Define Other Key Terms **** Quiz over these words on Oct. 28! ****

1. Abrasion_____

2. Aquifer_____

3. Artesian well_____

4. Beach_____

5. Cirque_____

6. Discharge_____

7. Divide_____

8. Drumlin_____

9. Esker _____

10. Exfoliation_____

11. Geyser_____

12. Hot spring_____

13. Ice age_____

14. Karst topography

15. Kettle

16. Outwash plain

17. Oxidation

18. Porosity

19. Sinkhole

20. Stalactite

21. Stalagmite

22. Stream channel

23. Watershed

24. Water table

Weathering and Erosion Video ?'s

1) Day by day, sun, wind, ice, and _____ wear away the land.

2) Processes that break down and reshape the land are weathering and _____.

3) Two types of weathering are _____ and _____.

4) Ice acting as an agent for weathering is called _____ wedging.

5) **T or F** Plants and animals are agents of weathering.

6) The combination of iron and oxygen causes rocks to 'rust'. This process is called _____.

7) Rocks like limestone contain the mineral _____, which dissolves in naturally occurring acids.

8) **T or F** Humans have not played a role in chemical weathering.

9) Which horizon of soil includes the topsoil? _____

10) Four causes of erosion are wind, water, ice, and _____.

11) A wedge-shaped valley of jagged rock is called _____.

12) Rapid mass movement of material includes landslides and mudflows. Slow mass movement of material is called _____.

13) As a stream erodes it cuts deeper and _____.

14) Wind circulates _____ in the atmosphere.

15) How thick was the ice that once covered Yosemite Valley in California? _____

16) A glacier forms when the rate of snowfall exceeds the rate of snow _____.

17) Glaciers erode V-shaped valleys into _____ - shaped valleys.

18) The Earth's surface is indeed constantly _____.

For each of the following mark a 'P' for Physical weathering, or 'C' for chemical weathering.

19) A crack in a rock gets bigger when water freezes in it. ____

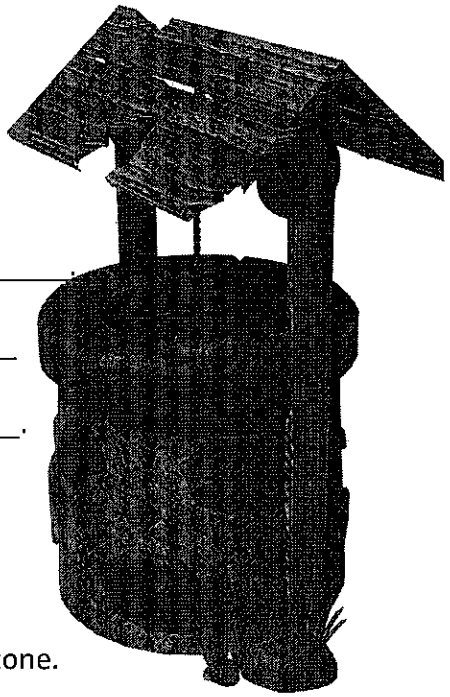
20) Growing tree roots pry apart layers of sandstone. ____

21) A fracture in limestone gets wider as groundwater flows through it ____

22) A prairie dog digs a tunnel in bedrock made of soft shale. ____

23) A new bicycle is left outside over several months and begins to rust ____

Groundwater



1. When cities are not built near rivers or lakes they must get their water from _____

2. Groundwater is valuable because it is plentiful and _____

3. How does water get underground? _____

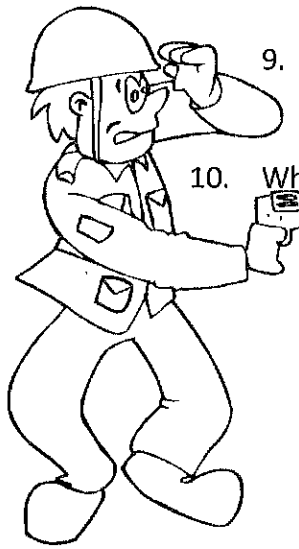
4. Capacity to transmit water = _____.

5. _____ is a good example of an aquifer.

6. Stalactites form on the _____ of a cave.

7. The area where water accumulates is called the _____ zone.

8. Rivers and lakes occur in areas where the _____ table reaches the surface.



9. Ground water works its way up to the surface by itself at _____ wells.

10. What might happen if groundwater is depleted and aquifer pressure subsides? _____

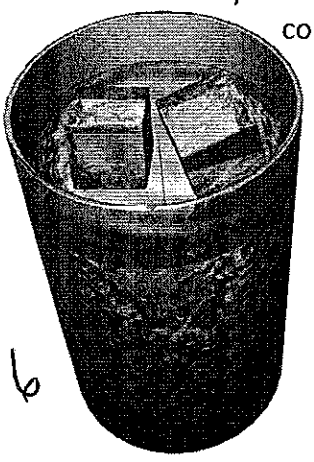
11. Groundwater can be contaminated by improperly managed or poorly planned _____.

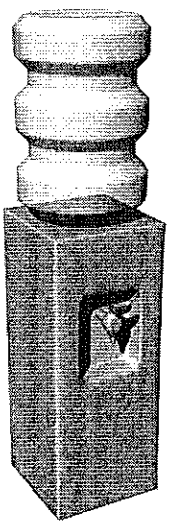
12. Without water _____ is not possible.

13. T or F Adequate supply and quality of groundwater are both potential problems.

14. What does recharge mean? _____

15. T or F Hydrologists have been unsuccessful in finding ways to prevent or monitor contaminated groundwater.





6

Weathering and Erosion

What is weathering?	Weathering – Forces that _____ _____ _____
What is the difference between weathering and erosion?	Erosion – Forces that _____ _____
What are the 2 types of weathering?	**Types of Weathering** _____ (or Physical) - Breakdown without changing rock's composition.
What is the most damaging weathering process? Does it happen everywhere?	In areas where freezing and thawing is common, _____ _____ is the most damaging weathering process. _____ Weathering: – Changes Composition All chemical weathering involves _____.
What compound is always associated with chemical weathering?	Water reacts or mixes with oxygen or carbon dioxide to create chemical reactions or natural _____ that break down rocks containing iron or _____.
What are some examples of chemical weathering?	Examples: Hydrolysis Leaching Carbonation _____

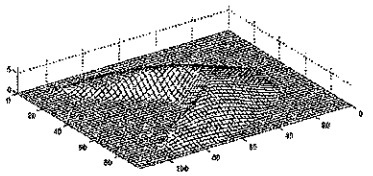
– Rates of Weathering

How does the amount of surface area exposed relate to the rate of weathering?	Spheroidal Weathering: Jagged edges are weathered _____ – forming rounded _____. Rocks containing _____ minerals, like _____ do not weather as easily.
Under what conditions will rock weather more quickly?	Weather Faster: ■ _____ minerals ■ Sedimentary rocks ■ More exposed rock ■ _____climates with freezing and thawing
Under what conditions will rock take longer to weather?	Weather Slower: ■ Hard minerals ■ Some _____ and metamorphic rocks ■ Less-exposed rocks ■ Dry areas

- Soil and Erosion

Why is good soil important?	**SOIL** Without soil there could be no _____ on land.
What are the 3 main parts of soil?	3 main parts: _____, _____, & _____.
	To study soil, one looks at the soil _____ or cross section of exposed layers down to the parent material.
What does a mature soil profile look like?	_____ soil consists of 3 horizons: A horizon: Topsoil, gray to black, contains _____ (organic material), sandy B horizon: (zone of accumulation), Subsoil, red or brown, contains soluble _____ and iron oxides, contains more _____. C horizon: slightly weathered _____ material, rocky *Draw Soil Profile Diagram Here:*
What is the main factor affecting soil type?	The most important factor affecting soil is _____. **MASS MOVEMENTS** Movement of loose earth material caused by _____.
What is a Mass Movement?	_____: Very slow movement of soil – only noticed by its effects – _____ makes it happen easier.
What is the fastest type of mass movement? Slowest?	_____: Sudden movement of mass bedrock, loose rock, or water-saturated clay and silt. _____ and _____. The steeper and wetter the slope the _____ the risk.

Wind & Wave Erosion

How does wind act as an agent of both weathering an erosion? Describe the different types of dunes and how they form.	Wind : An agent of _____ and _____ -carries _____ away -drives sediment against _____ to break them down -heavier particles, like _____, are carried within 1 meter of the ground = greater _____ effects When sand is _____ (blown away) it exposes the _____ _____ (rocks and boulders) Four types of sand dunes: **PAGE 205** 1. _____ 2. _____ 3. _____ 4. _____ (steeper slope is always on the leeward side or slipface)  Dunes move in a _____ direction – up to _____ meters per year. Wind as well as _____ can sort sediment. _____ particles are not carried as far. Fine dust particles can be deposited a great distance away to form _____.
What part of a coastline is eroded first? Describe some coastal features created by wave erosion	Wave Erosion The force of _____ striking a shoreline can break off pieces of _____ and throw them back against the _____. _____ increases during _____. The _____ are affected most by _____ energy. Forms sea cliffs, _____, _____, and _____. Particles are deposited in bays to form _____. Beach sand migrates down a beach by the _____ and _____ of a _____ current. Forms _____, and _____.
What factors affect the amount of coastal erosion or deposition that takes place?	Coastal Erosion & Deposition _____ features are affected by _____, change in sea level, or the rising and sinking of _____. Sea levels drop during _____ _____. Some areas near plate boundaries have risen or dropped due to _____ _____ Great effort has been made to _____ coastlines and their valuable _____ _____.

Glaciers

What is a glacier?	A glacier is a large mass of _____-covered ice hundreds of meters thick.
How are the two main types of glaciers different?	_____ Glacier: (or alpine glacier) is a long, slow-moving, _____-shaped stream of ice. Can be many _____ in length. _____Glacier: (or ice sheet) is a larger glacier that moves through _____ valleys – may break off to form _____in the ocean. Large ice sheets are called_____ _____.
How does a glacier form?	Glaciers are found above the _____ _____or areas of _____ snow. Glaciers form when the amount of _____ exceeds the amount of _____. In snow fields, new snow becomes _____ and recrystallizes into rough ice crystals called _____. The lower layers become solid _____, then begin to flow downward or outward. A glacier ends where it melts as fast as it _____. This is an ice _____. As a glacier meets the sea it may break off into large _____. This is _____.

– Ice Ages

How have glaciers left evidence of ice ages?	There have been several _____ _____throughout earth's history. _____ have left evidence of this. *List at least 3 examples:* _____ _____ _____
What are some possible causes for ice ages?	Last major Ice Age ended _____ years ago. _____% of land area was covered by _____. _____ _____proposed a cause for the long-term drop in earth's average temperature: 1) _____. Earth is sometimes further away from the _____ in its elliptical orbit. This change in the shape of earth's orbit happens every _____ years. 2) _____. Change in angle of the tilt of earth's axis every _____ years. 3) _____. Change in orientation of earth's axis every _____ years. A combination of these 3 can result in a reduced amount of _____ _____ reaching the earth's surface for an extended period of time.

Surface Water

How is earth's total water supply distributed?

There are approx. _____ billion cubic kilometers of water on Earth.

	Location of Water	% of World's Total Water Supply
SALT WATER:		
FRESH WATER:		

Less than _____% of the Earth's water is available for use by humans.

What processes make up the Water Cycle?

The WATER CYCLE:

1) _____: Surface water + the sun's energy = evaporation and transpiration from plants adds water vapor to the _____.
2) _____: Water vapor cools and _____ into water droplets.
3) _____: Water returns to surface via rain or snow.
4) At the surface, water always runs downhill – toward the oceans.

Under what conditions does each section of a water budget exist?

Water Budget: Describes the _____ and _____ of water for a region.

_____: Amount of rain exceeds water needs – water soaks into soil and is stored.
_____: Ground is saturated so excess water begins to run off.
_____: Need for water exceeds rainfall – water is taken from stored supply.
_____: Need for water exceeds water supply & soil water storage is gone.

River Systems

What are some characteristics of running water as an agent of erosion?

Running Water:

- most effective agent of _____
- energy originates from the _____
- carries sediment by: - _____
  - _____
  - _____

_____is determined by the amount and size of the sediment in the stream, velocity, and _____ of the stream.

What features of a stream indicate that it is young?

Young Streams

Usually in high mountain regions
Have _____-shaped valleys
Have a _____ velocity

A stream cannot cut any lower than its _____. If the stream drains into an _____, its base level would be sea level.

Older Streams – *Draw yourself a diagram* →

Closer to base level
Wider
_____

What features of a stream indicate that it is older?

Older rivers _____ or wander side to side widening the flood plain
A meander making the shape of a _____, then breaking through creates an _____ _____.
Many small streams flow downhill until they meet one another, grow _____ and _____ and create a large stream like the Mississippi.
Streams on opposite sides of a mountain will flow _____ from each other.

Stream Deposition

Why do people build homes and have farms in a flood plain?

_____ _____ – part of the river channel; occupied by water only at flood stage.

Sediment left by floods is good for _____.

A river will deposit sediment if:

Under what conditions will a river lose carrying power and deposit sediment?

- it _____ _____
  - river _____
  - river reaches the _____
- discharge _____ (less water is flowing)
  - water passes through a _____ area; seeps into ground, _____
  - water is diverted for _____

What can cause a flash flood?

Heavy or long-lasting rains can cause a flood; large _____ can cause a _____ _____. Dams made up of ice, or created by landslides can cause a flood.

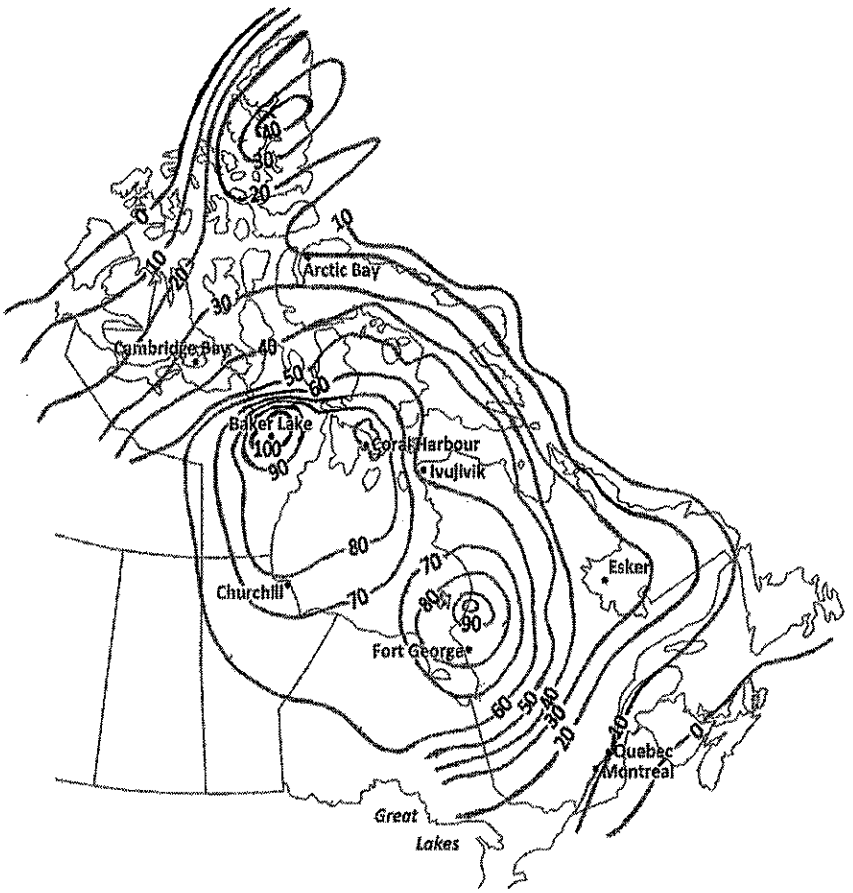
Water Beneath the Surface

How is porosity and permeability related? What conditions would cause the water table to be high?	GROUNDWATER _____ **– Spaces between particles in soil** Porosity - % of soil's _____ that is pore space (determined by particle shape, _____, and amount of _____) The _____ of the pore spaces determine the _____ of material. _____ _____ : Zone of water saturated soil Depth of water table determined by: 1) amount of _____ 2) _____ 3) _____ of ground surface 4) thickness of _____ 5) _____ 6) time between _____ _____: Permeable layer that holds and transports _____ Unconfined - water seeps directly from _____. Confined - below impermeable cap rock; water seeps in via a _____ area.
How does one draw upon groundwater as a source of fresh water? What affects the temperature of groundwater? What features are created when groundwater is heated?	Wells & Springs Wells must be able to reach the water table when it is at its _____. **Groundwater is Cool** below _____ meters, groundwater temperatures are unaffected by _____ – they remain the same year round. (5 °C – 15 °C) After _____ meters of depth, temperatures increase by 1 °C every _____ meters. Water from great depths or water near volcanic activity may produce _____ _____. _____ are created when this _____ water is constricted, then released suddenly. _____ are dissolved in groundwater. _____ wells contain more minerals because they have traveled _____ and are _____.
What is hard water? What features are created when groundwater dissolves limestone?	Groundwater & Chemical Weathering Calcium ions make water "_____". **In regions of _____, almost all water is hard.** Ground water can hollow out limestone to form _____ and _____. When a cavern collapses, it forms a _____. When water drains into sinkholes or fissures, there are very few _____ or _____. Regions with sinkholes and "lost rivers" are said to have _____ _____

Glacial Rebound

1. Use the contour map of glacial rebound to complete the Data Table.

Data Table		
City	**Amount of Rebound (meters)**	**Duration of Rebound (years)**
Arctic Bay		3700
Cambridge Bay		4300
Coral Harbour		5800
Baker Lake		6000
Churchill		5600
Ivujivik		5300
Fort George		5700
Esker		4600
Montreal		3100
Quebec		2700



(Contour Interval = 10m)

2. What is the value of the highest rebound contour shown? _____

3. The areas on the map with greatest rebound are called rebound centers. Name a city closest to each of the two rebound centers shown on the map.

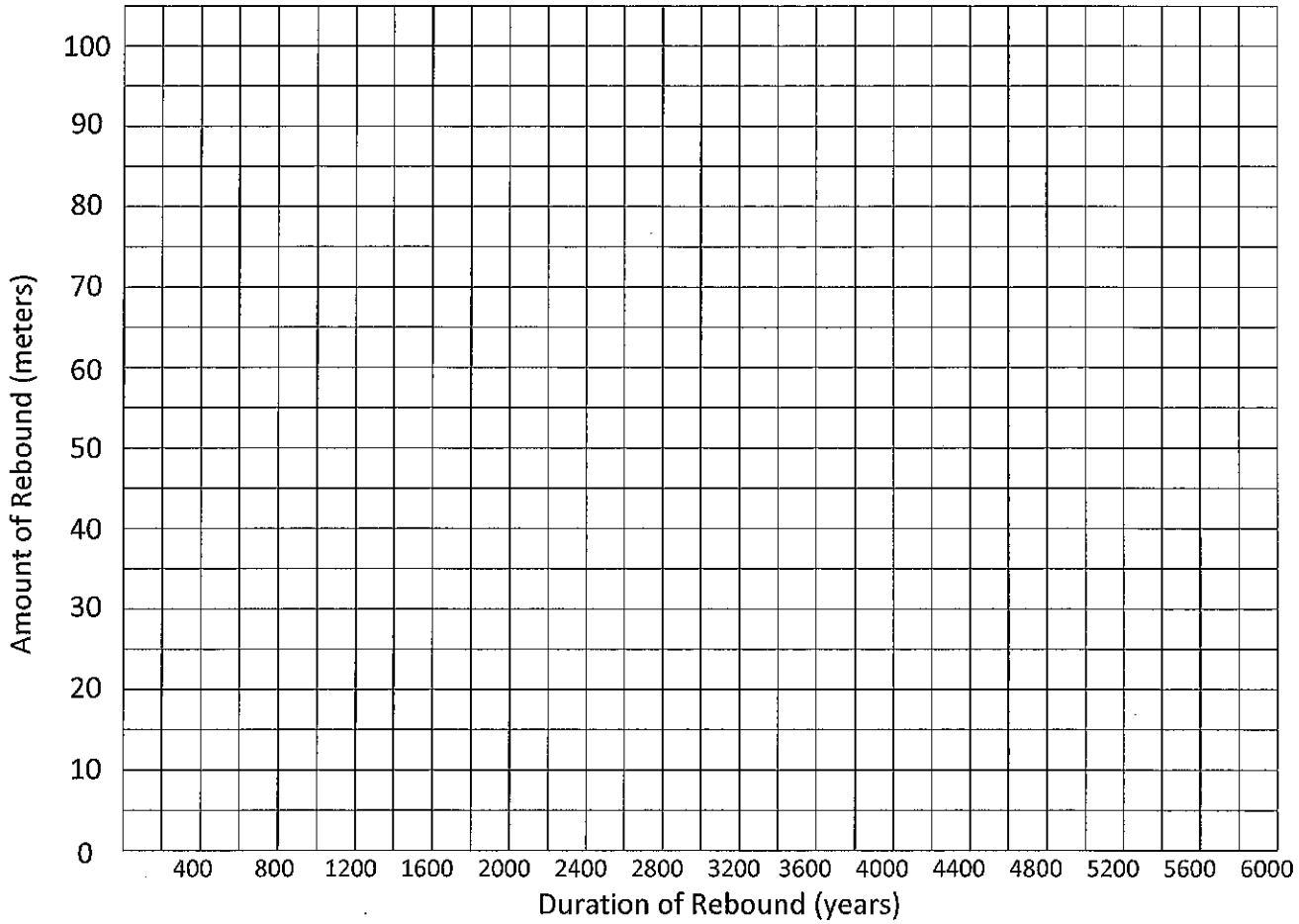
_____ _____

4. What is the probable relationship between the rebound centers and the thickness of ice in Canada?

_____

5. What is the probable relationship between the rebound centers and the locations where ice first accumulated? _____

6. Use the Amount of Rebound and Duration of Rebound from the Data Table as coordinates for the graph below. Plot the points, then draw a "smooth" curve starting at coordinate (0,0).



7. According to your graph, by what amount did the area on the map rebound during the first 1,000 years (from 5,000 to 6,000 years ago)? _____

8. By what amount has the area rebounded in the last 1,000 years? _____

9. Has the rate of uplift been constant? Explain! _____

_____

10. Identify the following as causing the crust to either <u>subside</u> or <u>rebound</u>:

a. formation of a large delta _____

b. the erosion of a mountain range _____

c. the formation of a large lake behind a dam _____

d. the accumulation of sediments in a large sea _____

e. the building of a skyscraper _____

Name _____

Interpreting Water Budgets

Objectives: -- To describe how water usage, deficit, recharge, and surplus are shown in water budget data.
-- To compare and contrast water budget graphs from different areas.

Procedure:

1. Locate the row for *Supply minus need* on the first data table. Start with the value for May. Because the value in the previous month was positive, the negative value in May shows that this is the first month in which water will need to be drawn from the groundwater. In other words, May is the first month of water usage. On the line labeled *Water Budget Section*, write *U* for usage in May.
2. Usage will continue until the negative values total 100. The –28 for May and the –50 for June do not add up to –100. Therefore, June is also a usage month. Write *U* on the table for June.
3. Adding the negative value for July to those for May and June brings the total to –104. This means that the groundwater storage is emptied in July, beginning a period of water deficit. To show change from usage to deficit, write *U/D* on the table for July.
4. August, September, and October also have negative values. Because the groundwater was drained completely in July, these are deficit months. Write *D* on the table for August, September, and October.
5. November is the first month with a positive value. This means that the groundwater storage will start to fill again in that month. To show this change, write *R* for *recharge* in November.
6. The +34 for November and +82 for December total more than the storage capacity of 100. Therefore, water surplus begins in December. To show the change from recharge to surplus, write *R/S* for December.
7. The values for January, February, March, And April continue to be positive. Since the storage was filled in December, surplus continues. Write *S* in the space for those four months.
8. For each of the other three cities, calculate the difference between supply and need and write the result on the *Supply Minus Need* line. Be sure to indicate if each value is positive or negative.
9. Begin with the first month that contains a negative number in the *Supply Minus Need* row and assume that the groundwater storage is full and contains 100 units of water. Using the symbols *U, U/D, D, R, R/S,* and *S*, label the times of usage, deficit, recharge, surplus, and transitions from usage to deficit and from recharge to surplus for the three additional cities.
10. Answer the questions.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply	108	131	125	95	96	115	155	142	88	61	60	99
Need	15	19	45	76	124	165	181	166	129	73	26	17
Supply minus Need	+93	+112	+80	+19	-28	-50	-26	-24	-41	-12	+34	+82
Soil Water Storage												
Water Budget Section												

Water budget data for Albany, Georgia

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply	62	64	75	72	84	102	82	88	69	61	54	64
Need	0	1	13	48	93	128	145	126	89	48	15	2
Supply minus Need												
Soil Water Storage												
Water Budget Section												

Water budget data for Cumberland, Maryland

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply	27	25	39	54	79	103	95	84	80	53	41	27
Need	0	0	0	24	66	98	127	113	75	37	0	0
Supply minus Need												
Soil Water Storage												
Water Budget Section												

Water budget data for Duluth, Minnesota

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Supply	44	40	41	24	10	3	0	0	4	13	22	40
Need	13	20	37	63	99	139	180	165	114	70	31	12
Supply minus Need												
Soil Water Storage												
Water Budget Section												

Water budget data for Fresno, California

Questions.

1. How are Albany and Cumberland similar in terms of water usage, deficit, recharge, and surplus?

   _____

2. Which part of the water budget (usage, deficit, recharge, or surplus) occurs in Albany but does not occur in Fresno?

   _____

3. Which part of the water budget (usage, deficit, recharge, or surplus) occurs in Albany but not in Duluth?

   _____

4. Which city is in the driest climate? Explain your answer in terms of periods of deficit or surplus.

   _____

5. Which city has the wettest climate? Explain your answer in terms of periods of deficit or surplus.

   _____

Stream Divides and River Systems

Objectives: ➔ To identify major United States river systems
➔ To locate the drainage divides that form along the boundaries of those systems.

Procedure:

1. Locate the mouth of the Mississippi River on the river map. With a colored pencil, trace over the Mississippi River and all of its tributaries.

2. Draw a continuous line marking a border around all the rivers you have traced in Step 1. The area inside this line should include all the rivers that flow into the Mississippi River System. The line should not cross any rivers. Label the enclosed area *Mississippi River System*. Use the same colored pencil to lightly shade in the area.

3. Locate the Colorado River. Use a different colored pencil to trace over, label, and shade the Colorado River System.

4. Repeat Step 3 for the Columbia River System, the Rio Grande System, and the St. Lawrence System.

5. Draw and label a line to show the location of the Great Continental Divide. (The point that separates water that flows east from water that flows west.)

6. Answer the questions.

Questions.

1. In the continental United States, what happens to rain that falls west of the Great Continental Divide? _____
What happens to rain that falls east? _____

2. The headwaters of three river systems are located in Colorado. Name the 3 systems:
1. _____ *2.* _____ *3.* _____

3. Identify the river system in which each of the following rivers are found.
a. Snake River _____ *d. Wabash River* _____
b. Platte River _____ *e. Cumberland River* _____
c. Green River _____ *f. Gila River* _____

4. What is the source of the water in the St. Lawrence River? _____
What general direction does it flow? _____

5. Identify 3 rivers for which the Mississippi River is the base level:
1. _____ *2.* _____ *3.* _____

6. Identify the bay, sound, or gulf that serves as base level for:
a. The Sacramento and San Joaquin Rivers. _____
b. The Alabama River System. _____
c. The Connecticut River System. _____

7. Locate the James, Roanoke, and Savannah Rivers. From what mountain range do these rivers originate? _____

8. Name the largest river that flows near Mountain Home. _____
Where does it originate? _____
What is its base level? _____
To which River System does it belong? _____

9. Locate the rivers shown in central Nevada. Why are these rivers not part of a larger river system? _____

Connecticut R.
Long Island Sound
St. Lawrence R.
James R.
Roanoke R.
Savannah R.
Cumberland R.
Alabama R.
Gulf of Mexico
Wabash R.
Illinois R.
Mississippi R.
Missouri R.
Arkansas R.
Mississippi R.
Red R.
Platte R.
Rio Grande
Green R.
Snake R.
Gila R.
Colorado R.
Columbia R.
Sacramento R.
San Joaquin R.
San Francisco Bay

Weathering & Erosion Review Questions

True or False.

_____ 1. Chemical weathering breaks down a rock without changing the composition of the rock.

_____ 2. Chemical and mechanical are two types of erosion.

_____ 3. Rockfalls and landslides are examples of mass movements.

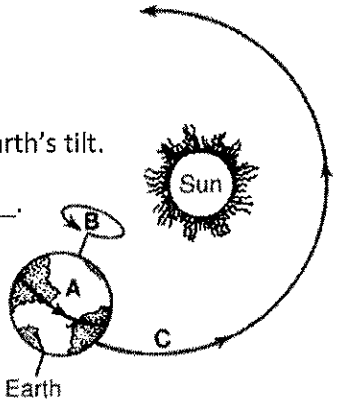
_____ 4. Gravity is an important agent of erosion.

_____ 5. Melting of an ice sheet would result in the lowering of sea level.

_____ 6. Ice ages may begin with a lowering of global temperatures.

_____ 7. The distribution of solar energy reaching the earth depends on the earth's tilt.

_____ 8. Precession is indicated in the diagram by the arrow labeled _____.



_____ 9. Most water evaporating from the earth's surface evaporates from lakes and rivers.

_____ 10. As velocity of a stream decreases, its load of sediment also decreases.

_____ 11. Flooding is a natural stage in the development of a stream.

_____ 12. Evapotranspiration increases with increasing temperature.

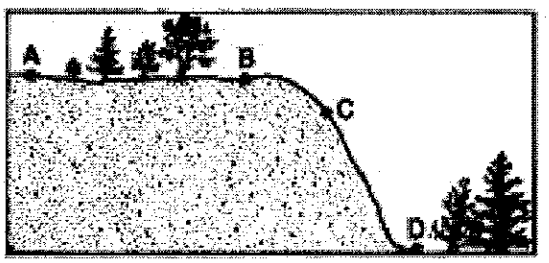
Choose the best response.

_____ 13. Weathering is generally slow in climates with extended periods of:

a. acid rain b. cold c. high winds d. humidity

_____ 14. At which point in the diagram will weathering occur most rapidly?

a. **A** b. **B** c. **C** d. **D**



_____ 15. Mechanical weathering of exposed surfaces causes rock to

a. decompose b. break into smaller pieces c. melt d. become buried

_____ 16. The chemical composition of soil depends to a large extent on

a. topography b. its A horizon c. the parent material d. its B horizon

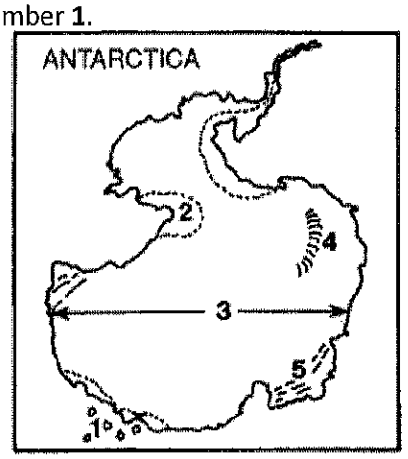
_____ 17. The soil in tropical climates is often

a. thick b. dry c. thin d. fertile

_____ 18. The transport of weathered materials by a moving natural agent is called

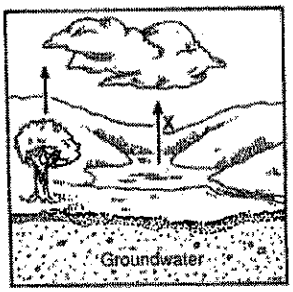
a. mass movement b. weathering c. erosion d. creep

_____ 19. Which of the following features is represented in the diagram by number **1**.



a. crevasses b. ice sheets
c. cirques d. icebergs

_____ 20. The arrow labeled **X** represents:



a. absorption
b. evaporation
c. rejuvenation
d. transpiration

_____ 21. What is the term for the main stream and tributaries of a river?

a. river system b. river bed c. drainage basin d. water gap

_____ 22. The path that a river follows is called its:

a. tributary b. gully c. channel d. meander

_____ 23. The part of a valley floor that may be covered during a flood becomes the

a. floodway b. groundwater c. floodplain d. artificial levee

_____ 24. The change of water vapor into liquid water is called

a. runoff b. evaporation c. desalination d. condensation.

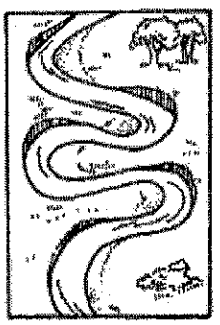
_____ 25. In a water budget, the income is precipitation and the expense is

a. evapotranspiration and runoff
b. condensation and saltation
c. erosion and conservation
d. rejuvenation and sedimentation

_____ 26. All of the sediment carried by a river is called the:

a. suspended load b. bed load c. stream load d. dissolved load

_____ 27. The wide curves in the river in the diagram are:



a. meanders b. oxbows
c. tributaries d. channels

_____ 28. Which of the following factors most directly influences porosity?

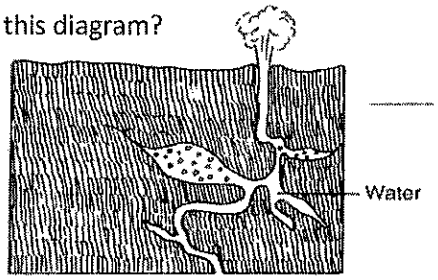
a. grain composition b. sorting of grains c. grain size d. permeability of grains

_____ 29. When a sediment is well sorted, its particles are all about the same:

a. size b. shape c. weight d. composition

_____ 30. Which of the following features is represented by this diagram?

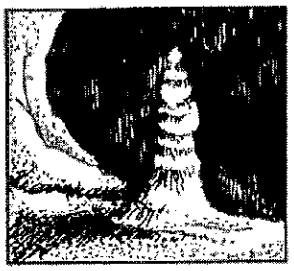
a. travertine terrace b. geyser
c. cap rock d. artesian well



_____ 31. Groundwater is sometimes heated beneath the earth's surface when it passes through areas where there has been recent:

a. severe drought b. aquifer contamination c. mineral deposition d. volcanic activity

_____ 32. What formation is represented in the diagram?



a. stalactite b. column
c. stalagmite d. natural bridge

_____ 33. When all the particles in a sediment are about the same size, the sediment is said to be

a. fractured b. well sorted c. permeable d. poorly sorted

_____ 34. Calcite formations suspended from the ceiling of a cavern are called

a. stalagmites b. stalactites c. sinks d. aquifers

Completion.

35. A theory that ice ages are caused by changes in the earth's orbit and tilt was proposed by Milutin _____.

36. A long period of climatic cooling during which ice covers much of the earth is called an _____.

37. The elevation above which ice and snow remain throughout the year is called the _____.

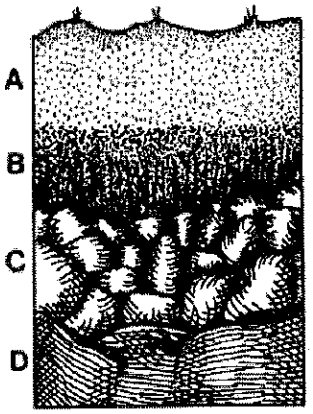
38. The largest continental ice sheet in the world is located in _____.

39. Fractures and joints allow weathering to occur more rapidly by increasing a rock's _____

40. Water that penetrates rock and then freezes causes weathering by the process of _____

41. A dark, organic material in the soil produced by the decaying remains of plants and animals is called _____.

42. The layers of a soil profile are called _____.



43. In this diagram, organic matter is most concentrated in the layer labeled _____.

44. Bedrock is represented by the layer labeled _____.

45. Water that cannot soak into the soil moves downslope as _____.

46. Large amounts of water can flow through and be stored in a body of rock called an _____.

47. A surface depression that forms as a result of the collapse of a cave roof is called a _____.

48. Regions where the effects of chemical weathering due to groundwater are clearly visible at the surface are said to have _____.

Critical Thinking

49. A rock can be porous, yet impermeable. Explain how. _____

_____

50. Compare the weathering processes that affect rock on top of a mountain and rock buried beneath the ground.

_____

_____

_____