



# ARCHI TREKS

ArchiTreks gets kids excited about architecture, science, engineering, and more through fun and educational adventures as they explore and discover their surroundings.

Age Range: Kindergarten - 5th Grade

Subject: Architecture



# Lesson 1: Shapes

[Lesson based on "Architecture: It's Elementary" Kindergarten Lesson 1 pg. 21](#)

Lesson Intro:

What are some shapes that you can find right outside your door? Once you see the shapes hidden in any building's design, you can start to see how the architect who designed it manipulated these shapes, along with other things like size, texture, proportion, scale, mass and color to not only make a building do what it needs to do but also be really fun to look at.

Lesson Duration: 60 minutes

Video Link: <https://www.pbs.org/video/dptv-education-architreks-shapes/>

Objectives:

- Introduce shapes as the most basic element of form
- Visualize shapes as simple forms of objects in the environment
- Verbalize an understanding of shapes, their similarities and differences

Materials:

- Lesson 1 Student Handouts for each student (pages 6-8)
- Pencils
- Scissors
- Glue
- Coloring Materials

Vocabulary:

- Circle
- Semicircle (half circle)
- Rectangle
- Shape
- Square
- Triangle

# Lesson 1: Shapes (continued)

[Lesson based on "Architecture: It's Elementary" Kindergarten Lesson 1 pg. 21](#)

## Activity:

1. Read and discuss intro with students "What are some shapes that you can find right outside your door? Once you see the shapes hidden in any building's design, you can start to see how the architect who designed it manipulated these shapes, along with other things like size, texture, proportion, scale, mass and color to not only make a building do what it needs to do but also be really fun to look at."
2. Show video (see link above)
3. Review the basic shapes introduced in the video: circle, semi-circle, rectangle, square, and triangle:
  - a. Using scissors, have students cut out each shape from their student handouts for Lesson 1
  - b. Discuss the characteristics of each shape.
4. Take the students on a shape search in your neighborhood:
  - a. Using the shapes they cut out and their student handout pages, look for examples of shapes. It may be helpful for students to hold the shapes up when they recognize it on a building . This will help them compare.
  - b. When students see any shape, have them point it out and add a tally to their handout. Share and discuss as a group.
5. Have students glue their shapes down onto their handout in the appropriate column on the tally table.
6. Finally, have students draw their own building. Encourage them to use multiple different shapes in their drawing.

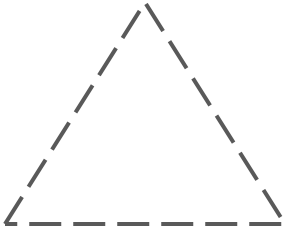

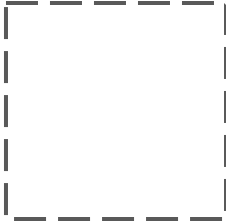

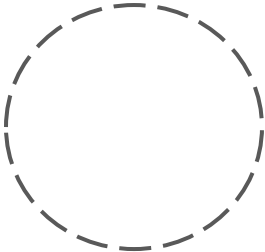
## Assessment Opportunity:

- A. Observe the students and their ability to find shapes within their neighborhood.
- B. Review student's building drawings. Look for students ability to incorporate multiple different shapes into their building design.

# Lesson 1: Shapes

Find it!

Go on a shape search in your own neighborhood. Cut out the shapes on the next page and carry them with you on your walk. When you see a shape on your walk, record a tally mark in the table below. After your walk, glue the correct shape onto the correct box.

Shape	Tally
	
	
	
	
	

# Lesson 1: Shapes

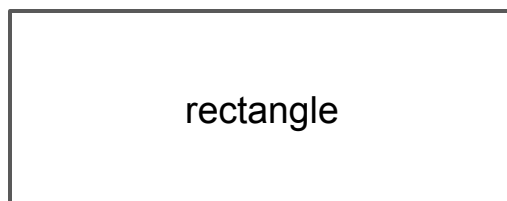
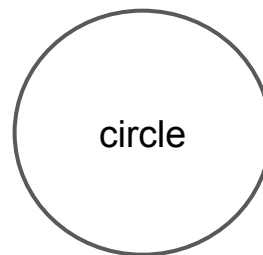
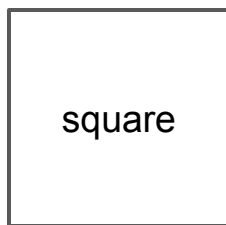
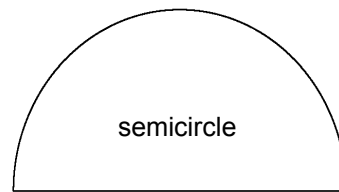
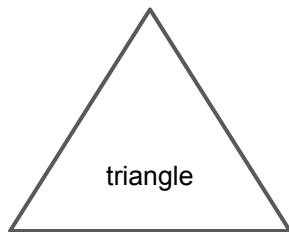
Draw it!

In the box below, sketch a building from your own imagination! Try to use 3 different shapes in your drawing.

A large, empty rectangular box with a thin black border, intended for a student to draw a building. The box occupies most of the lower half of the page.

# Lesson 1: Shapes

## Shape Cutouts



# Glossary

**Adaptive Re-Use** (noun) - To take an existing building that had one purpose and renovate it to be used for a different purpose

**Arch** (noun) - A curved structure, as of masonry, that supports the weight of material over an open space as in a bridge, doorway or gateway

**Beam** (noun) - A piece of wood, metal or stone that spans from support to support and holds the weight of the floor, roof or material above it

**Circle** (noun) - A plane figure bounded by a simple curved line; every point is equally distant from the point at the center of the figure

**City** (noun) - In the United States, an incorporated municipality whose boundaries and powers of self-government are defined by a charter from the state in which it is located

**Civilization** (noun) - Advancement in social culture characterized by relative progress in the arts, sciences and statecraft

**Column** (noun) - A vertical support for supporting horizontal structural members

**Compression** (noun) - The state of being pushed together or squeezed together, which results in a decrease in volume

**Dilapidation** (noun) - The natural deterioration of a building due to neglect

**Dome** (noun) - A hemispherical roof or one formed by a series of rounded arches or vaults on a round or many-sided base

**Domesticate** (verb) - To tame, as to tame a wild animal; To accustom to home life

**Ecology** (noun) - The branch of biology that deals with the relationship between living organisms and their environment

**Environment** (noun) - All the conditions, circumstances and influences surrounding and affecting the development of human habitat for both shelter and community

**Flying Buttress** (noun) - An inclined masonry structure outside of the wall of a building; connected to the building by an arch designed to resist the outward pressure imposed by a vault or the building's roof; usually found in Gothic churches

**Forces** (noun) - Strength, energy, vigor and power

# Glossary

**Gravity (noun)** - The force that tends to draw all bodies in the Earth's sphere toward the center of the Earth

**Green Roofs (noun)** - A living roof that is partially or completely covered with vegetation, and which provides extra insulation and provides a habitat for wildlife.

**Historic (adjective)** - Referring to an example from the past

**Interrelate (adjective)** - To be interconnected

**Landmark (noun)** - Any prominent object marking a locality, often one of historical interest; Any object on land that serves as a reference point or a destination point

**Neighborhood (noun)** - A community or district composed of people living near one another

**Nomad (noun)** - People who travel from place, never permanently settling in one area

**Preservation (noun)** - Protection from harm and/or damage

**Rectangle (noun)** - A four-sided plane figure with four right (90-degree) angles; the opposite sides are parallel and equal

**Restoration (noun)** - The act of returning a building to its original condition

**Semicircle (noun)** - A circle cut in half

**Shape (noun)** - That quality of an object which depends on the relative position of all points composing its outline or external surface; physical or spatial form

**Square (noun)** - A two-dimensional figure having four equal sides and four right angles

**Sustainable (noun)** - Meeting present needs without preventing future generations from being able to meet theirs; includes respect for the environment and for people

**Tension (noun)** - The state or condition of being pulled or stretched

**Triangle (noun)** - A geometric figure having three angles and three sides

**Vault (noun)** - A masonry covering over an area which uses the principle of the arch