GEOLOGY 12
EARTH MATERIALS - ROCKS WORKSHEET 2

Refer to pp 45-47, 51-67 of the text to answer the following questions.

1. a) Use the term lithification to differentiate between sediments and sedimentary rock.
   b) What are the most common cements in sedimentary rock?
   c) Explain why shale is one of the most common sedimentary rocks.

2. Explain how: a) carbonate rocks/minerals trap carbon dioxide;
   b) acid rain (from pollution) can contribute to global warming (refer to your previous answer).

3. Examine the features shown in **Diagram 1**.
   a) Indicate a location where each of the four features could form, by placing the letter of each feature on diagram 2.
   b) Describe how each of the four features were formed.

Diagram 1

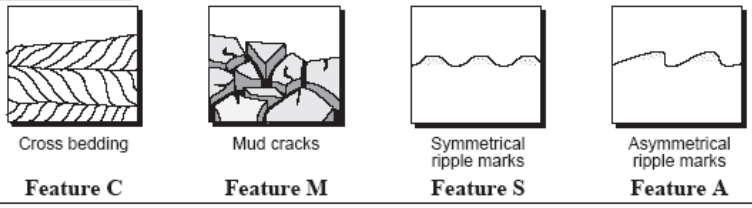
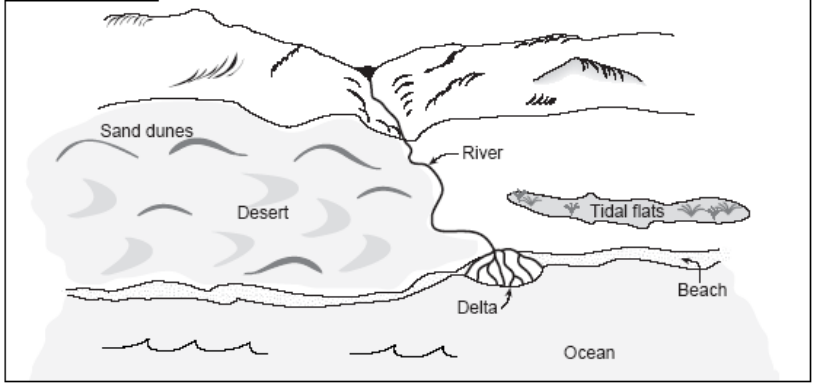
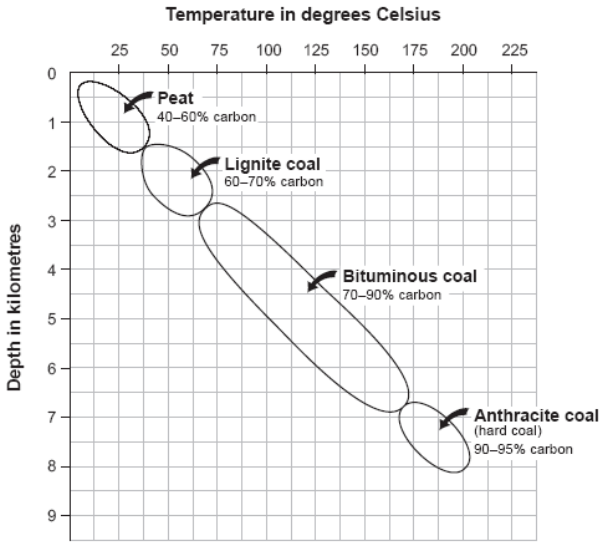


Diagram 2



4. a) Describe a type of environment where a potential coal deposit could accumulate on the earth's surface and the type of material that would accumulate to eventually become coal.
   b) According to the graph, at what temperature and depth would lignite change to bituminous coal?
   c) Why is anthracite (hard coal) often found in association with slate rather than shale or mudstone?



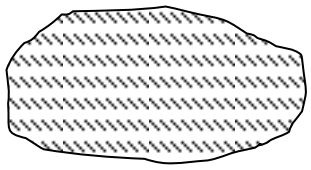
5. Under what conditions will evaporites form? Describe a hypothetical situation.

6. What are placers? Describe their formation.

7. List some sedimentary and placer deposits in B.C.

8. What are the three factors that determine the amount of metamorphism that takes place in a material?

9. A sample of foliated rock is shown. The small dashed lines represent tiny crystals. Draw arrows to indicate the direction of applied force that led to the foliation of these crystals.



10. a) Explain how hydrothermal activity can contribute to the metamorphism of rock material.
b) Compare and contrast contact and regional metamorphism.
c) Give examples of contact and regional metamorphic deposits in B.C.

11. a) What is meant by metamorphic grade?
b) How is metamorphic grade useful in reconstructing past geologic events?

12. Describe the formation of the following metamorphic deposits:
a) graphite b) garnet