

ROCKS AND MINERALS

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An Art Skills Tutorial

Commissioned by the
Center for Science Education Research
at the
University of Texas at Dallas



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EXERCISE WITH CONTRASTING ROCKS

A good exercise is to choose two rocks that are highly contrasting or two that are closely related.

When working with students you can follow this plan:

Describe the rock in words, turning it in your hand.

Sharp or rounded edges?

Rough or smooth?

Porous or dense and solid?

*Look for
granularity, marble effects, veins.*

Where are its planes?

Note the angles between them.

Decide what view best displays these characteristics.

Hold a magnifying glass over the specimen until it is in focus and then hold it steady.

Find a full size magnifying glass with a handle.

Use the magnifying glass while you are drawing.

Keep the magnifying glass over your rock sample while you draw, so you can look back and forth quickly and easily.

There is a lot to see, even in a small sample.

Imagine that you are climbing a mountain, the mountain being represented by your rock with you being very small in relative size.

Where is the surface of the rock flat and parallel to the ground?

Where might you slide off of it?

Is there a peak?

Where is it?

Are there holes you might fall into?

Where are they?

Create an overview:

Look for generalized planes...

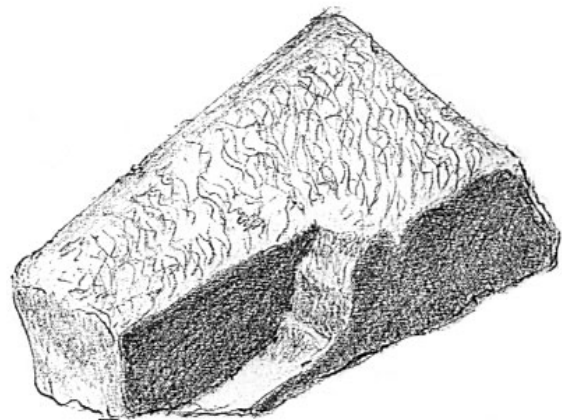
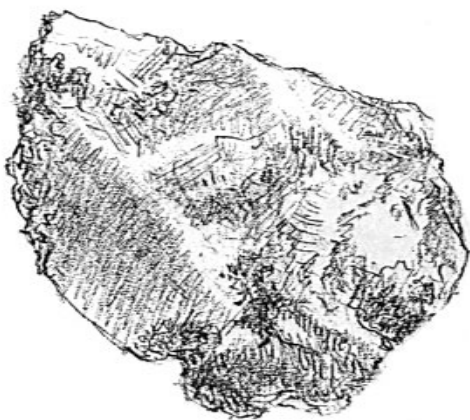
Look for the top and sides...

Plan to build your drawing slowly so you can take the time to observe more than you thought you would see when you first started looking at your specimen.

Pick two prominent outer edges and at least one internal edge to define the characteristic shape of your rock specimen.

Use these reference points to locate other points along the outside and inside of the rock.

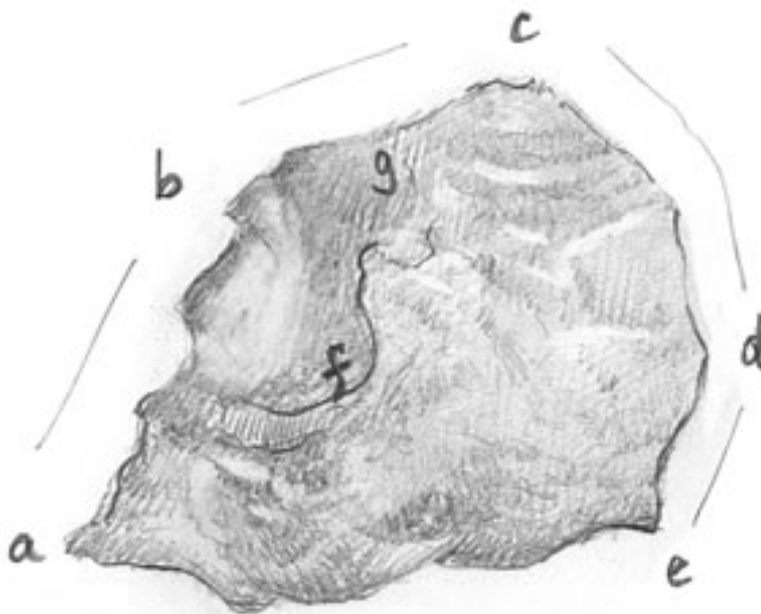
“Inside” means within a 2D drawing.



OBSIDIAN

Obsidian is like dark glass; it is very smooth with sharp edges. It breaks in curves.

Emulate the strokes in the next two examples.



Obsidian is smooth with close, parallel hatching.

Along the left edge, (a-b), there are some protrusions with darkened edges.

Use small strokes to work your way up to the edge without lifting your pencil.

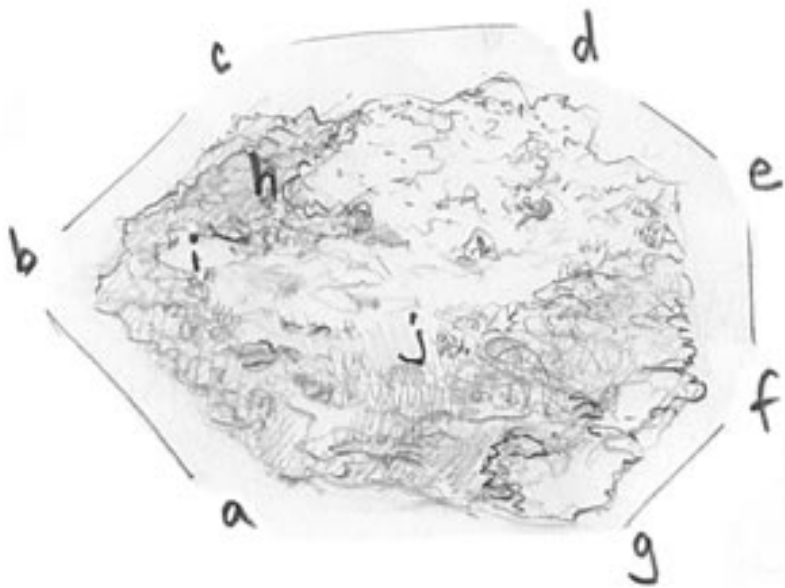
Use an eraser at the end to “pull out” some of the highlights on this highly reflective surface.

PUMICE

Pumice is very porous with visible holes and rounded edges with a medium value.

This texture is at the opposite end of the spectrum of surface texture from obsidian.

You can indicate the roughness of the surface by scumbling with squiggly marks.



The shape created by d, e, h, i, j, indicates the top plane of the rock. It is not clearly demarcated as it gets a bit lost in all the pock holes.

After creating the texture and indicating some of the darker holes with clearer and larger shapes, you will want to generalize by using some light shading to indicate side planes.

Use light and closely placed hatching to create a gray tone where the sides turn away from the light.

This will bring out the top plane, helping to create a 3D illusion.

If you do not do this, the rock will appear flat, lacking volume.

There will be no highlights on the pumice as the light is diffused by its rough surface.

HALITE AND QUARTZ



Both Halite and Quartz are transparent, which presents some unique challenges.

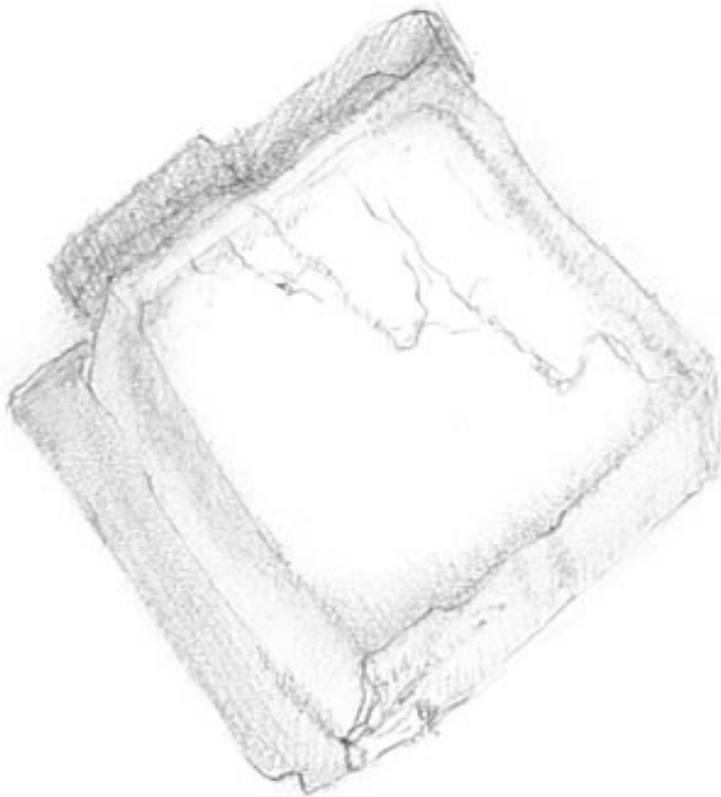
Both are also great candidates for using your skills in drawing polygonal solids.



HALITE

You can apply your knowledge of making a cube to drawing Halite. Being a rectangular prism, the difference is only in the lengths of its sides.

Situate your specimens so you can see its far edges through the translucent mineral.



The top right edge of Halite has a fuzzy dark line indicating the edge, as seen through the mineral. It is not as definite an edge as the near edges, which are not obscured by refracted light seen through the mineral.

QUARTZ

Quartz is a hexagonal prism which comes to a point in triangles.



Create your parallels and notice the shape of the edge where it changes planes.

To the right side of the top side, (in our view), we see a fuzzy dark edge indicating an edge as seen through this translucent mineral.

Like Halite, the edges that are towards us are more definite and sharper than the edges seen through the mineral.

Shadows are helpful in creating an area of dark contrast to the light sides.

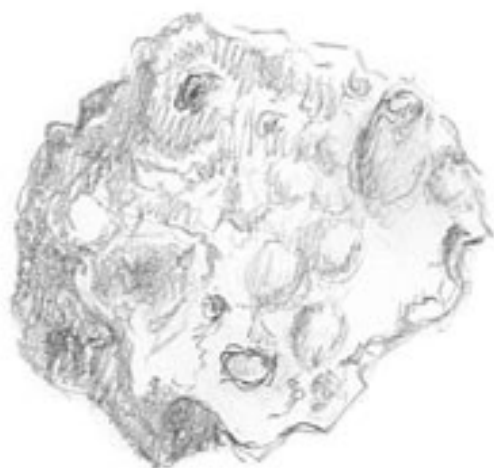
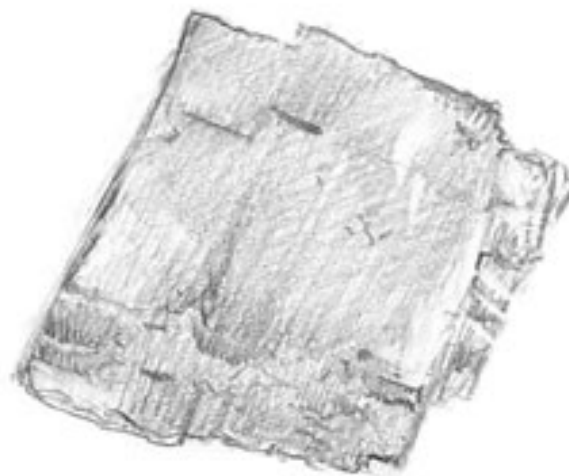


You can use the “positive” shadow, drawn darkly, to define the “negative”, in this case the side of the mineral, because it is lighter and does not have a dark edge.

Drawing dark lines to indicate edges does not give as true an impression as using positive and negative.

GALENA AND BAUXITE

Galena is characterized by squares.



Bauxite is characterized by rounded, often spherical shapes.

The tiny spheres in Bauxite are called “pisolites”.

*Indicate pisolites by applying your knowledge of shading spheres.
(See Basics: Volume — Roundness.)*