

1st Grade Math: Making Patterns with Solid Shapes

Objective: Students will learn how to create and recognize patterns using solid (3D) shapes.

What are Solid Shapes?

Solid shapes are 3D shapes that have depth, width, and height. Some common solid shapes are:

- **Cube**
- **Sphere**
- **Cylinder**
- **Cone**

What is a Pattern?

A **pattern** is something that repeats in a specific order. In this lesson, we will be using solid shapes to create patterns.

Types of Patterns with Solid Shapes

1. **AB Pattern:** Two shapes repeat.

Example:      

(Cube, Sphere, Cube, Sphere)

2. **ABC Pattern:** Three shapes repeat.

Example:      

(Cylinder, Cube, Sphere)

3. **AAB Pattern:** Two of the same shapes followed by a different one.

Example:      

(Cube, Cube, Cylinder)

Creating Patterns with Solid Shapes

Here's how you can create patterns using solid shapes:

1. **Choose Your Shapes:** Pick two or more different solid shapes. For example, you can use a cube and a cylinder.
2. **Arrange the Shapes in Order:** Decide what order to place the shapes in. For example, start with a cube, then a cylinder.

3. **Repeat the Pattern:** Once you've made the first sequence, repeat it several times to create a full pattern.

Examples of Patterns with Solid Shapes

1. **Cube and Sphere Pattern (AB Pattern):**



This pattern repeats a cube and a sphere.

2. **Cylinder, Cube, and Sphere Pattern (ABC Pattern):**



This pattern repeats a cylinder, cube, and sphere.

3. **Two Cylinders and One Cone Pattern (AAB Pattern):**



This pattern repeats two cylinders and one cone.

Discussion Questions

- What solid shapes did you use in your pattern?
- Can you find the part of your pattern that repeats?
- What happens if you add another shape to your pattern?

Summary

In this lesson, students learned how to create and recognize patterns using solid shapes. Patterns can be fun to make and help us see how things repeat in an organized way.