

Math

Finding The Area



YOUTH ART PROJECT FOR:

FINDING THE AREA

OBJECTIVE

Students will learn how to count American currency.

Set up/prep time:

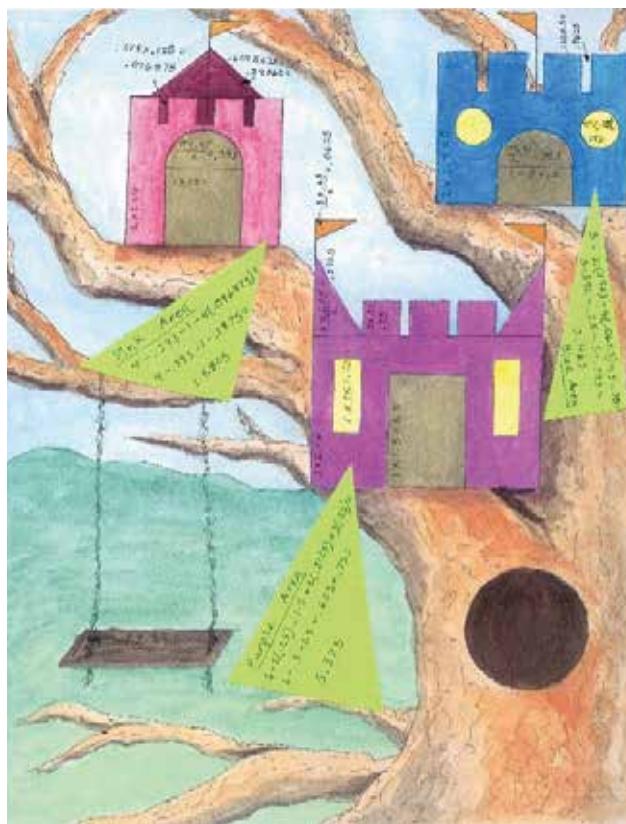
30 minutes

Activity time:

2-3 hours

Materials Needed:

Paper, pencil, ruler, calculator, paints, sticky notes





COMMON CORE STATE STANDARD

CCSS.Math.Content.6.G.A.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.

PRE LESSON ASSESSMENT

Administer a pre-lesson assessment to determine what the students already know about calculating the area of various objects.

VOCABULARY

Regular and irregular triangle, circle, octagon, square, rectangle

RELEVANT RESOURCES

Content

<http://www.coolmath.com/reference/areas.html>
www.khanacademy.org/math/.../basic...area.../perimeter-and-area-basics
[www.factmonster.com › Math › Tables and Formulas](http://www.factmonster.com/Math/Tables-and-Formulas)

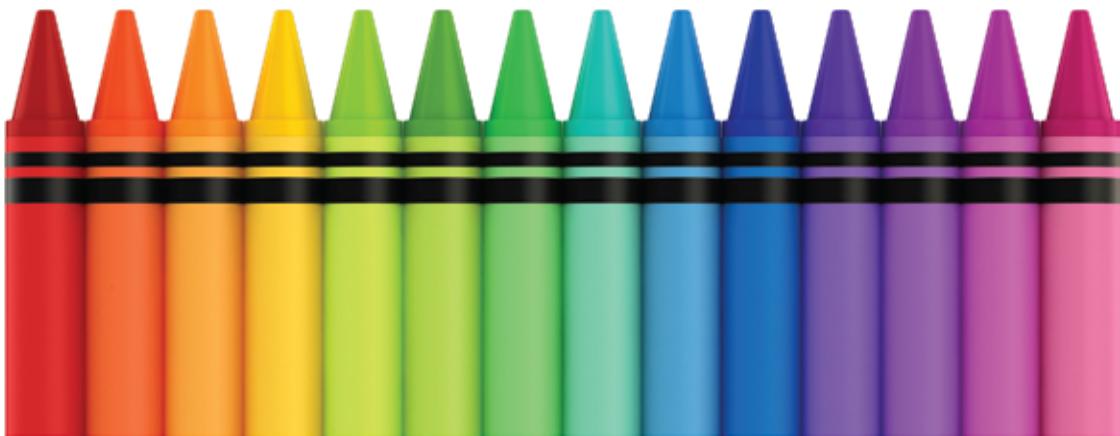
Art

[www.wikihow.com › ... › Drawing › Drawing Flowers and Plants](http://www.wikihow.com/.../Drawing/Drawing-Flowers-and-Plants)
[www.wikihow.com › ... › Drawing › Drawing Shapes and Forms](http://www.wikihow.com/.../Drawing/Drawing-Shapes-and-Forms)
www.learn-to-draw.com/shading/04-shading-crosshatching.shtml

Students will engage in:

- Listening
- Speaking
- Reading
- Writing
- Partner Work
- Cooperative Learning
- Whole Group Instruction
- Visuals
- Hands on
- Technology Integration
- A Project
- Centers
- Simulations
- Activities

"It's not that I'm so smart, it's just that I stay with problems longer."
-Albert Einstein



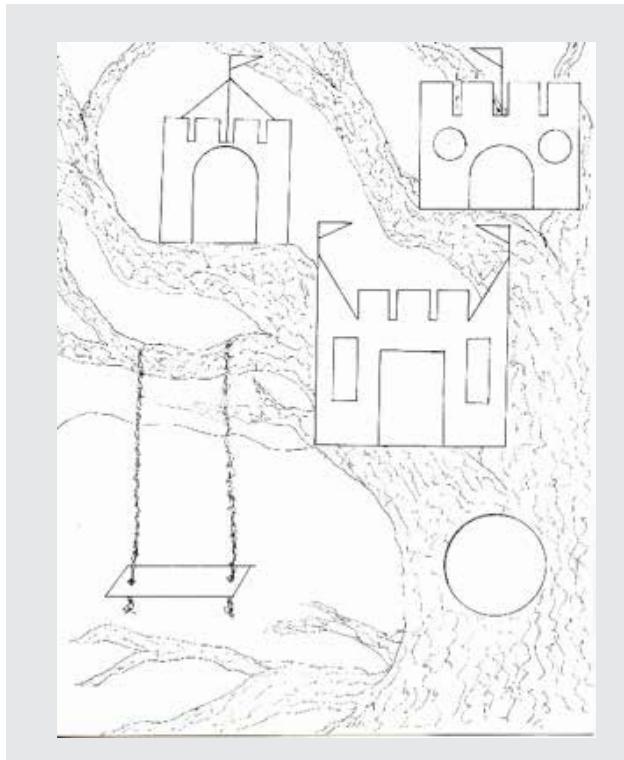


STEP 1

Have the students use a pencil and a ruler to draw a picture using a combination of familiar shapes to create complete images. (For example, the doors on two of the castles shown in image 1 are made up of half circles and rectangles)

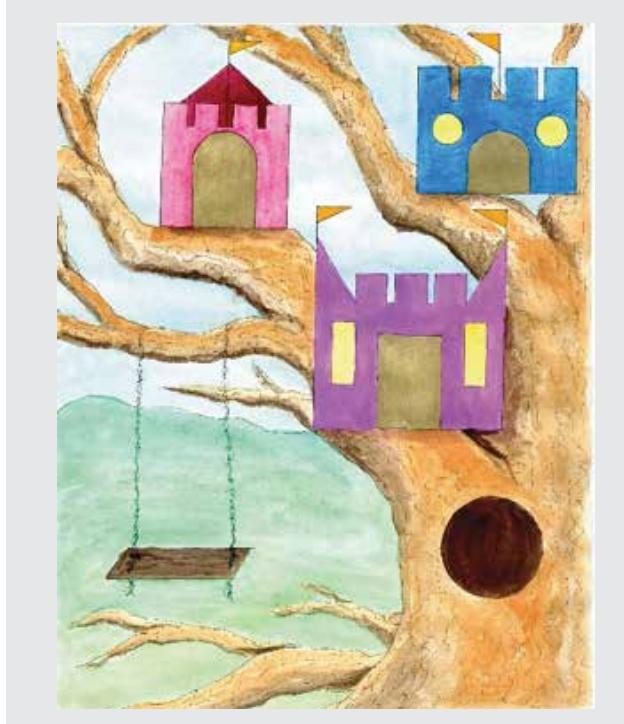
Instruct the students to make sure the sides of polygons, heights of triangles, and the radii and diameters of circles measure in whole inches to make later calculations easier. The students should use a separate sheet of paper to record the measurements of each individual* shape they draw in creating their overall picture. Encourage the students to use a variety of shapes and be creative in designing their artwork and including a background.

*For example, using the half circle and rectangle doors again, they would record that the door of the castle consisted of a half circle with a ___ inch radius and a rectangle with two sides measuring ___ inches each and two sides measuring ___ inches each.



STEP 2

Instruct students to use paints to color their artwork. (See image 2.) Have the students put their artwork aside to dry.



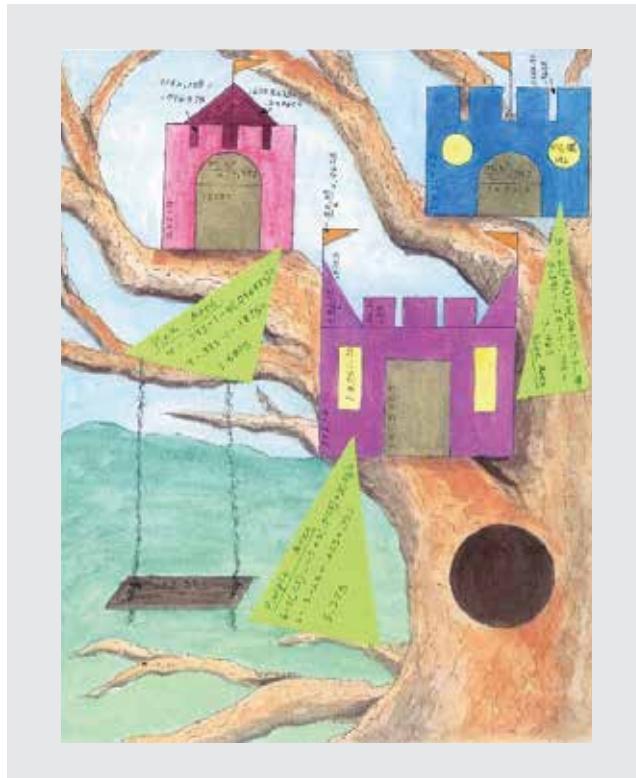


STEP 3

Meanwhile, on the same sheet of paper upon which they previously recorded the measurements of their shapes, the students should calculate the area of the individual shapes in their picture. Once the paint is completely dry, the students will write the area, in square inches, inside each of the shapes in their picture (see completed image)

Have the students calculate the total area of each constructed figure in their picture by using more in-depth computations. This could include adding the area of various included shapes to find the total area of a figure and/or using subtraction to determine the area of a specific part of a figure (for example, subtracting the yellow windows and gray door from the area of the purple castle to find the area of just the purple shaded portion).

Have the students choose three or four of these calculations to include on their picture. Separately, on sticky notes, have the students write out each of their three or four chosen calculations and label what these calculations represent. Once the paint is dry, have the students attach the sticky notes to the applicable areas of their artwork as shown in the completed image.



POST LESSON ASSESSMENT

Administer a post assessment to determine what new knowledge the students have gained.



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