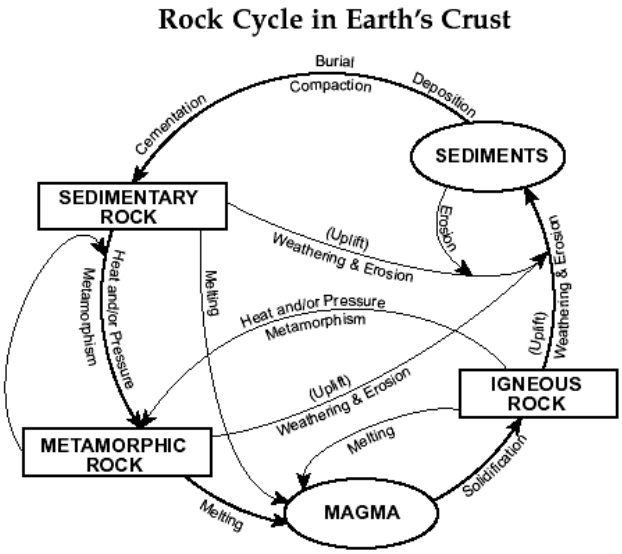
Name_____ Date_____

Rock Cycle and Rock Types

1. What is the difference between a monomineralic rock and a polymineralic rock?

2. Make sure you understand how to read the rock cycle chart seen below



3. How are igneous rocks formed?

4. What is the difference between intrusive igneous rocks and extrusive igneous rocks?

5. Crystal size is determined by _____.

6. Glassy texture and fine texture igneous rocks are usually **intrusive/extrusive**. (CIRCLE the correct choice)

7. Coarse texture and very coarse texture igneous rocks are usually **intrusive/extrusive**. (CIRCLE the correct choice)

8. What does porphyrytic mean?

9. How is sedimentary rock formed?

10. What are the 5 steps in the formation of sedimentary rock?
List them in order **AND** explain what is happening during each step.

11. Sedimentary rocks are the ONLY rocks that contain _____.

12. What are the 3 types of sedimentary rocks? List them AND give some characteristics about EACH type.

13. Use the chart next page to write the characteristics of all rocks listed: Breccia, siltstone, Gypsum and coal.

Scheme for Sedimentary Rock Identification

INORGANIC LAND-DERIVED SEDIMENTARY ROCKS					
TEXTURE	**GRAIN SIZE**	**COMPOSITION**	**COMMENTS**	**ROCK NAME**	**MAP SYMBOL**
Clastic (fragmental)	Pebbles, cobbles, and/or boulders embedded in sand, silt, and/or clay	Mostly quartz, feldspar, and clay minerals; may contain fragments of other rocks and minerals	Rounded fragments	Conglomerate	
			Angular fragments	Breccia	
	Sand (0.2 to 0.006 cm)		Fine to coarse	Sandstone	
	Silt (0.006 to 0.0004 cm)		Very fine grain	Siltstone	
	Clay (less than 0.0004 cm)		Compact; may split easily	Shale	
CHEMICALLY AND/OR ORGANICALLY FORMED SEDIMENTARY ROCKS					
TEXTURE	**GRAIN SIZE**	**COMPOSITION**	**COMMENTS**	**ROCK NAME**	**MAP SYMBOL**
Crystalline	Varied	Halite	Crystals from chemical precipitates and evaporites	Rock Salt	
	Varied	Gypsum		Rock Gypsum	
	Varied	Dolomite		Dolostone	
Bioclastic	Microscopic to coarse	Calcite	Cemented shell fragments or precipitates of biologic origin	Limestone	
	Varied	Carbon	From plant remains	Coal	

14. How are metamorphic rocks formed?

15. Where does the heat come from to make metamorphic rocks?

16. Where does the pressure come from to make metamorphic rocks?

17. What is the difference between regional metamorphism and contact metamorphism?

18. What are the two types of metamorphic rock? What does EACH type look like?

19. . Use the chart below to write the characteristics of the following rocks: Slate, Schist, hornfels and marble

Scheme for Metamorphic Rock Identification

TEXTURE		GRAIN SIZE	COMPOSITION	TYPE OF METAMORPHISM	COMMENTS	ROCK NAME	MAP SYMBOL
FOLIATED	MINERAL ALIGNMENT	Fine	MICA, QUARTZ, FELDSPAR, AMPHIBOLE, GARNET, PYROXENE	Regional (Heat and pressure increase with depth)	Low-grade metamorphism of shale	Slate	
		Fine to medium			Foliation surfaces shiny from microscopic mica crystals	Phyllite	
					Platy mica crystals visible from metamorphism of clay or feldspars	Schist	
	BAND-ING	Medium to coarse			High-grade metamorphism; some mica changed to feldspar; segregated by mineral type into bands	Gneiss	
NONFOLIATED		Fine	Variable	Contact (Heat)	Various rocks changed by heat from nearby magma/lava	Hornfels	
		Fine to coarse	Quartz	Regional or Contact	Metamorphism of quartz sandstone	Quartzite	
			Calcite and/or dolomite		Metamorphism of limestone or dolostone	Marble	
		Coarse	Various minerals in particles and matrix		Pebbles may be distorted or stretched	Metaconglomerate	