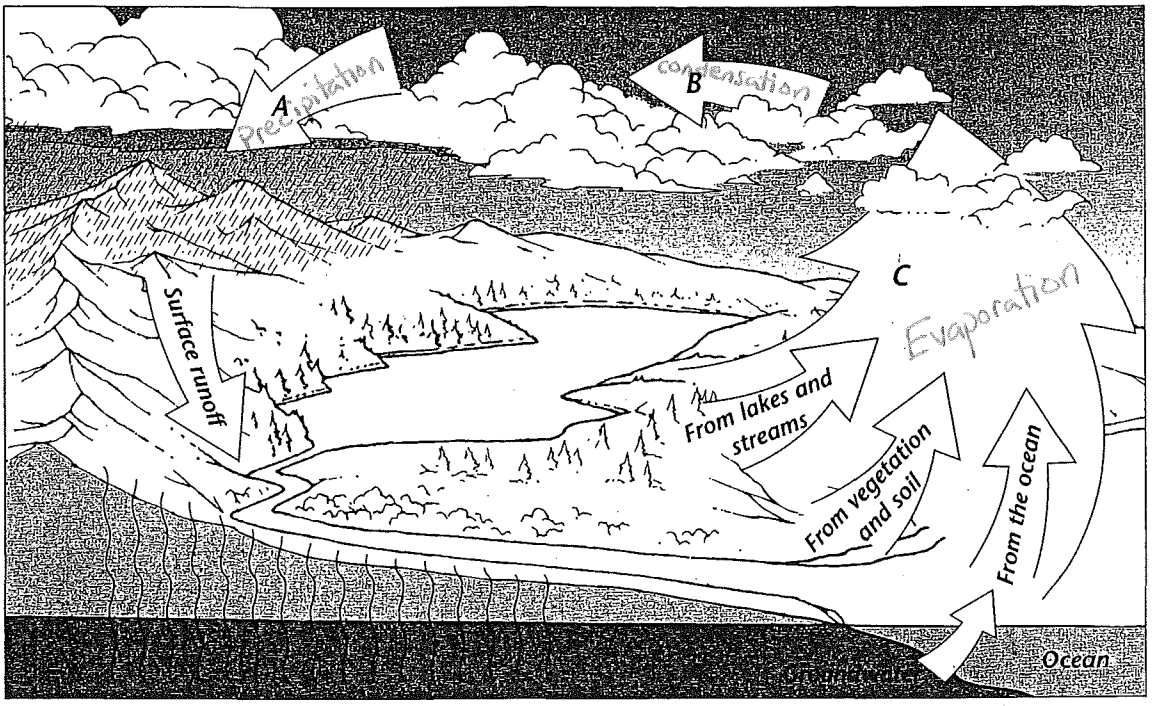
Name KEY Date _____ Class _____

SECTION 11-1 REVIEW AND REINFORCE

The Water Cycle

◆ Understanding Main Ideas



Study the illustration, and then answer the questions on a separate sheet of paper.

1. What three processes does this illustration show at points A, B, and C? See above
2. What is the source of energy that drives the water cycle? The Sun
3. Name and describe the process by which water moves from plants to the atmosphere. Transpiration
4. Describe how clouds form in the water cycle. Air rises & cools, therefore cannot hold as much water vapor. Water vapor condenses onto dust
5. What role does the ocean play in the water cycle? Big source of evaporation & Big storage of Earth's water.

◆ Building Vocabulary

Fill in the blank to complete each statement.

6. Water that fills the cracks and openings in underground soil and rock layers is called Groundwater.
7. The process of supplying water to areas of land to make them suitable for growing crops is called Irrigation.

Name _____ Date _____ Class _____

SECTION 11-3 REVIEW AND REINFORCE

Water Underground

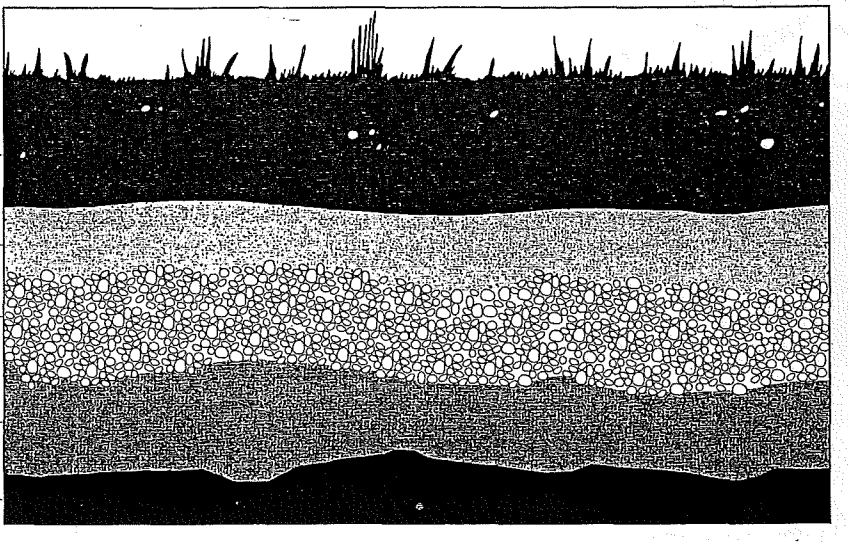
◆ Understanding Main Ideas

Answer the following questions on a separate sheet of paper.

1. What two factors determine how easily water moves through a material? size of pores & connectedness
2. Why doesn't water have to be pumped out of an artesian well? pressure w/in aquifer
3. What might cause a well to run dry? level of aquifer drops

◆ Building Vocabulary

Study this diagram and answer the questions that follow.



4. Which layers are permeable? 1-3

5. Which layers are impermeable? 4, 5

6. What is an underground layer that holds water called? saturated zone unsaturated zone

7. Use a blue pencil or marker to add groundwater to the diagram. You may choose how much groundwater you add, but make sure you put the groundwater in a logical place on the diagram. Then add the following labels: saturated zone, water table, unsaturated zone.

Name _____ Date _____ Class _____

SECTION 12-1 REVIEW AND REINFORCE

Water to Drink

◆ Understanding Main Ideas

Complete the flowchart below by filling in the spaces with the names of the steps.

Drinking-Water Treatment

1. 1st Filtration — Fish, leaves, and trash removed.
2. Coagulation — Alum is added to form flocs.
3. 2nd Filtration — Water trickles through sand or gravel.
4. Chlorination — Chlorine is added to kill organisms.
5. Aeration — Bubbling air through the water reduces unpleasant odors and taste.
6. Add. Treatment — Sodium or lime and fluoride may be added.

◆ Building Vocabulary

Match each term with its definition by writing the letter of the correct definition on the line beside the term.

e **7.** septic tank

f **8.** concentration

a **9.** pH

d **10.** hardness

c **11.** sludge

b **12.** sewage

a. a measurement of how acidic or basic a substance is

b. wastewater and the different kinds of wastes in it

c. deposits of fine solids that settle out of wastewater

d. the total amount of calcium and magnesium in water

e. an underground tank containing bacteria that break down sewage

f. the amount of one substance in a certain volume of another substance

← P. 2

Name _____ Date _____ Class _____

SECTION 13-3 REVIEW AND REINFORCE

Ocean Water Chemistry

◆ Understanding Main Ideas

Complete the following table.

The Water Column

Depth Zone	Depth Range	Average Temperature (°C)
Surface	1. ↓ to 200 m	2. 17.5 °C
3. Transition	4. ↓ to 1 km	10°C–4°C
5. Deep	1 km to ocean floor	6. 3.5 °C

No light past 200 m

Answer the following questions in the spaces provided.

7. What is the average salinity of ocean water? 35 ppt 3.5%

8. Name three factors that affect how salty the ocean is.

Evap. Melting Ice, Rivers, Freezing ice

9. Which is more dense, ocean water or fresh water? ocean

10. What is the most abundant salt in seawater? NaCl

11. Why is there more oxygen at the surface of the ocean than in deeper layers?

Algae producing it need sunlight

12. What prevents scuba divers from going deeper than about 40 meters below the surface?

High pressure "Bends"

◆ Building Vocabulary

Fill in the blank to complete each sentence.

13. A Submersible is an underwater vehicle built of strong materials to resist pressure.

14. The total amount of dissolved salts in ocean water is called salinity.

15. A vertical section of the ocean from the surface to the ocean floor is referred to as the water column.

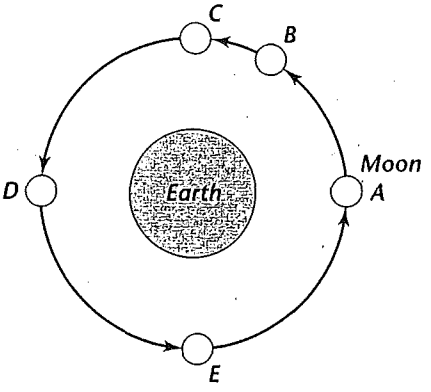
Name _____ Date _____ Class _____

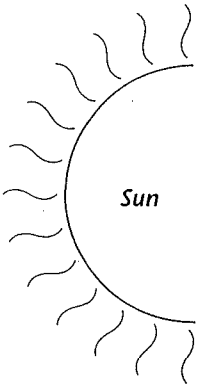
SECTION 13-2 REVIEW AND REINFORCE

Tides

◆ Understanding Main Ideas

Study the diagram and then complete the following statements.





1. The greatest difference between high and low tide occurs when the moon is in positions A and D. "Spring"
2. A neap tide occurs when the moon is in position C or E.
3. When the moon is in position D, Earth experiences a Spring tide.
4. When the moon is in position E, high tides are lower/smaller than when the moon is in position A.
5. Earth experiences a Spring tide when the moon is in position A.
6. When the moon is in position B, the difference between high and low tides is greater than when the moon is in position C.

◆ Building Vocabulary

Match each term with its definition by writing the letter of the correct definition on the line beside the term.

c	**7.** neap tide	**a.** tide with the greatest difference between high and low tide
d	**8.** high tide	**b.** tide in which water reaches its lowest point on the beach each day
		c. tide with the least difference between high and low tide
a	**9.** spring tide	**d.** tide in which water reaches its highest point on the beach each day
b	**10.** low tide	

Name _____ Date _____ Class _____

SECTION 13-4 REVIEW AND REINFORCE

Currents and Climate

◆ Understanding Main Ideas

Complete the following table.

Comparing Currents

Type of Current	Cause	Possible Temperatures
1. Surface	Winds	**2.** warm or cold
Deep	**3.** Diff. in Density	**4.** Cold

Answer the following questions in the spaces provided.

5. How do surface currents affect climate?

Surface currents can bring warmer water toward the poles, which warms the climate nearby. OR they can bring colder water toward the equator which cools the climate. Examples: France (mild winters) & California (cooler than it would be)

6. Why does upwelling attract huge numbers of fish?

Brings up tiny organisms, minerals, & nutrients good for algae (nutrients) plankton

◆ Building Vocabulary

Fill in the blank to complete each statement.

7. currents are large streams of moving water that flow through the oceans.

8. The effect of Earth's rotation on the direction of winds and currents is called the Coriolis Effect.

9. Climate is the pattern of temperature and precipitation typical of an area over a long period of time.

10. El Niño is an abnormal climate event that occurs every 2 to 7 years in the Pacific Ocean.

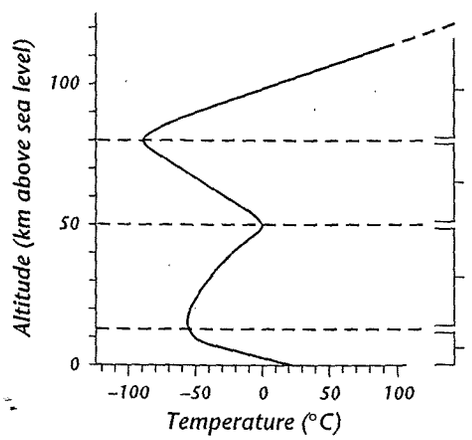
Name _____ Date _____ Class _____

SECTION 15-4 REVIEW AND REINFORCE

Layers of the Atmosphere

◆ Understanding Main Ideas

The graph below shows altitudes and temperatures for the four main layers of the atmosphere. Label the four layers and then complete the statements that follow.



1. Thermosphere
2. Mesosphere
3. Stratosphere
4. Troposphere

5. The coldest temperatures in the atmosphere occur at an altitude of about 80 km.
6. The hottest temperatures in the atmosphere occur in the thermosphere.
7. Temperatures increase in the stratosphere and thermospher layers of the atmosphere.
8. As you move up through the mesosphere, the temperature decreases.

◆ Building Vocabulary

If the statement is true, write true. If it is false, change the underlined word to make the statement true.

F 9. The layer of the atmosphere where weather occurs is the thermosphere. (Tropo)

F 10. The mesosphere (Strato) is the layer of the atmosphere that contains ozone.

T 11. The exosphere is the outer layer of the thermosphere.

F 12. Most meteoroids burn up in the stratosphere. (Meso)

F 13. The troposphere (Thermo) is divided into two layers.

T 14. The ionosphere lies between the mesosphere and exosphere.

Name _____ Date _____ Class _____

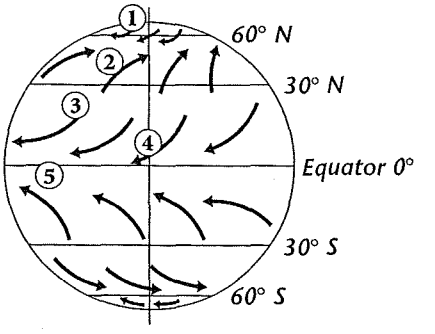
SECTION 16-3 REVIEW AND REINFORCE

Winds

◆ Understanding Main Ideas

Identify the global wind belts and calm areas in the figure below.

1. Polar Easterlies
2. Prevail. west.
3. Horse Lat.
4. Trade Winds
5. Doldrums



◆ Building Vocabulary

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

T **6.** A wind is a horizontal movement of air from an area of high pressure to an area of lower pressure.

F **7.** Wind speed is measured with a(n) wind vane. anemometer

F **8.** The increased cooling that a wind can cause is called the Coriolis effect. wind-chill factor

T **9.** Local winds are winds that blow over short distances.

F **10.** The flow of air from an ocean or lake to the land is called a land breeze. sea

F **11.** The flow of air from land to a body of water is called a sea breeze. land

? Monsoons **12.** Sea and land breezes over a large region that change direction with the seasons are called global winds.

F **13.** Winds that blow steadily from specific directions over long distances are called doldrums. Global winds

F **14.** The way Earth's rotation makes winds curve is called the prevailing westerlies. Coriolis Effect

F **15.** Bands of high-speed winds about 10 kilometers above Earth's surface are called polar easterlies. jet streams

Name _____ Date _____ Class _____

SECTION 17-1 REVIEW AND REINFORCE

Air Masses and Fronts

◆ Understanding Main Ideas

Fill in the blanks in the table below.

Air Masses

Type	Where It Forms	Temperature	Humidity
1. Maritime Trop.	Over ocean	Warm	Moist
Maritime polar	**2.** ocean	Cold	Moist
Continental tropical	Over land	**3.** warm	**4.** Dry
Continental polar	**5.** land	**6.** cold	Dry

◆ Building Vocabulary

Fill in the blanks to complete each statement.

7. A huge body of air that has similar temperature, humidity, and air pressure throughout it is called a(n) air mass.

8. Tropical air masses form in the tropics and have low pressure.

9. Air masses that form over oceans are called maritime air masses.

10. Polar air masses form north of 50° north latitude and south of 50° south latitude.

11. The area where air masses meet and do not mix becomes a(n) Front.

12. Continental air masses form over land, in the middle of continents.

13. A warm air mass that is cut off from the ground is said to be occluded.

14. A swirling center of low air pressure is called a(n) cyclone.

15. anti-cyclones are high-pressure centers of dry air.