

Simple Metamorphic Identification Keys and Charts

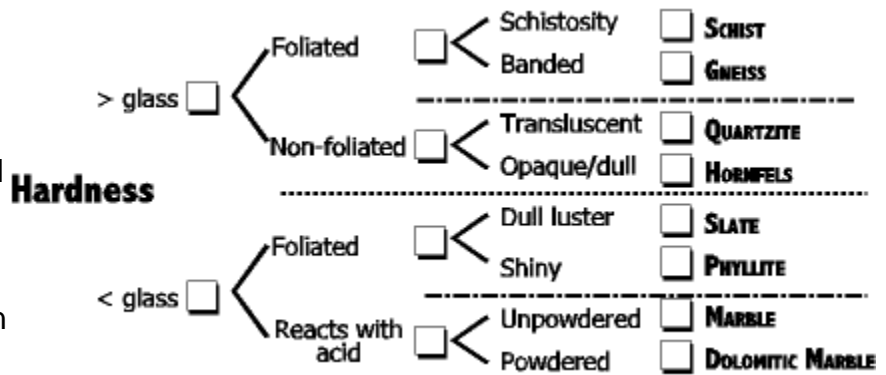
Rocks are identified by making a series of decisions about their properties, such as texture, composition, hardness, etc. This requires the ability to observe and recognize these properties. Two of the most common properties to determine classification of a rock are hardness and reaction with dilute hydrochloric acid (see [Hardness And Acid Reaction Tests](#)).

The [Key To Common Metamorphic Rocks](#) allows identification of a rock based on its physical properties. We are able to do this because the properties do not overlap completely. You can see this on the key through the color coding for the properties. None of the colors overlap completely.

For example, the [Key](#) has eight rocks; four of these scratch glass and four do not, so immediately we can divide the rocks into two categories. But also notice that four of the rocks are foliated, and of these two are harder than glass and two softer than glass. Thus, if we have a foliated rock harder than glass it can only be one of two rocks - schist or [Gneiss](#). We distinguish them further based on their texture.

Observation Chart One

This chart leads a person systematically through a series of observations and decisions. Its organization is extracted directly from the key, and if done correctly will lead a person to the single correct identification.

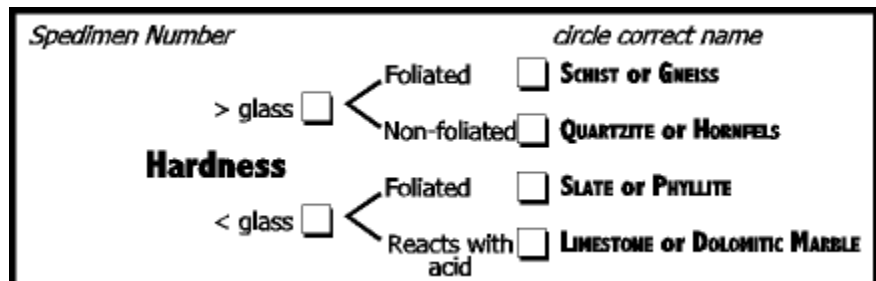


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Observation Chart Two

This chart does not have as many forks in it (i.e. dichotomous decisions) and at the end requires

returning to the key for descriptions to make the final decision. It will connect better the use of the observation chart and the key.



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Observation Chart Three

A variation on chart two.

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Harder than glass <input type="checkbox"/>	➔	Foliation <i>circle correct rock</i>	
		Yes <input type="checkbox"/>	➔ SCHIST or GNEISS
		No <input type="checkbox"/>	➔ QUARTZITE or HORNFELS
Softer than glass <input type="checkbox"/>	➔	Foliation	
		Yes <input type="checkbox"/>	➔ SLATE or PHYLLITE
		No <input type="checkbox"/>	➔ LIMESTONE or DOLOMITIC MARBLE

Observation Chart Four

This chart lets you take organized notes for further identification.

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Hardness	Foliation ?	Acid Reaction
Other Properties		Rock Name

Observation Chart Five

A more complex observation table.

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Rock Texture <input type="checkbox"/> Foliation (<i>layering</i>) <input type="radio"/> Smooth, flat surfaces <input type="radio"/> Schistose - coarse, rough <input type="radio"/> Slate or muscovite dominated <input type="checkbox"/> Mineral Banded <input type="checkbox"/> Granular <input type="radio"/> Visible grains <input type="radio"/> Fine grained	Hardness <input type="checkbox"/> > Glass <input type="checkbox"/> < Glass <input type="checkbox"/> < Fingernail	Mineral Identification <i>Description</i> <i>Name</i>		Other
	Acid Reaction			Metamorphic Facies
	Color			Rock Name

Contributed by Lynn Fichter
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