

NAME: _____
 PERIOD: _____

I. What is the difference between a rock and a mineral?

A. Mineral—a naturally occurring, inorganic solid with a distinct internal structure & chemical composition.

B. Rock:

II. Rock Forming Minerals

Some minerals are more common in forming rocks.

A. What are the four rock forming minerals in granite?

i.

ii.

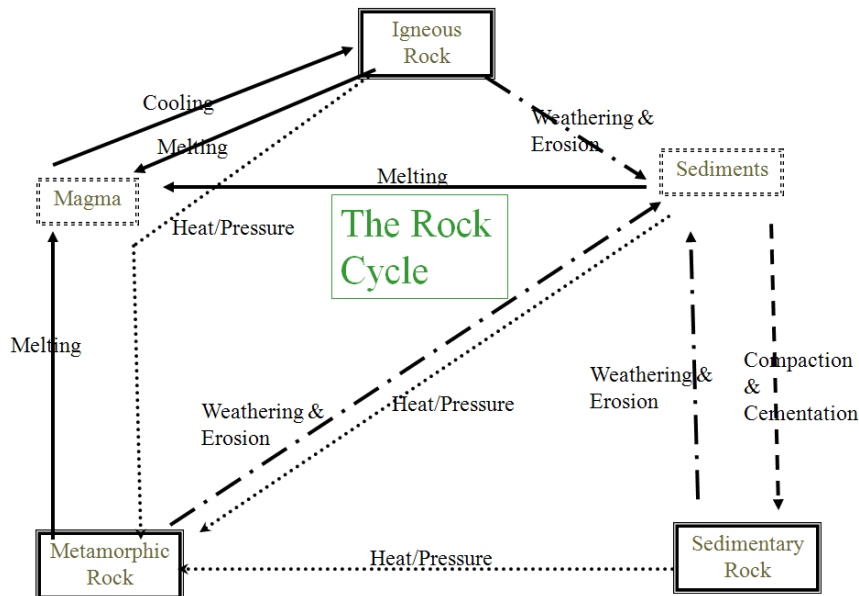
iii.

iv.

B. What type of rock is Mount Rushmore in South Dakota composed of?

III. How do minerals mix to form rocks?

IV.



Processes of the rock cycle

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.

V. What are the three types of rocks?

- 1.

Formed from molten material from a volcano or deep inside the earth cools.

- 2.

Formed when rocks changed due to heat and pressure, undergoing changes in composition.

- 3.

Formed when sediments become pressed or cemented together or sediments precipitate out of solution.

VI. Igneous Rocks

a. Formed from molten material from a volcano or deep inside the earth cools.

b. Molten material includes _____ and _____.

- c. Magma—hot molten material _____ Earth's surface.
 - i. Magma is trapped and _____ by surrounding rock.
 - ii. It cools slowly.
- d. Lava—molten material which eventually reaches Earth's surface and cools _____.

VII. Where does magma come from?

- a. _____ Km below earth's surface.
- b. Temperatures are _____ degrees Celsius.
- c. Where does the thermal energy for melting the rock come from?
- d. What happens to pressure as you go deeper?
- e. Why does the magma rise?

VIII. How are igneous rocks classified?

Two ways

A. By where they form

i.

ii.

B. By the type of molten material (composition)

i.

ii.

iii.

IX. Igneous rocks classified by where they form.

A. Intrusive Igneous Rocks

i. Form below Earth's surface

a. Example 1

b. Example 2

B. Extrusive Igneous Rocks

i. Rocks that form when molten material cools _____ or _____ Earth's surface.

a. Cooling Time:

b. Grain Size:

c. Texture:

ii. Example 1
How to identify:

iii. Example 2
How to identify:

iv. Example 3
How to identify:

v. Example 4 & 5
How to identify

vi. Volcanic Glass

a. Extrusive igneous rocks that cooled very quickly and lack mineral grains.

b. They include:

i. Example 1

ii. Example 2

iii. Example 3

They are all considered volcanic glass.

d. How did obsidian form?

e. How did Pumice and Scoria form?

i.

ii.

X. Can you explain the difference between extrusive and intrusive igneous rocks, and can you give an example of each?

A. Intrusive igneous rocks:

Example:

B. Extrusive igneous rocks:

Example:

XI. Classification of Igneous Rocks by type of molten material.

A. Basaltic Rocks

a.

b.

c.

B. Granitic Rocks

a.

b.

C. Andesitic Rocks

a.

b.

XII. Metamorphic Rocks

a. Rocks changed due to heat and pressure, undergoing changes in composition.

b. What types of rocks can metamorphic rocks form from?

i.

ii.

iii.

c. What are the two factors required to change a rock into a metamorphic rock?

i.

ii.

d. Example 1:

e. Example 2:

f. Metamorphosis: what a rock changes into depends on the amount of _____
and _____!!!!

g. _____ → _____ → _____ → _____

XIII. Classifying Metamorphic Rocks

a. Metamorphic rocks are classified by _____.

b. Foliated:

i. Example 1:

ii. Example 2:

c. Non-Foliated:

i. Example 1:

Only change is size of mineral grains

ii. Example 2:

XIV. Sedimentary Rocks

a. Sedimentary rocks become _____ or _____ together or sediments precipitate out of _____.

b. What are sediments?

Loose materials such as rock fragments, mineral grains, and bits of plant and animal remains that have been moved by: _____, _____, _____ or gravity.

c. What is weathering?

d.

Type of Sediment	Size	Example
	<0.004 mm	
	0.004-0.06 mm	
	0.06-2 mm	
	>2 mm	

e. What is compaction?

i. What type of sediments are involved?

ii. Layers of sediments build up.

iii. Pressure from above pushes layers together.

f. What is cementation?

- i. Occurs in what type of sediments?
- ii. Pressure alone won't make sediments stick.
- iii. Water soaks through soil and rock.
- iv. What minerals are needed to make natural cement?
 - 1.
 - 2.
 - 3.

g. Ways to classify sedimentary rocks

- i.
- ii.
- iii.

h. How are detrital sedimentary rocks formed?

- i.
- ii.
- iii. What are the two types of detrital sedimentary rocks?
 - i.
 - ii.

i. How are chemical sedimentary rocks formed?

- i.
- ii. What are two examples?
 - 1.

2.

j. How are organic sedimentary rocks formed?

i. Example 1

ii. Example 2