

Explore 2D&3D Shapes

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Timeframe of activity: 30-45 min.

Tags: math, shapes, 2-D, 3-D, 3 dimensional shapes

Grade Level: K-2

App/Tech Tools: **Cleverbooks Geometry App, device (tablet/phone)**

Additional materials: printable shape markers , Cleverbooks Geometry Workbook

Learning Objectives:

- Identify and describe 2D and 3D shapes.
- Analyze, compare, create, and compose shapes.
- Identify shapes as two-dimensional (lying in a plane, "flat") or three-dimensional ("solid").
- Analyze and compare two- and three-dimensional shapes using key vocabulary terms - vertices, faces, edges, sides.

Lesson Activity:

- Divide students into small groups with the shape markers, or share shape markers with your students virtually, if remote learning.
- Ask students: **What shapes do you see around you in our world?** Wait for responses and record on a whiteboard, paper, virtually, etc.
- Hold up the shape markers from the workbook. Ask students to identify each of the 2D shapes shared. How do they know that the shape is a rectangle, triangle, etc.? (number of sides)
- Guide students to explore the circle shape marker with the app. What 3D shapes have either a circle face or are solid? Students explore the different shapes, zoom in and out, and try the cross section and fraction buttons. As a group, analyze the cone, cylinder, and sphere discussing how many flat sides or faces, edge or sides each has. Ask students to come up with a real-life example of each 3D shape.

- Guide students to explore the square shape marker next. As they explore, ask them to explain in their small groups what shapes, either 2D or 3D they see. How would they explain or describe each shape? (Ex. A cube has 6 faces, 12 edges, and 8 vertices.) Have students touch the 2D button. What happened to your shape? Discuss the term “net”. Ask students what 2D shapes make up that 3D shape. What real-life examples can you give for these 3D shapes? 2D shapes?
- Have students continue with the other shape markers - triangle, rectangle, and hexagon. Prompt them to continue to use their math vocabulary to describe the different 2D and 3D shapes.
- If grade-level appropriate for students, have them work in their small groups to try the TEST, and/or the GAME option within the app.
- Once students have explored the 3D shapes, wrap up with an exit ticket question to have them share 1 new thing they learned today.
- For additional lessons and activities, see some of the ideas below to help supplement this unit.

Questions outline:

- What are the names of some 2D shapes?
- What are the names of some 3D shapes?
- Is there more than one way to create the same shape using other shapes?(Example - 6 triangles to make a hexagon)
- What are some words you can use to describe 2D and 3D objects? (flat, solid, corners, edges, sides, faces, vertices)
- What makes 2D and 3D objects different?
- What does the word “net” mean or look like when creating 3D (solid) shapes?

Additional Ideas (optional):

- Review with a Game:
 - 🍉 [Breakout Edu Games](#) - Digital and Kit Games
 - 🍉 [Gimkit.com](#)
 - K review - [Shapes](#)
 - Grades 1 & 2 review - [3D Shapes](#)
- Go on a 2D and 3D Shape Scavenger Hunt - Check out this [Goosechase Sample](#) or create your own
- Apply and Practice Activities-
 - 🍉 [Seesaw Activities](#) - Community Library
 - 🍉 Google Activities -
 - 🍉 [Sort 2D and 3D Shapes](#)
 - 🍉 [Sort 3D Shapes](#)
 - 🍉 [Find 3D Shapes in Our World](#) -Add images or take pictures to add to slides
- [Create and compose shapes online](#)