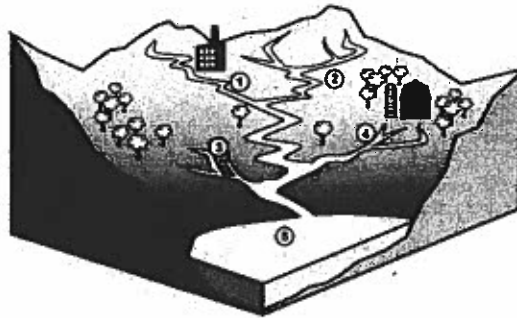


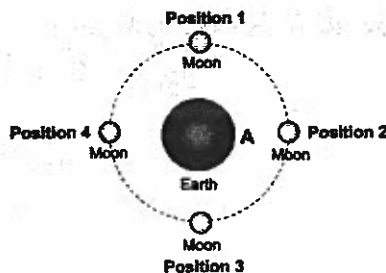
## Multiple Choice

1. Consider the following watershed.



Which of the numbered locations in the diagram are likely to be affected by waste from the farm or factory?

- A) Locations 1, 2 and 4  
 B) Locations 1, 4 and 5  
 C) Locations 2, 3 and 5  
 D) Locations 3, 4 and 5
2. The diagram below shows four different position of the Moon around the Earth. For low tide to occur at point A, the Moon must be located at:



- A) position 1 only.  
 B) position 4 only.  
 C) position 1 or 3.  
 D) position 2 or 4.

3. Many factors can affect the flow of water in a watershed. Which of the following factors reduce the flow?
- A) A steeply sloping terrain  
 B) A farm with corn crops  
 C) Replacing a forest with a paved parking lot  
 D) High wind and high rainfall
4. Which statement is true regarding a mineral ore?
- A) All rocks are ores.  
 B) Ores contain metals.  
 C) An ore is a rock rich in minerals that can be mined profitably.  
 D) An ore is rare mineral found in remote locations.

5. Which of the following are TRUE regarding hurricanes?

- A) A hurricane results from a strong tropical depression.  
 B) A hurricane is an anticyclone.  
 C) A hurricane always forms over cold waters.  
 D) A hurricane is formed by a high pressure system.

MC ANS	
1	B
2	C
3	B
4	C
5	A

6. This atmospheric layer is warmer due to the presence of ozone, which absorbs UV rays.  
A) Troposphere B) Stratosphere C) Mesosphere D) Thermosphere
7. In which atmospheric layer would a jet plane encounter a thunderstorm?  
A) Troposphere B) Stratosphere C) Mesosphere D) Thermosphere
8. Tides are the rise and fall of water levels. Which of the following statements is true?  
A) The tidal range is always constant.  
B) There is only one tide per day everywhere on Earth.  
C) One high tide occurs on the side of the Earth which is directly facing the Moon.  
D) The tides are caused only by the position of the sun.
9. Talc has a very low value on the Mohs scale. This tells us that talc is:  
A) transparent B) allochromatic C) a relatively hard mineral D) a relatively soft mineral

10. Which choice best matches the characteristics of a clear diamond.

	Mohs scale value	Colour	Transparency
A	1	Allochromatic	Opaque
B	10	Allochromatic	Transparent
C	1	Idiochromatic	Translucent
D	10	Idiochromatic	Transparent

MC ANS	
6	B
7	A
8	C
9	D
10	D

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11. Identify the types of rocks according to their description. (4)  
Sedimentary (S), Igneous extrusive (IE) Igneous intrusive (II) and Metamorphic (M).
- a) Limestone, a type of sedimentary rock, becomes marble after millions of years of pressure. Marble would be classified as.... M
- b) Rocks that slowly cool and solidify under the Earth's surface. Granite is a typical example. II
- c) Formed when magma reaches the Earth's surface through a volcano and cools quickly. IE
- d) Rock that has formed through the deposition, accumulation and compaction of debris. S.

12. Fill-in the tale below. (5)

Energy Resource	Comes From Atmosphere/ Lithosphere/ Hydrosphere	Main Disadvantage	Main Advantage
Nuclear Energy	Lithosphere	radioactive waste. (not expensive)	low GHG large E yield for low amount
Wind Energy	Atmosphere	Expensive	renewable
Fossil Fuels	Lithosphere	Major contributor to GHGs	Ease of use
Solar Energy	Atmosphere (sun)	inconsistent.   exp.	renewable
Hydroelectricity	Hydrosphere.	flooding   can be exp. if ...	renewable.

### Atmosphere (3)

13. You are working with NASA, in a team that focuses on public awareness. It is your job to explain why the atmosphere is essential to life on earth.

List 3 roles that the atmosphere accomplishes that have permitted life on earth.

1. Blocks UV
2. Ensures a stable climate
3. Contains  $CO_2 + O_2$  allows for photosynthesis  $\rightleftharpoons$  respiration.

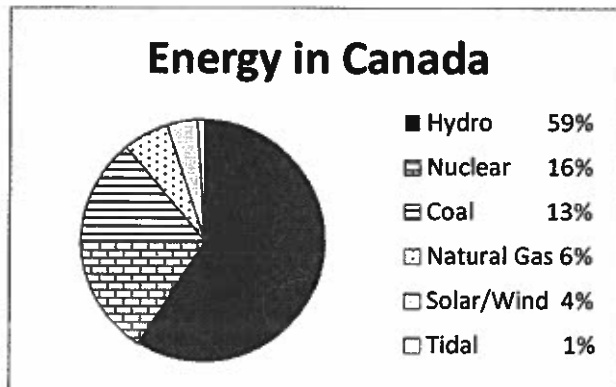
### Solar energy (2)

14. You are planning to build a house in an area that receives a lot of sun light. Name 2 measures that you could put into place to capture this energy.

1. Passive heating system (South facing windows, cement to absorb)
2. Solar panels  
Solar collectors.

### Energy Resources (4)

15.



The graph to the left shows the energy sources used to generate electricity in Canada and their approximate percentages.

Using this graph, determine the following:

- a) What percentage of electricity is produced from energy sources that generate greenhouse gas emissions? 19 %  
*13 + 6*  
*Coal N.G*
- b) What percentage of electricity is produced from energy sources that are renewable? 64 %  
*59 + 4 + 1*  
*hydro + solar/wind + tidal*
- c) What percentage of electricity is produced from energy sources found in the atmosphere? 4 %  
*wind*
- d) What percentage of electricity is produced from energy sources found in the hydrosphere? 60 %  
*Hydro 59 + 1*  
*tidal*

### Meteorology (5)

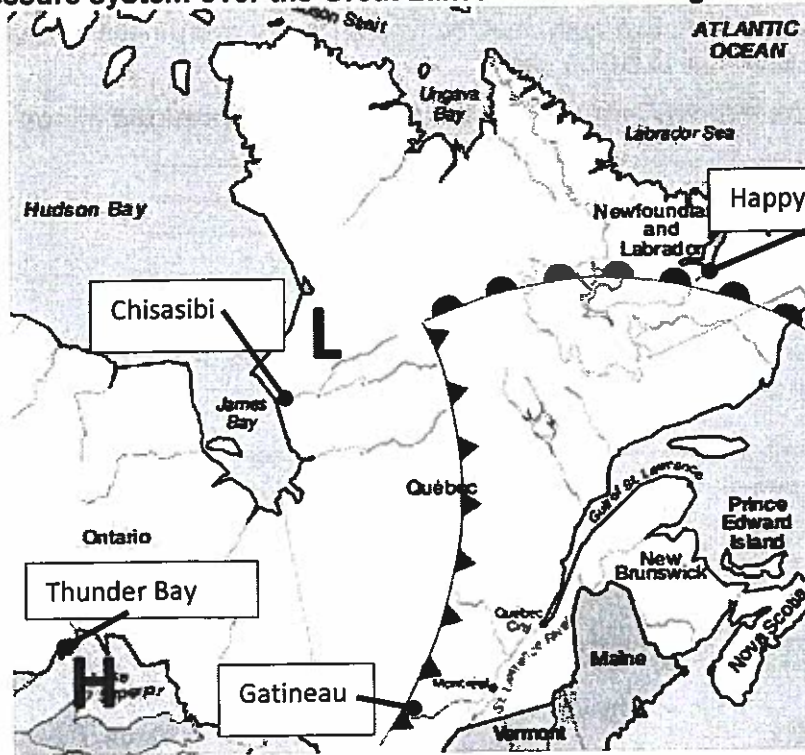
16. What causes the rotation of low and high pressure systems? Coriolis Effect.

17. Which two gases are most abundant in our atmosphere?  $N_2$  &  $O_2$

18. Name two major green house gases.  $CO_2$  &  $CH_4$   $O_3$   $NO_x$   $CO$

19. There is a high-pressure system over the Great Lakes that is heading towards the east. (7)

West



East

Circle the correct answers.

a) Describe the weather in Thunder Bay.

Anticyclone

or

Depression

Cloudy

or

Clear

b) Describe the weather in Chisasibi.

Anticyclone

or

Depression

Cloudy

or

Clear

c) Describe the weather in Happy Valley-Goose Bay: What type of front is it? Warm or Cold

What types of clouds are forming? nimbostratus

Describe the rain. Heavy rain or showers