flow.
- c) It will hurt it by having chemicals run off into the water as it moves downhill.
- D) It will hurt it by preventing water from being absorbed into the ground.

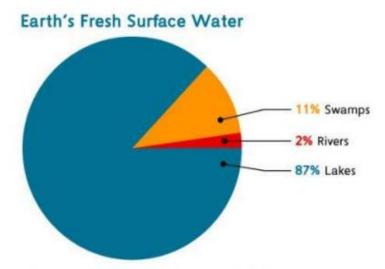
Which of the following are steps a vegetable farmer could take to prevent water pollution? Select the **two** answers that apply 40) A) use extra fertilizer to make plants healthy and strong B) choose plants that require less fertilizer C) choose plants that require less water **D)** water plants at night so less water evaporates Il vegetables locally so less fossil fuel is burned in the process of transporting produce

Which model demonstrates how running water causes erosion and deposition?

41)

- O A) Small pebbles are placed inside a bucket. Water is slowly poured into the bucket. The pebbles stay in place.
- B) Water is poured down the side of a mound of dirt. A shallow trench forms where the water runs. Dirt from the top of the mound is carried to the bottom.
- O C) An aluminum tray is filled with sand. A fan is placed at one end of the tray. When the fan is turned on, it blows the sand from one side of the tray to the other.
- O D) A teaspoon of sand is added to a glass of water. The water is stirred until it becomes cloudy.

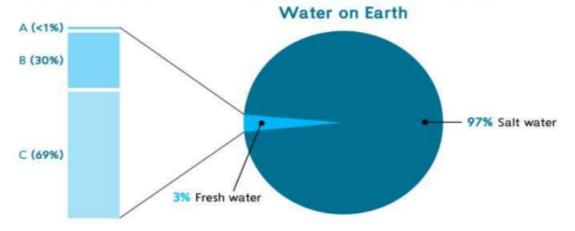
42)



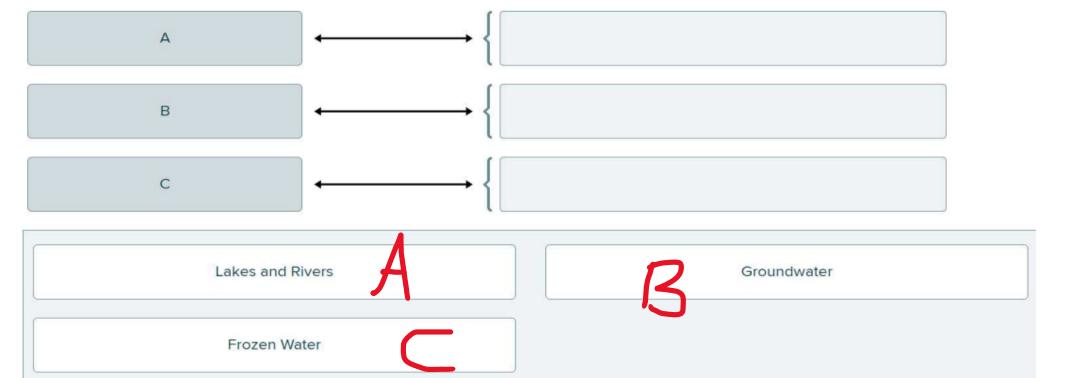
Based on the above information, which statements are true? Select three that apply.

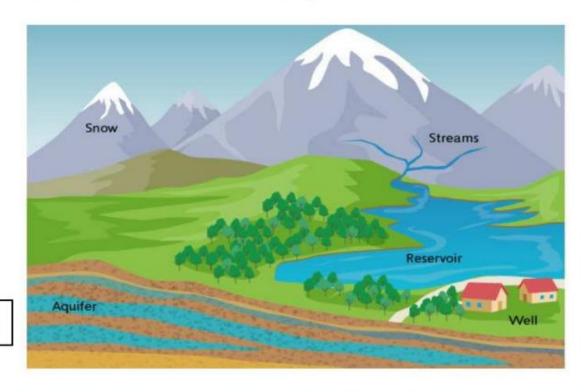
- A) Swamps and rivers make up 13% of Earth's fresh surface water.
- B) Lakes make up most of Earth's fresh water.
- C) Rivers makes up most of Earth's fresh surface water.
- D) A small percentage of Earth's fresh water is found in lakes, rivers and swamps.
- E) The majority of water on Earth is found in the oceans.

The circle graph represents the total amount of water on Earth. The gray bars to the left show the types of water that make up Earth's fresh water.



Use the graph to assign the appropriate labels to A, B, and C.





What conclusion can the students make about Earth's fresh water supply from this model?

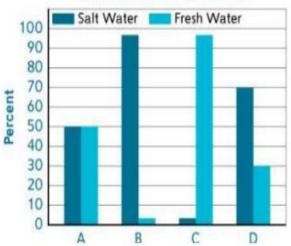
- O A) Streams are the only source of fresh water for reservoirs.
- O B) Most well water evaporates and returns to the atmosphere as water vapor.
- C) There are three main sources of fresh water: groundwater, running water, and standing water.
- O D) The snowcaps are not considered a source of fresh water.

44)

45)

Fresh water makes up only 2.5% of Earth's water supply. The bar graph below represents the amount of salt water compared to the amount of fresh water on Earth.

Percent of Salt Water and Fresh Water on Earth



It is necessary to conserve all sources of fresh water because there is very little in comparison to salt water.

- B) It is necessary to primarily conserve the ice caps because they are the largest supplier of fresh water.
- C) Most of the Earth is made up of water, so it is not necessary to conserve fresh water.
- D) There are multiple sources of fresh water, so it is not necessary to conserve the supply.

A student in the class researches a model of a new well that would provide more groundwater for drinking. The new well would be able to dig through layers of rock that were previously too hard to drill through.

Which of Earth's systems interact within the model of the well?

- O A) atmosphere and biosphere
- O B) atmosphere and geosphere
- O C) hydrosphere and biosphere
- D) hydrosphere and geosphere

Which of the following is an example of a human activity that can help protect and conserve resources?

47)

46)

- A) Organize a group to pick up trash and to teach others how to dispose of all trash properly.
- B) Plant new trees, bushes, and flowers that are native to the area.
- C) Compost garbage, grass, and leaves. Use the compost to feed plants instead of using chemical fertilizer.
- D) Ride a bike or walk instead of using a gasoline-run automobile.

