

Name _____

Pick a Project

Project 8A

Patchwork Quilts

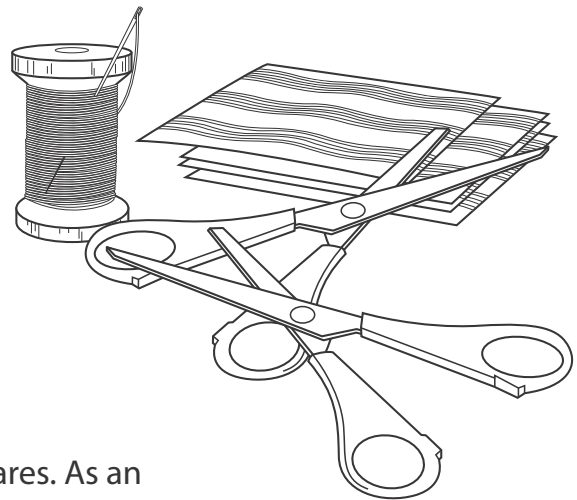
Back in the day, people used patchwork quilts as bed coverings during winter. The patchwork was a practical way of making bedding because they just needed to sew together layers of fabric from old clothes and blankets. As the years went by, quilting has been recognized as a form of artistic work. People now use quilts not only to stay warm, but also as decorative pieces or precious gifts for loved ones.

Many quilts have been preserved and honored in homes and museums across the country. As quilts were passed on from generation to generation, they became a powerful reminder of our heritage. That's why if you study the history of early quilts, you can also get a glimpse of our nation's history.



Your Project Design a Quilt

On a sheet of paper, make a plan for a rectangular quilt. The quilt should be made up of 20 pieces of square fabric, with each piece measuring $3\frac{1}{2}$ by $3\frac{1}{2}$ inches. Determine the length and width (in inches) of your quilt, as well as its area (in square inches), using multiplication. Show your plan, including your calculations, on a sheet of paper.



Once you have a plan, cut out the 20 fabric squares. As an alternative, you may also use square sheets of paper if you don't have any fabric. Research an important date or event that you remember. It may be personal or it may come from history. Design each square of fabric or paper based on a symbol or icon. You may use different art materials. Connect your square pieces using any method that you can think of. Present your finished quilt in class.

Name _____

Pick a Project

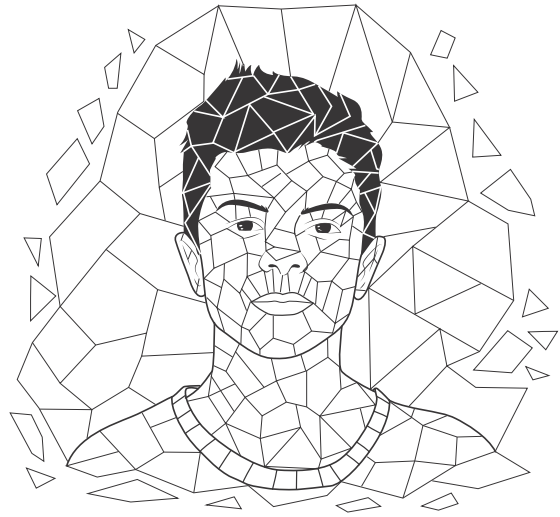
Project 8B

A Sticky-Note Mosaic

A mosaic is a picture or a pattern that is made up of smaller pieces or images. Usually those pieces are made from bits of stone, glass, or tiles. Many modern mosaics are made from digital images that are reduced to the size of a few pixels. Mosaics have been made for thousands of years, and decorate ancient buildings, churches, castles, and fountains.

Eisenhower Junior High School in Taylorsville, Utah, is a school that likes to break records. The school has held several Guinness World Records. Students have made the world's longest paper-clip chain and had the world's largest marshmallow fight. They have also held the record for making the world's largest mosaic made out of sticky notes.

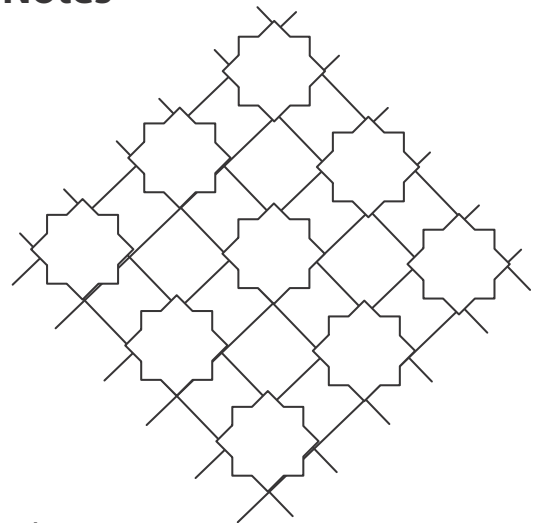
The mosaic at the school was 60 feet by 40 feet, and used 38,400 sticky notes. After they broke the record, the sticky-note paper was recycled.



Your Project Create a Mosaic with Sticky Notes

Use sticky notes to create a pattern or picture mosaic on a wall or construction paper. Use any number of notes for length and width, except numbers divisible by 4. Your mosaic should have a length and width that are fractional amounts when measured in feet. Sticky notes are squares with sides of 3 inches. A mosaic with a length of 7 sticky notes and a width of 9 sticky notes will have the dimensions of 21 inches \times 27 inches, or $1\frac{3}{4}$ feet by $2\frac{1}{4}$ feet.

Now, design a beautiful mosaic! When you have finished, find its area in feet. Show your work (on a sticky note, of course!). Display your mosaic and your work on a sticky note in your classroom.



Name _____

Pick a Project

Project 8C

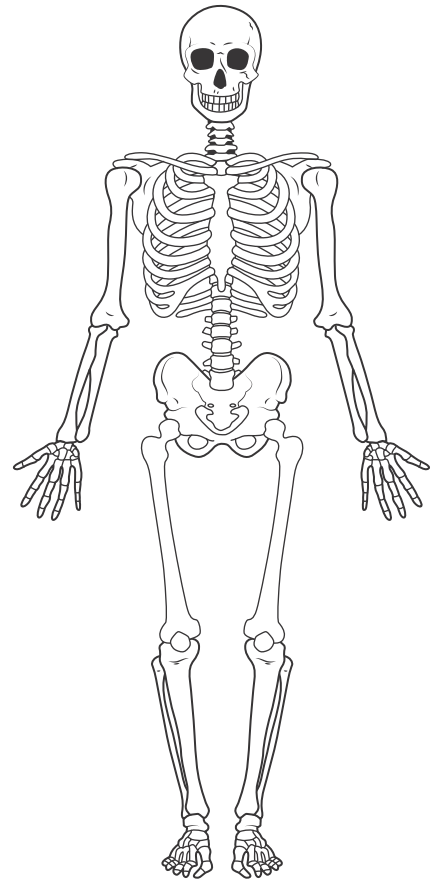
Calcium in the Human Body

Calcium is the most abundant mineral in the human body. It is a very important mineral because it helps build healthy bones and teeth.

The tables below show the approximate calcium content of 1 cup of each given food item:

Food Item	Calcium (in grams)
milk	$\frac{3}{10}$
ice cream	$\frac{1}{5}$
sour cream	$\frac{1}{4}$
yogurt	$\frac{9}{20}$
soy milk	$\frac{2}{5}$

Food Item	Calcium (in grams)
figs	$\frac{3}{10}$
broccoli	$\frac{9}{50}$
arugula	$\frac{1}{8}$
spinach	$\frac{6}{25}$
okra	$\frac{1}{10}$



Based on the recommended calcium intake of the Food and Nutrition Board (FNB), fifth graders need to consume about $1\frac{3}{10}$ grams of calcium every day. You can use this value to plan healthy meals.

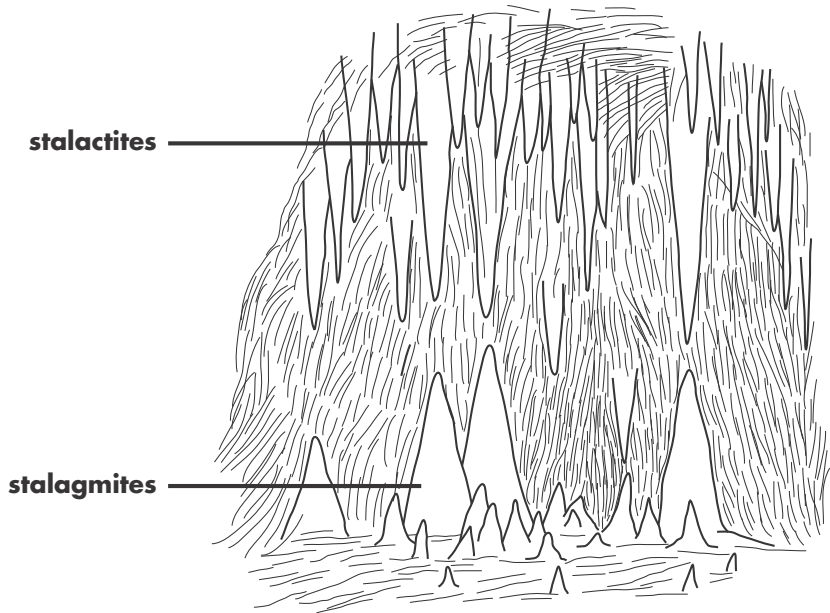
Your Project Analyze Menus for Calcium-Rich Foods

How do your favorite restaurants measure up with calcium-rich foods on the menu? Research menus of local restaurants for breakfast, lunch, and dinner foods that offer calcium-rich foods for children. Many restaurant menus can be found online, which may be easier for doing your analysis work. List the amount of calcium in 1 cup of different foods served at restaurants as a fraction. Present your analysis in a report to share with the class.

Caverns

Every time it rains, rain water seeps into the ground. In some places, that water can break down and dissolve the rock below the surface. Over tens of thousands of years, a cavern can form.

The water running through the ground breaks up the rock and dissolves the minerals in the ground. Once a cavern begins forming, water drips from cracks in the ceiling. As the water drips, the minerals dissolved in the water form hanging structures called stalactites that look like icicles. They also form stalagmites on the cavern floor. After a long time, the structures meet to form columns.



Your Project Create a Scale Model of a Cave

Suppose that Michelle, a fifth grader, is $4\frac{1}{4}$ feet tall.

Create scale models of Michelle, a stalactite, and a stalagmite. You may use clay or any material you choose. Apply a scale of 1 foot : 1 inch. This scale means that if a girl is 4 feet tall, the model of the girl should be 4 inches tall. Make the models as accurate in size as possible. Display them on poster board, in a diorama, or however you like. Label each object with the size of the actual object, the size of the model, and your calculations.