

UNIT 2: Earth Materials**LAB 2-5: METAMORPHIC ROCK IDENTIFICATION**

INTRODUCTION: The word “**metamorphic**” comes from Greek words meaning to change form (meta = change, morphe = form). Metamorphic rocks are those that have formed from other rocks as a result of the action of heat, pressure, and/or chemical action. Generally, metamorphic rocks are divided into two groups, **Regional** metamorphic rocks, and **Contact** metamorphic rocks.

Regional metamorphic rock is formed by forces acting over wide areas under extreme conditions of temperature and pressure at great depths.

Contact metamorphic rocks are formed at the interface of hot magma and existing rocks. The surrounding rock is changed, or metamorphosed, as a result of being in contact with the hot magma.

OBJECTIVE: You will investigate the properties by which different types of metamorphic rocks can be identified.

VOCABULARY:

recrystallization:

foliation:

slaty foliation:

schistose foliation:

gneissic texture:

PROCEDURE:

1. Obtain the metamorphic rocks from your instructor.
2. Arrange your samples in the order demonstrated by your instructor.
3. Complete the Report Sheet using your samples and chart in the Appendix of this lab book titled “Scheme for Metamorphic Rock Identification”.

**If you perform the acid test you
MUST WEAR GOGGLES.**

4. Observe the large metamorphic samples provided.

REPORT SHEET

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#	Foliated or Nonfoliated	If Foliated, Give Type	Type of Metamorphism (Contact/Regional)	Probable Original Rock	Rock Name
1					
2					
3					
4					
5					

DISCUSSION QUESTIONS: *(Answer in Complete Sentences)*

1. Why are metamorphic rocks formed by contact metamorphism usually not as dense as those formed by regional metamorphism?
2. How could you differentiate between white marble and white quartzite?
3. Why do you seldom find fossils in metamorphic rocks?
4. Why do minerals in metamorphic rocks often rearrange in layers?
5. Why is a quartzite very hard and more resistant than its parent rock?

CONCLUSION: On what basis can metamorphic rocks be identified?