A STUDY OF METAMORPHIC ROCKS

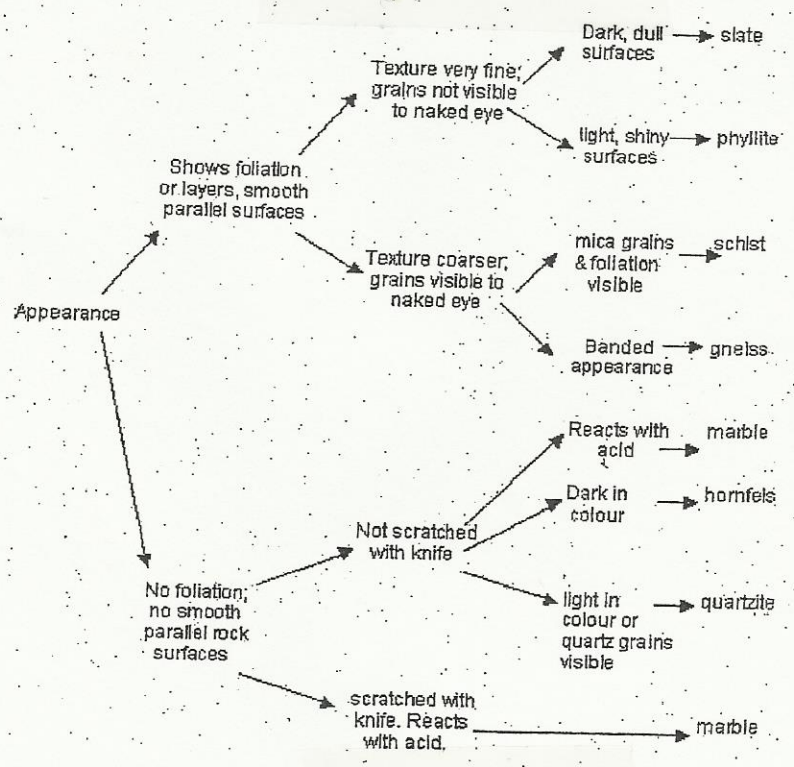
In general, metamorphic rocks can be placed into one of two texture categories: foliated and nonfoliated. **Foliated** (or banded) metamorphic rocks have a layered appearance. Gneiss, schist, and slate are examples of foliated rocks. **Nonfoliated** metamorphic rocks are generally massive with no apparent layering. Quartzite and marble are examples of nonfoliated rocks.

OBJECTIVE: To correctly classify and identify several metamorphic rocks.

MATERIALS:
- Can of metamorphic rock specimens
- Hand lens or magnifying glass
- Resource book

PRE-THINK QUESTIONS:
1. How are metamorphic rocks formed?
2. What is the difference between foliated and nonfoliated metamorphic rock? Why is this difference present?
3. What is the difference between regional and contact metamorphism? Explain.

PROCEDURE:
1. Grab a can of metamorphic rocks.
2. Sort the metamorphic rocks based on if they are foliated or not.
3. Identify each rock base on the classification chart below.
4. Make a data table (like before) with these headings: rock name and characteristics.



SUMMARY QUESTIONS:

1. Looking at all of your rocks, which rock(s) do you think had the greatest amount of pressure and heat applied to it (them)? Why?
2. What mineral do you think is in marble that allows it to react with acid? (Check the mineral reference chart).
3. The metamorphic rock slate comes from a sedimentary rock. Which sedimentary rock do you think slate comes from? Why?
4. Mica schist is the most common form of schist. In it, the flakes of mica are all parallel and easily seen. Is your specimen a mica schist? Why or why not?
5. How is gneiss different in appearance from granite?
6. How could mineral hardness be used to tell quartzite from marble?