

Name: _____

Date: _____ Period: _____

Minerals and Rocks

The Physical Setting: Earth Science

Lab Activity: Metamorphic Rocks

INTRODUCTION:

Metamorphic is derived from Greek words meaning to change form (meta means to change and morphe means form). Metamorphic rocks are those rocks that change form from another preexisting rock as a result of heat and or pressure.

There are two types of metamorphism. Regional metamorphism occurs over large areas and are under extreme temperature and pressures. Contact metamorphism occurs when hot magma comes in contact with existing rock. The existing rock is then changed or altered due to the heat from the hot magma.

OBJECTIVE:

Learn how to identify metamorphic rocks based on their properties.

VOCABULARY:

Recrystallization -

Banding -

Foliation -

Nonfoliated -

Contact Metamorphism -

Regional Metamorphism -

Parent Rock -

PROCEDURE A:

For each unknown metamorphic rocks, identify the key characteristics. After identifying the characteristics, use your Earth Science Reference Tables and determine the name of the rock based on your observations.

Lab Activity: Metamorphic Rocks

Texture	Grain Size	Type of Metamorphism	Composition	Rock Name
<input type="checkbox"/> Foliated (mineral alignment) <input type="checkbox"/> Foliated (banding)	<input type="checkbox"/> Fine <input type="checkbox"/> Fine to medium <input type="checkbox"/> Medium to coarse	<input type="checkbox"/> Regional <input type="checkbox"/> Contact <input type="checkbox"/> Both		
<input type="checkbox"/> Nonfoliated	<input type="checkbox"/> Fine <input type="checkbox"/> Fine to coarse <input type="checkbox"/> Coarse	<input type="checkbox"/> Regional <input type="checkbox"/> Contact <input type="checkbox"/> Both		

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DISCUSSION QUESTIONS:

1. Why are metamorphic rocks formed by contact metamorphism usually not as dense as those formed by regional metamorphism?
2. Why is it rare to find fossils in metamorphic rocks?
3. Why do minerals rearrange into layers within a metamorphic rock?
4. Why is quartzite extremely hard and more resistant than its parent rock?
5. Why does the metamorphic rock marble react with HCl acid?

CONCLUSION: On what basis are metamorphic rocks classified?