Classifying Rocks

Name _____
Partner(s) _____
_____
Block _____
Date _____
Rock Set # _____

Objective: 1) By the end of this activity, the students will be able to correctly classify rocks into the classes of sedimentary, igneous, or metamorphic.
2) By the end of this activity, the students will be able to list the characteristics associated with each of the major classes of rocks.

Special Safety Instructions: Thoroughly wash your hands with soap and water at the conclusion of this work.

Background Information: The earth's crust, the lithosphere, is made of rocks. Earth scientists place all rocks in categories, called classes, according to the way the rocks are formed. The three major classes of rocks are sedimentary rocks, igneous rocks, and metamorphic rocks. Rocks from each class tend to show characteristics that are the result of the conditions that existed at the time they were formed. Using these characteristics, almost any rock sample can be identified as belonging to one of the three classes.

Procedure A: (To be completed at home):

Use the following three diagrams to answer questions 1 – 3. Make your answers as clear and concise as possible.

1) List three physical properties that help to identify a given rock sample as a sedimentary rock. You will use this information later in this lab activity.

a) _____
b) _____
c) _____

2) List three physical properties that help to identify a given rock sample as an igneous rock.

a) _____
b) _____
c) _____

3) List three physical properties that help to identify a given rock sample as a metamorphic rock.

a) _____

b) _____

c) _____

Procedure B: (To be completed in the laboratory):

1) Select one of the sets of numbered rock samples provided by your teacher and examine the samples carefully.
2) After you have determined each of the sample's most obvious physical properties and have written them down in the space provided, compare them to the lists of major characteristics for each of the three classes of rocks.
3) Decide which class of rock the sample belongs to according to the lists of characteristics you listed for homework.
4) Put a check mark in the appropriate box to show the sample's classification.

	Description	**Sed**	**Ign**	**Met**
Sample A	***Lots of little sparkling crystals, 4 different main colors, no pattern of colors, crystals are scattered***		*X*	
Sample # 1				
Sample # 2				
Sample # 3				
Sample # 4				
Sample # 5				
Sample # 6				
Sample # 7				
Sample # 8				
Sample # 9				
Sample # 10				
Sample # 11				
Sample # 12				

Questions and Conclusions:

1) A fossil in a rock is the remains or evidence of a living thing.

a) In what class of rocks are fossils usually found? _____

b) Why would you find fossils in this group of rocks?

_____

_____

_____

2) Why do you seldom find fossils in igneous or metamorphic rocks?

_____

_____

_____

3) Why do metamorphic rocks often show signs of bending and distortion?

_____

_____

_____

4) Why are metamorphic rocks more likely to show bands and layers of color than igneous rocks (where the colors are randomly scattered)?

_____

_____

_____

5) On the front desk there are five rocks from Chimney Bluffs labeled A,B,C,D, and E. Using the knowledge you have gained from this lab work, try to classify each of them into sedimentary, igneous, or metamorphic.

A) _____ B) _____

C) _____ D) _____

E) _____

6) Were any of these rocks difficult to classify? If so, which one(s) and why?

_____

_____

_____