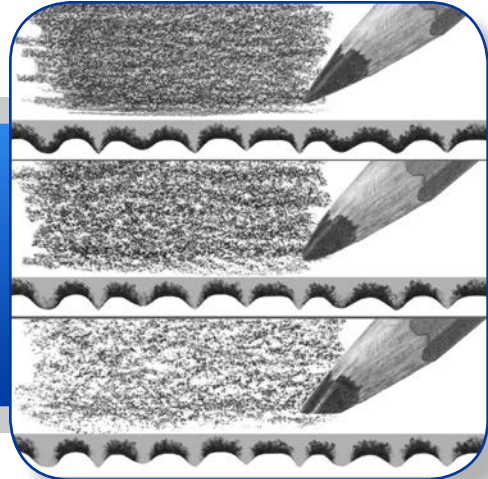


Experiment with Pencil Points



Use a 4B pencil to try out three different types of pencil points on medium tooth paper

Supplies: drawing paper with a medium tooth, 4B graphite pencil, pencil sharpener, sandpaper block

Resource: 1.1.R7 Check Up on the Tooth of Paper

This activity has four sections:

- Shade with a Sharp Point
- Shade with a Rounded Point
- Shade with a Chisel Point
- Compare Values and Solve a Mystery



As an Aside

This three-part experiment relies on four constant factors:

- 4B pencil
- paper with a medium tooth
- parallel shading lines
- the same amount of pressure applied to the pencil

The only variable is the type of sharpened point on the pencil.



ArtSpeak

Tooth: The surface texture of paper. Paper with a smooth tooth is flat with a silky texture; a medium tooth is uneven with a slightly rough texture; and a coarse tooth is bumpy with a very rough texture.

Pencil: A broad category of writing and drawing tools that have a medium inside a holder. It wasn't until the end of the nineteenth century that "pencil" defined a stick of graphite encased in a cylindrical piece of wood.

Graphite: A soft black form of opaque carbon found in nature that is usually mixed with clay in the manufacture of various types of drawing tools.

Chisel point: (also called *flat point*) A versatile shape on the working end of a dry medium (such as a wood-encased pencil) that has both a sharp edge and a flat angled surface.

Grade: The softness or hardness of the mixture used in the manufacture of drawing mediums.

Sharpener: A tool for sharpening pencils. An ideal sharpener for artists is handheld, made of metal, and has two openings for regular and oversized pencils.

Sandpaper block: A block with tear-off sheets of fine sandpaper used to sharpen the points of pencils.



Caution!

This experiment might not work if your paper is too smooth.

Before you begin, examine your drawing paper closely to make sure its tooth is visible.



Tip!

Draw all three sections of shading on the same sheet of paper so you can later compare them.

Each section of shading should be approximately 1 by 1.5 inches (2.5 by 3.8 cm).

If you want, you can outline three rectangles on the piece of paper as separate drawing spaces before you begin shading.



ArtSpeak

Shading: The process of adding values to a drawing so as to create the illusion of texture, form, and/or three-dimensional space.

Texture: The surface details of an object that can be identified by sight, touch, and/or a general knowledge of the subject.

Values: The various shades of gray in an artwork. A broad range of values can be achieved by using various grades of a medium and by varying the density of the shading lines and the pressure used when applying the medium to a surface.

Shade with a Sharp Point

Everyone knows that the points of pencils are... well...pointed. When the points wear down, a pencil sharpener and/or a sandpaper block makes them pointed again.

1. Sharpen a 4B pencil to a sharp point (Figure 1).

Figure 1

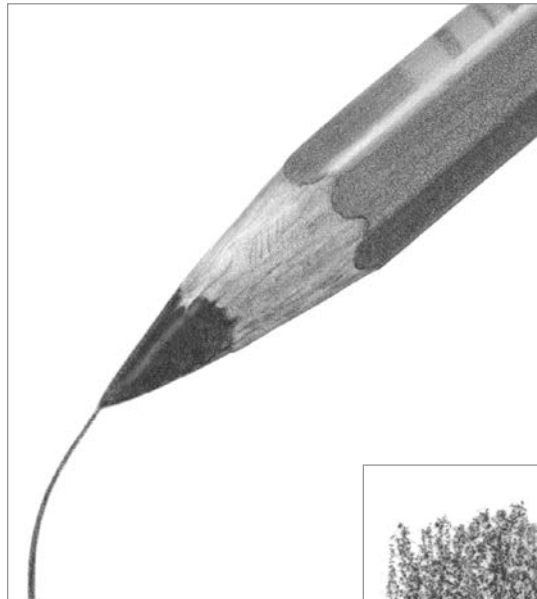
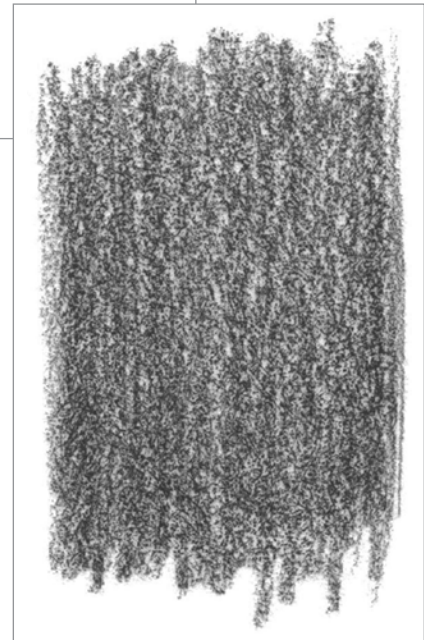


Figure 2



2. Use straight lines, a back and forth motion, and a medium amount of pressure on your pencil to shade a small rectangular shape.

Refer to Figure 2.

Note the amount of pressure you apply to your pencil so you can use it again in the next two sections.

Shade with a Rounded Point

In the world of drawing, not all pencil points are literally pointed. A rounded point, for example, is a partially worn-down sharp point and is often used to shade large sections of a drawing.

3. Sharpen a 4B pencil to a rounded point (Figure 3).

To create a rounded point on your pencil:

- Step 1: Sharpen the pencil to a sharp point.
- Step 2: Gently rub the point on a sandpaper block while rotating the pencil between your fingers until it becomes rounded.
- Step 3: Make a few marks on a piece of scrap paper until any remaining sharp edges are worn smooth.

4. Use straight lines and a back and forth motion to shade another small rectangular shape (Figure 4).

Use the same pencil pressure used in the previous section.

Figure 3

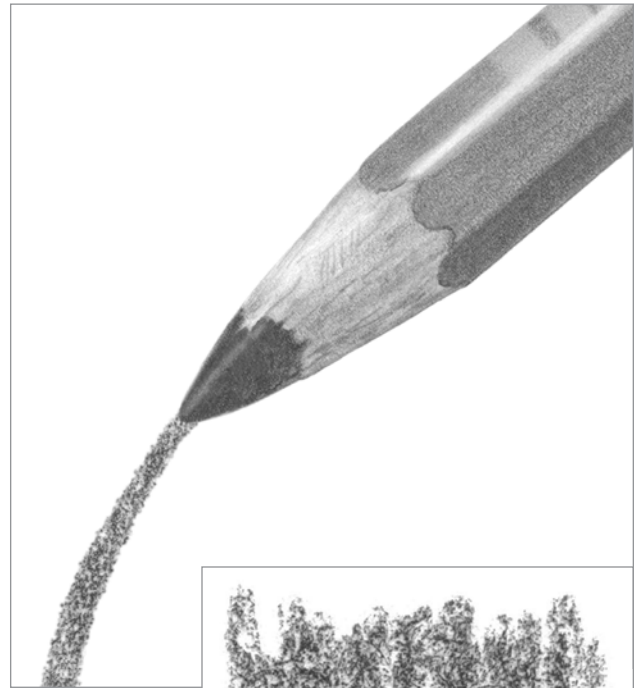
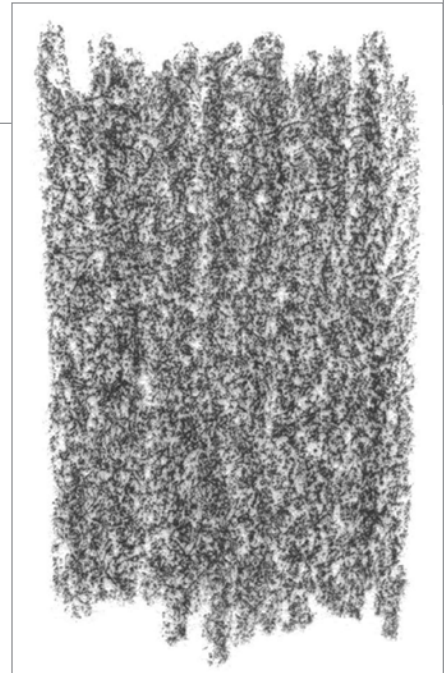


Figure 4



Shade with a Chisel Point

Artists also shade with a flat pencil point. So, other than being an oxymoron, what exactly is a flat point? A flat point (also called a *chisel point*) refers to a pencil point with both a sharp edge and a flat surface.

5. Sharpen a 4B pencil to a chisel point (Figure 5).

You can create a chisel point on your pencil in four simple steps:

- Step 1: Sharpen the pencil with a pencil sharpener.
- Step 2: Hold the pencil at an angle.

- Step 3: Stroke the pencil point across fine sandpaper until you have a flat, angled surface.
- Step 4: Make a few marks on scrap paper with the flat surface to soften any hard edges.

6. Use straight lines and a back and forth motion to shade a third rectangular shape (Figure 6).

Use the same pencil pressure used in the previous sections.



Tip!

A chisel point on any pencil can efficiently render both fine lines and broad shading strokes. Just before you sharpen a pencil into a chisel point, rotate the pencil between your fingers until the writing side is facing upward.

When the pencil is sharpened and ready to use, you now know to hold your pencil:

- writing-side-down to use the sharp edge (Figure 7).
- writing-side-up to use the flat surface (Figure 8).

Figure 5

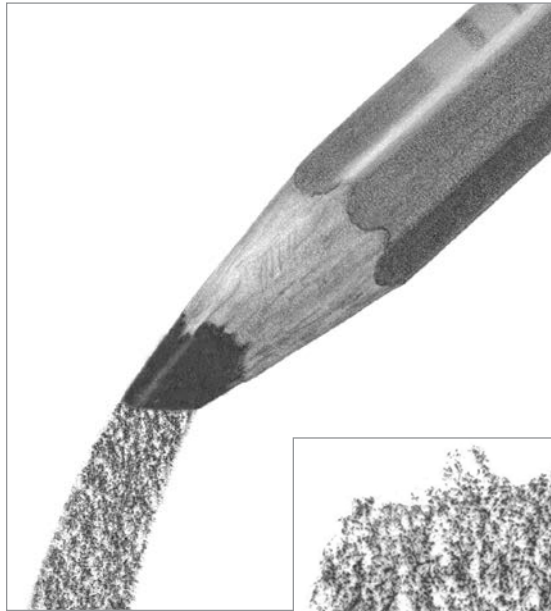


Figure 6

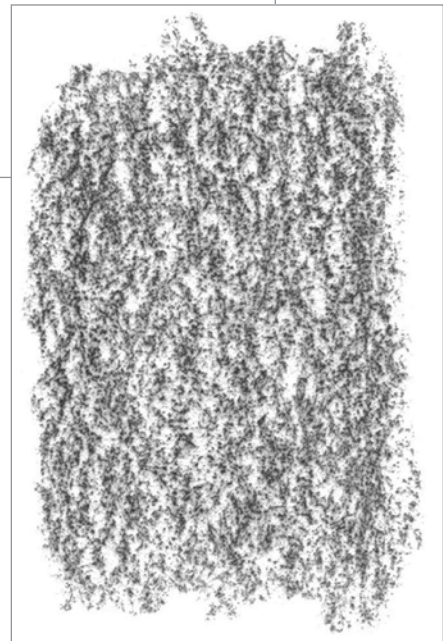


Figure 7

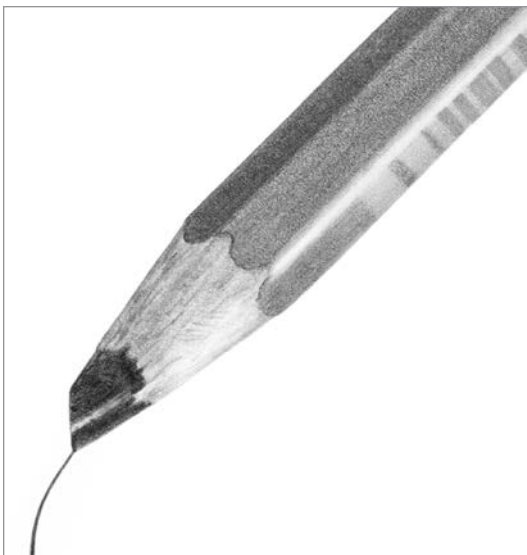
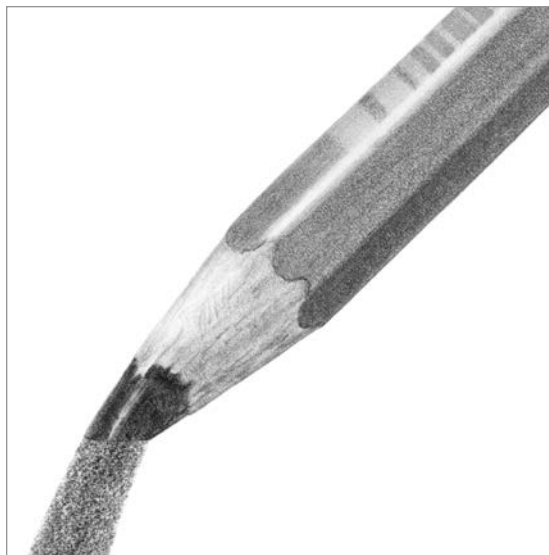


Figure 8



Compare Values to Solve a Mystery

7. **Closely examine each section of shading in comparison to the other two (Figure 9).**
8. **Step back from your shaded rectangles and ask yourself:**
 - Which is the darkest value?
 - Which is the lightest value?
 - Which is the medium value?

Three different values were created on the same sheet of paper using the same pressure on a 4B pencil.

Different pencil points somehow caused the values to be different. Why?



Tip!

B grades of graphite pencils are softer and wear down much more quickly than H grades, especially the 4B to 9B grades.

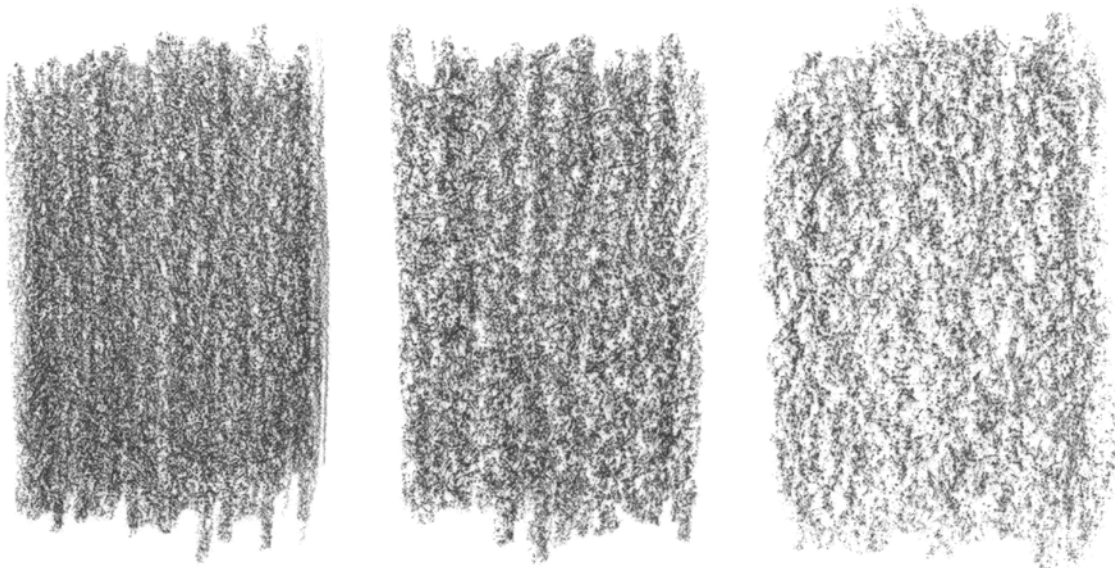
Hence, they may need to be sharpened more often than H grades.



Caution!

Re-sharpen your pencil before its graphite point is worn down to the wooden encasement. If a sliver of this wood scrapes your paper, your shading may become irreparably damaged.

Figure 9



Tip!

Conduct this experiment again: first with a 2B pencil and then a 6B pencil. Compare the resulting values to those created with a 4B pencil.

Assume that you are looking at a very (very) close up view of the side of the sheet of paper (Figure 10).

The bumps and crevasses represent the paper's tooth.

Each type of pencil point deposits graphite onto the paper's tooth differently:

1. A sharpened pencil point has a tiny tip (1), which can deposit graphite both on top of the bumps and deep into the crevasses. Very little white is showing through on the surface of the paper, resulting in a dark value.
2. A rounded pencil point has a medium-sized tip (2), which can deposit graphite on top of the bumps and into the larger crevasses. More white is showing through so the value appears lighter.
3. A chisel pencil point has a broad, flat tip (3), which can easily deposit graphite on top of the bumps but not into the crevasses. A lot of white is showing through so the value appears much lighter.

Figure 10

