

SECTION 2: TESTING ROCKS FOR HARDNESS: THE SCRATCH TEST

LAB

INTRODUCTION

The hardness of various rocks and minerals can be used as another method of identification. In the 19th. century, a German mineralogist, Friedrich Mohs, devised a scale of hardness for minerals.

Moh's Hardness Scale:

Hardness	Mineral	Scratched by
1	talc	soft pencil lead
2	gypsum	fingernail; blackboard chalk
3	calcite	copper penny
4	fluorite	iron nail; brass
5	apatite	steel knife blade
6	feldspar	window glass; steel file
7	quartz	flint sandpaper
8	topaz	spinel (available in rock shops)
9	corundum	emery sandpaper
10	diamond	carborundum sandpaper

ASSESSMENT ANCHORS ADDRESSED

- S4.A.2.2** Identify appropriate instruments for a specific task and describe the information the instrument can provide.
- S4.C.1.1** Describe observable physical properties of matter.
- S4.A.3.3** Identify and make observations about patterns that regularly occur and reoccur in nature.

PURPOSE

Students will study quartz, shale, granite, feldspar, limestone, rock salt, and sandstone. The students will conduct the scratch test on each rock using their fingernail, a penny, a steel nail, and a piece of glass. The students will record their data in a chart and compare results with others.

MATERIALS

For Each Pair of Students

- | | |
|-------------------|------------------|
| 1 quartz | 1 shale |
| 1 granite | 1 feldspar |
| Chalkboard chalk* | Glass slide |
| Rocks from home* | Student handout* |
| 1 limestone | 1 rock salt |
| 1 nail | 1 penny |

*Teacher provides items marked with **