



PATTERNS IN NATURE

DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD



ABOUT THIS ACTIVITY:

Go on a walk outside and encourage your child to notice patterns in nature. You can find patterns in the design and organization of items, like tree bark, leaves and flower petals, or animal coverings (fur, scales, feathers). You can also find patterns in behaviors, like a birdsong or movement. The movement of the sun and moon, and the passing of the seasons are also patterns.

Help your child to use their senses to notice what repeats in the natural world, even if they cannot name the pattern yet.

STEM LEARNING AREAS:

Life Science: Concepts related to living things

- **Living Things:** Animals, including insects and people, and plants

Physical Science: Concepts related to objects or things, what they do, and how they move

- **Structure & Properties of Materials:** Understanding characteristics of things and how those characteristics impact what things do

Math: Concepts related to numbers, patterns, shapes, and space, and how to use them to solve problems

- **Patterns:** Things that repeat or change in a regular way, like colors, sounds, or movements happening again and again

WHAT DO I NEED?:

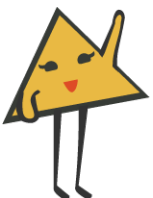
- Pattern cards (see Visual Cues)

WHAT CAN I TALK ABOUT?:

- Colors
- Patterns
- Compare and Contrast
- Repetition

WHAT CAN I ASK?:

- What is the same about these items? Different?
- What comes next? Then?
- What part repeats?
- What does this remind you of?





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ADAPTATIONS FOR DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

Every child is different. Do what works best for encouraging your child's independent exploration during this suggested playtime activity. These are only suggested activity adaptations. Consider consulting your child's care team first.



Follow your child's lead and interests. Enthusiastically ask your child questions about what they are doing and what they like.



Answer your child's questions. If you do not know the answer, work together with your child to discover the answer.



Encourage your child to participate in the activity as much as possible. Praise your child's efforts and successes.

ENVIRONMENT

- If possible, limit background noise & distractions
- Wear sunglasses or hat if sensitive to bright light and going outside for the scavenger hunt
- Start walking close to where you live for short distance, then gradually increase walking distance
- Offer your child headphones if they are sensitive to sound or noise

MATERIALS

- Have child's assistive technology ready and available, including augmentative & alternative communication (AAC) device
- Provide an observation guide (see following pages) to help your child notice patterns in nature during the stroll
- Bring a magnifying glass or a small see through object with a border to help child focus on small details of a pattern

INSTRUCTION

- Use a variety of methods of communication (sign language, gestures) to meaningfully engage children
- Narrate or sign your child's actions
- Allow longer waiting time for child to respond and process this activity
- Break the activity down into smaller steps: First go outside, then walk, then look for one type of pattern. Allow for child breaks in between the steps if needed.



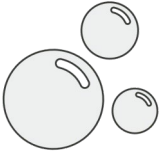
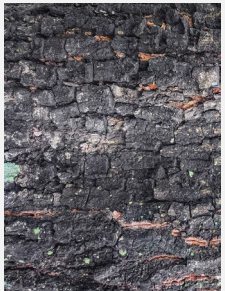
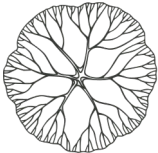
Need visual cues?

Visit [STEMIE's Visual Cue Library](#) or check out STEMIE's tips for creating and using visual supports with [A Guide to Visual Supports](#).



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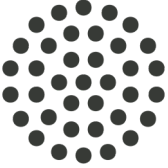
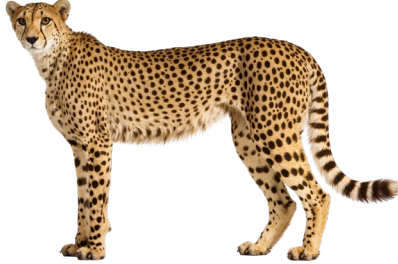
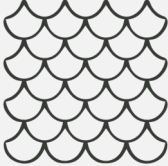
VISUAL CUES FOR DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

Pattern	What It Is	What It Look Like In Nature	
Bubbles 	A ball of air or gas in side a drop of liquid. Examples: Foam in ocean waves		
Cracks 	Small breaks or narrow openings. Examples: ▪ Dry mud ▪ Dried riverbeds ▪ Tree bark	 	
Fractal 	Repeats itself in smaller and smaller parts. Examples: ▪ Tree crown ▪ Broccoli	 	
Meanders 	Going in a winding, curvy path, like a snake, instead of a straight line. Examples: ▪ Rivers ▪ Animal trails	 	
Spiral 	A curve that goes around and around, getting bigger or smaller as it turns. Examples: ▪ Shells ▪ Spiderwebs ▪ Succulents	  	



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VISUAL CUES FOR DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

Pattern	What It Is	What It Look Like In Nature
Spots 	Small areas of color that are different from the main color. Examples: ▪ Cheetahs ▪ Ladybugs	 
Stripes 	A pattern of long narrow repeating vertical lines. Examples: ▪ Zebras ▪ Tigers	 
Symmetry 	A pattern when upside down or flip it over, it will perfectly match the other the other side. Examples: ▪ Butterfly wings ▪ Snowflakes	 
Tessellation 	When shapes fit together with no gaps. Examples: ▪ Honeycombs ▪ Reptile scales ▪ Pinecones	  
Waves  	A pattern that moves up and down in curves, like water or sound moving. Examples: ▪ Ocean waves ▪ Sand dune ripples ▪ Wind moving through grass	  



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ACTIVITY IDEAS FOR DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

ADDITIONAL ACTIVITY IDEAS:

- Collect objects on a nature walk or out in the community at parks or museums and make patterns out of the objects.
- Help your child document patterns they create in a "pattern book" or something similar.
- Check out our [Storybook Conversations](#) for *I See Patterns* by Linda Benton
- Check out our [Discovery Play Activities](#) for Touching Textures
- Check out these great books about patterns:
 - *Patterns* by Sara Pistoia
 - *Patterns Outside* by Daniel Nunn & Rebecca Rissman
 - *Flow, Spin, Grow: Looking for Patterns in Nature* by Patchen Barss & Todd Stewart

