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FREE LEARNING NOTES FOR ZAMBIA

GRADE 1 · TERM 3

Mathematics

Plane and Solid Shapes

Lesson notes for learners · Competence-Based Curriculum

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Look around you. A bottle top, a box, a ball and a book all have shapes. In this note you will learn the names of some shapes, find them at home and at school, and use them to draw pictures and build things.

AFTER THESE NOTES YOU SHOULD BE ABLE TO

- Name the plane shapes: circle, square, rectangle and triangle
- Name some solid shapes: cube, cuboid, sphere, cylinder and pyramid
- Find shapes in the things around you
- Make pictures and structures using shapes

KEY WORDS

Plane shape	A flat shape that lies flat on a surface, such as a circle or a square.
Solid shape	A shape with depth that takes up space, such as a box or a ball.
Edge	The line where two parts of a shape meet.
Pattern	Shapes that repeat again and again in the same order.

1 Plane shapes

Plane shapes are flat. They lie flat on a surface, like a drawing on paper. The plane shapes you will learn are the circle, the square, the rectangle and the triangle.

A bottle top is a circle. A piece of paper can be a rectangle. When you look at a shape, say its name and tell how it is the same as another shape and how it is different.

Plane shape	Something that looks like it
Circle	Bottle top
Square	Cut-out made from cardboard
Rectangle	Piece of paper
Triangle	Cut-out made from paper

Figure 1. Plane shapes and things that look like them

2 Solid shapes

Solid shapes are not flat. They have depth, so they take up space. You can hold a solid shape in your hands.

Some solid shapes are the cube, the cuboid, the sphere, the cylinder and the pyramid. A cardboard box is a solid shape. A round tin is a solid shape too.

Many solid shapes have a plane shape on them. When you press a round tin on paper and draw around it, you get a circle.

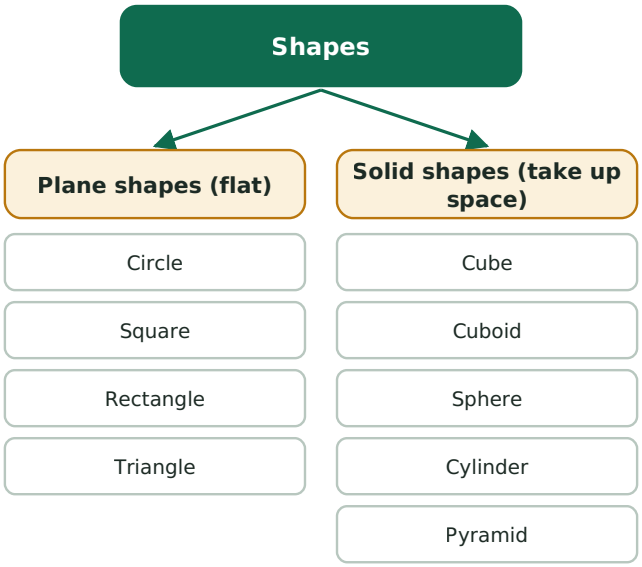

Figure 2. Plane shapes and solid shapes

3 Finding and using shapes

Shapes are all around you, at home, at school and in the community. Go on a shape hunt. Look for things that look like a circle, a square, a rectangle or a triangle, and say which shape each one is.

You can trace around things to draw shapes. Trace around a bottle top to draw a circle. Trace around cut-outs to draw squares, rectangles and triangles. You can colour them and repeat them to make a pattern.

You can also draw things you see, such as a house, a bicycle or a car, using plane shapes. Then you can build what you drew with blocks, boxes, bottle caps and other things that people would throw away.

When you make something, follow the rules you are given. For example, your structure may need some plane shapes and some solid shapes. Tell your friends how your shapes follow the rules.

TRY THIS

Go on a shape hunt at home or at school. Find one thing that looks like a circle, one like a square, one like a rectangle and one like a triangle. Trace around each one on paper. Colour the shapes and say the name of each.

REMEMBER

- Plane shapes are flat: circle, square, rectangle and triangle
- Solid shapes take up space: cube, cuboid, sphere, cylinder and pyramid
- Shapes are all around us
- We can trace shapes and use them to draw pictures and build things

? Check yourself

1. Name the four plane shapes in this note.
2. What is the difference between a plane shape and a solid shape?
3. Which plane shape do you get when you trace around a bottle top?
4. Name two solid shapes.
5. You want to wrap a gift. You can use a box shaped like a cube or a flat piece of paper shaped like a rectangle. (a) Which one is a solid shape? (b) Which one is a plane shape? (c) Which one will you use to wrap the box?
6. You go home after school and look for shapes in the kitchen. You see a round tin, a bottle top and a flat tray shaped like a rectangle. (a) Which one is a circle? (b) Which one is a solid shape? (c) Say how you can draw a flat circle on paper using one of them.

ANSWERS

1. Circle, square, rectangle and triangle.
2. A plane shape is flat. A solid shape has depth and takes up space.
3. A circle.
4. Any two of: cube, cuboid, sphere, cylinder, pyramid.
5. (a) The box. (b) The piece of paper. (c) The piece of paper, because it can wrap around the box.
6. (a) The bottle top. (b) The round tin. (c) Trace around the bottle top.

Written by 25Schools to follow the Grade 1 Mathematics syllabus of the Zambian competence-based curriculum. Free for learners to read, download and share. More notes and quizzes at 25schools.com.