In 1564 graphite was discovered in Borrowdale, England. The mineral was mistakenly identified as lead. When people discovered that the mineral could be used to write on paper, they wrapped sticks of it in string. Later hand-carved wooden holders were filled with the substance to create writing utensils called lead pencils. It was later discovered that graphite actually contains no lead, but the name stuck. People still often think of pencils as containing lead, even though they don’t and haven’t since graphite was discovered!

The English had a monopoly on pencil manufacturing for a time because no one knew of another pure graphite mine anywhere in the world. Some people tried to come up with other pencil-making processes, but none of them were very successful. This changed in the late 1700s.

Nicolas-Jacque Conté was born in France on August 4, 1755. In 1794 he developed and patented a process for making pencils by mixing powdered graphite with clay and water and firing it. By changing the ratio of graphite to clay, Conté discovered that he could make pencils that would write lighter or darker. The process is essentially the same one that is used to make pencils today.

Most pencils in modern factories are made by cutting wood into slats. The slats are waxed and stained and a machine cuts about eight grooves into each one. Cedar and pine are two common woods used to make the slats. The wood from one fourteen-year-old pine tree can make up to 2,500 pencils!

The writing core (or “lead”) is made by mixing graphite, clay, and water. The mixture is air dried, remixed, and cut into rods. After a second drying process, the rods are baked and are then ready to be inserted into the wooden slats.

After glue is applied to the grooves on the slats, one
writing core is laid in each groove and a second grooved slat is placed on top, making a pencil sandwich. The individual pencils are then shaped and cut apart.

The pencils are then painted with up to eight coats of paint. They are printed or stamped with any desired markings (such as the name of the manufacturing company). After being fitted with a metal band and eraser on one end, the pencils are ready to be sharpened so you can pick one up to write or draw or play tic-tac-toe or whatever else you can think of!

In addition to revolutionizing the pencil-making world, Nicolas-Jacque Conté was a painter, a chemist, a physicist, and an engineer. He was an expert in balloon warfare and was with Napoleon and his troops in their conquest of Egypt in 1798.

Table Talk

*Use these ideas to start some fun conversations around the dinner table.*

1. Do you prefer to write with a pen or a pencil? Why?

2. Have you ever had an extra-special pencil? Describe it.

3. Is there a piece of artwork hanging on the wall in your house drawn with pencil? What is the story behind it?
Pencil Drawings

Supplies:
- paper
- pencils
- twine, string, or ribbon
- clothespins

Have a family drawing time. Let each family member create a pencil drawing. Hang up a piece of twine, string, or ribbon somewhere in your house and hang each drawing on it using clothespins. Here are a few basic drawing tips:

- Keep a good attitude! Needing an eraser doesn’t mean you aren’t a good artist.
- It’s okay draw something from your imagination, and it’s also okay to look at another drawing, a photograph, or a 3-D object to get inspiration for your drawing.
- Art is a skill like reading and math—keep at it and you’ll get better!
- Adding shadows and shading will help bring your drawing to life. To make it look like light is shining on your drawing, make the top lighter and the bottom darker.
- If you’re drawing a person or another living creature, leave a little white spot in the eyes to make them look like they are shining.
- Whatever you draw and whatever you do, don’t forget to do it all for God’s glory!

The drawings and tips in this activity are based on material in Learn to Draw by Mary Evelyn McCurdy

Notgrass History Bites: Getting to the Point © 2015 Notgrass Company