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Explore Patterns in the Real World

Patterns are all around us. Children learn the words used to describe patterns of color, shape, sound, and movement. They find the part that repeats and predict what will come next. They can see the repeating patterns on wallpaper, furniture, floor tiles, wrapping paper, and even on their clothes.



Look What We're Learning

Algebra

- Explore patterns in the real world

Social/Emotional

- Take turns

Vocabulary

checks
dots
horizontal
stripes
vertical

Pattern Day

Materials/Setup:

- On the day of this activity, have children come to school dressed in as many patterns as possible. They may find a striped shirt, plaid pants, or flower-printed tights. They can really go crazy!
- Crayons
- Paper cutouts of a child to color the clothes, similar to a paper doll
- Note to families about pattern day

Grouping:

Whole class

English Language Learners:

Review names of clothing (shirt, pants, socks). Children can talk about the patterns on their clothes in pairs. They can review their talk with a partner then work together to tell the class about their clothes. Partners can be mixed, so an ELL does not need to speak in front of the group if they are not yet ready.

Objective

Children explore patterns in the real world.

Activity

Let's look for patterns on our clothes.

- Are you wearing a pattern today?**
If NO, I am not wearing a pattern today.
If YES, I am wearing a pattern today. It has _____.
(stripes, design)
- Use construction paper strips to make striped patterns.
- Look around the classroom. What patterns can you find?**
Some examples could include: tile floor squares, windows, or blinds.
- Look out the window.** Or go outside on a pattern walk. Children can tell what patterns they see.

✓ Check for Understanding

Can children find the pattern unit in the repeating stripes?

Support: Have children work in pairs. Give each child five squares of the same color from 4 Squares More Squares. Children take turns placing squares to make a repeating pattern.

More to Learn

Animal Patterns

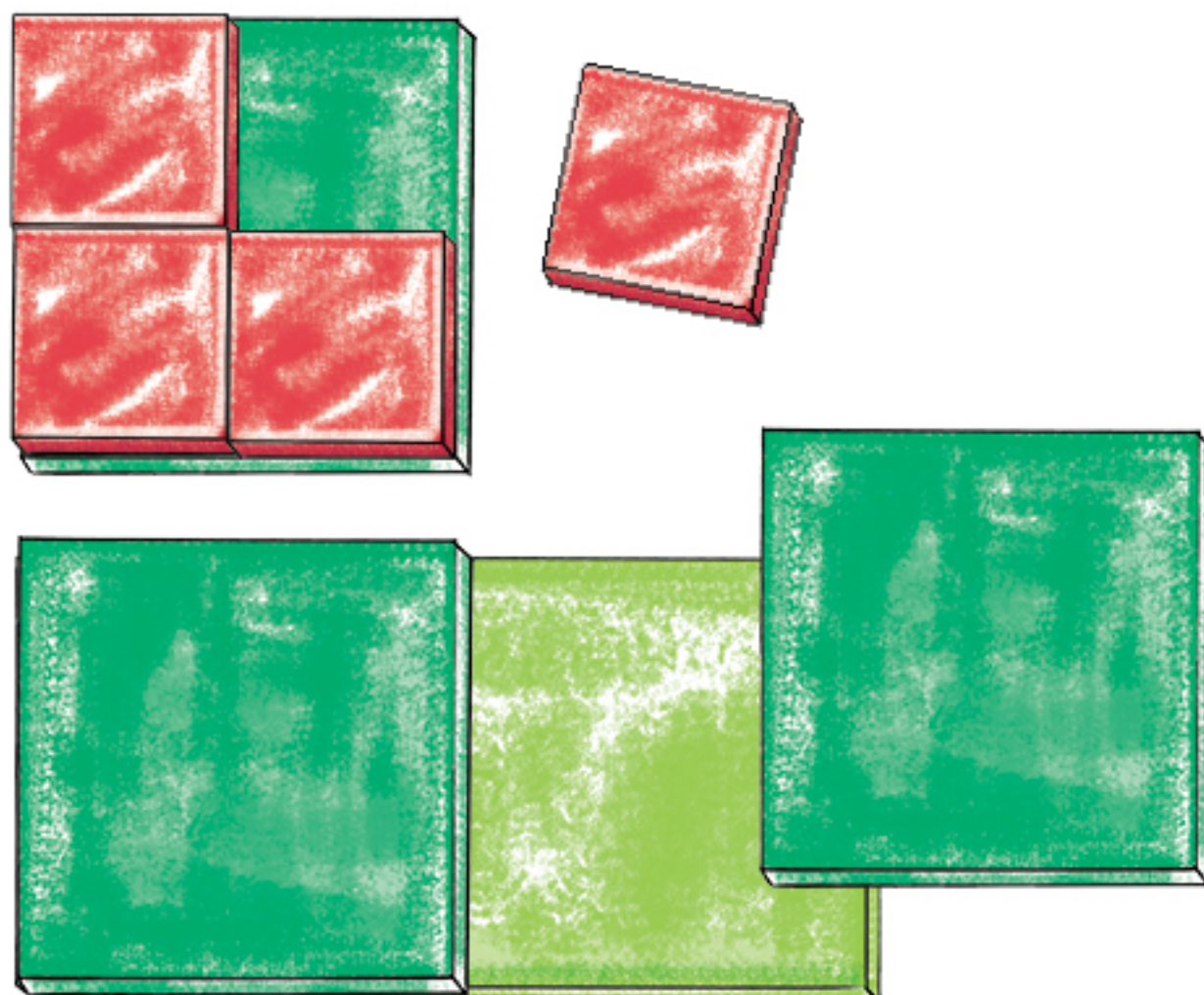
Read **Lots and Lots of Zebra Stripes: Patterns in Nature** by Stephen R. Swinburne. This book has wonderful pictures of patterns as they are found in the wild.

Nature Patterns

For a challenge, provide found materials from nature and have children make their own patterns. They can glue them in place on large paper. Children can describe the **pattern unit** (part that repeats) and tell about their pattern.

Explore Area

When you think of area, you probably have scary formulas in your head (length \times width, $lw=A$). Long before they learn formulas, children need to understand the concept of area. Young children get an exposure to area by covering a shape with squares. The number of squares tells how big the area is. Understanding the concept will make it easier for your children to learn area formulas in future years. They are more likely to truly understand the formulas rather than memorizing them.



Look What We're Learning

Measurement

- Explore area
- Use big/little to compare size

Numbers and Operations

- Count a set up to 10

Geometry

- Compare shapes

Problem Solving

- Guess and check

Vocabulary

cover

large

medium

not enough

small

too many

Cover & See

Materials/Setup:

- Mix & Make Shapes (2 large rectangles, 4 medium squares, 8 small squares)

Grouping:

Pairs (4)

English Language Learners:

Before the activity, give each child a small, medium and a large square. Hold up a small square. **This is small.** Have children repeat aloud. Do the same with the other sizes. Then call out a size and children can hold up the matching square.

Objective

Children explore area by covering a shape with squares.

Activity

Let's find out how big our shapes are. We can cover them with small squares to find out.

1. Start with the medium square. **Let's cover this square. How many small squares do you think we need?** Let children take the number of squares they think are needed (add 4 Squares More Squares Little Pieces if you need more).
2. Invite one child to cover the medium square. Count the number of squares. Children will want to compare the actual number with their guesses (estimates). Help them do this using **too many** or **not enough**.
3. **Now let's cover the rectangle. How many small squares do you think we need?** Let children take squares. Encourage them to explain their thinking.
4. Invite a child to cover the large rectangle. Count. Compare guesses. Repeat using medium squares. Have children try independently.

✓ Check for Understanding

Can children independently cover an area? Do any of the pieces overlap or stick out beyond the edges?

Bonus: Record children's guesses at each step. Look at how their estimating skills develop through the activity.

Support: Count out loud as each square is placed. Say, one, two, three, four. Ask, **how many squares did it take? It took four.**

More to Learn

Different Ways



Invite children to find out how many different ways they can cover one of the big shapes. Have them start using only the same shapes to cover (big rectangle: 7, big triangle: 2, big circle: 1, big square: 6). Then let them mix shapes to cover.

How Many Squares?

Explore area using 4 Squares More Squares Big Pieces and Little Pieces. See "How Many Squares?" in the activity booklet for the full activity.