

SUMMER FUN

Models

Models are 3-D representations used to show the appearance of an object. Models are used by architects and engineers to show people what buildings and structure will look like before they are built in real life. Crime investigators also use models to help them study crime scenes. The FBI built a model to help in the investigation of the assassination of President John F. Kennedy.





Scale



Scale is the relationship between the size of two objects. An easy way to understand scale is to think about a small, medium, and large version of an object like drinking cups. Look at the photo of the cups. The cup in the middle is "life-sized". The cup to the left is scaled down so it is a "miniature" version. The cup to the right is scaled up, making it "oversized". What other examples of scaled items, can you think of? For example, compare the size of a toy car to a life-size car.

In 1964, the FBI built a scale model of the Texas School Book Depository building and Dealey Plaza to assist them with the investigation of the assassination of President Kennedy. Building a scaled model of the area helped them to test theories and gather information without having to be in the actual building. When they built the model, they created a measurement scale, where one inch on the model was equal to four feet in real life, or 1":4'. To build this model, the FBI used exact measurements and blueprints for its construction, and even used a natural sponge material to construct the trees in order for the model to look as realistic as possible to the scene. This model allowed the FBI to view three dimensional details that they would not be able to see through photographs. Today the model is owned by the National Archives and Records Administration and is on loan to The Sixth Floor Museum. Complete the activity below to construct your own scale model drawing.

Materials: 1 picture of an object printed on an 8x10 inch paper, 1 piece of blank 8x10 inch paper, ruler, pencil, scissors

Directions:

- 1. Choose and photograph an object at home that you would like to make a scale drawing for. Make sure the object takes up a majority of the photo, or place the object in a background that you would also like to include in your drawing.
- 2. Print the photograph or draw an image on a piece of 8x10 inch piece of paper.
- 3. Using a ruler, draw a 1x1 inch grid over the photograph or drawing. To do this, measure lines one inch apart along going from side to side on the piece of paper. Repeat with the lines going up and down.
- 4. Number each one-inch square on your grid in the top left corner.
- 5. Take your piece of blank 8x10 inch paper and make a grid on it. This time, measure and draw lines half an inch apart going in both directions. This will create a miniature scale grid.
- 6. Count how many squares you have on the one-inch grid. Number the same amount of squares onto the half-inch squares. Cut off the extra squares from the half-inch grid.
- 7. Using the gridded photo, go square by square and copy the image onto the plain half-inch grid. Pay attention to the details of the image and try to replicate it as best you can.
- 8. When you are finished you will have a scaled-down image where half an inch is equal to an inch, or .5":1". Do this again, but this time make a scaled up version. What changes do you need to make in order to scale the image up?

Design

While model design can be extremely detailed, it can also be very creative. Did you know that The Sixth Floor Museum owns a LEGO model of Dealey Plaza? This model also includes parts of downtown, the triple underpass, and Love Field airport, all constructed completely out of LEGO bricks. While not an exact replica of the area, it shows areas relevant to President Kennedy's trip to Texas in 1963. Can you identify the Texas School Book Depository building in the LEGO model? Compare this model to the FBI model. How are they alike? How are they different? Does the use of LEGO bricks and vibrant colors change the way you see the LEGO model when compared to the FBI Model? If so, how?

Now it's your turn to design a model. Pick a building or large object that you would like to make a model for. Will you make a realistic representation, or a fun and creative one? Consider how you will use design elements such as shape, color, and line to design your model. Using materials around your home design your model. How did you use your creativity to bring your model to life?

Architecture

Architects use models when designing a building to help people see what a finished building will look like. The models include not just the building as a whole, but also the individual parts of the building like columns, arches, windows, doors and porches. Go outside and observe your home. Make a list of the architectural elements you can see; how many can you identify?

Check out the Texas School Book Depository building model below which features the architecture of the building from 1963. Color the picture below and then cut it out. To get a three-dimensional view, fold the sides and take the flaps of the cutout to make a cube. After building the model, record how many elements of architecture you can identify. What features of this building are also in your house?

Adidtional Resource: Use this <u>Building Survey</u> from the National Building Museum to learn more about architectural elements.