

PATTERNS IN NATURE

DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

Every child is different, and these are only suggested adaptations and activities. Do what works best for encouraging your child's independent exploration during this suggested play activity. Consult your pediatrician, physical therapist (PT), and/or occupational therapist (OT) first.



STEM Concept(s): Patterns, Sequencing

A **pattern** is a set of elements that repeats in a predictable way. It is a regularity in the world. Patterns appear in nature – you can find them in the design and organization of items, such as tree bark, leaves and flower petals, or animal coverings (fur, scales, feathers). You can also find patterns in the behavior of living things. The sun, moon, and planets, and the passing of the seasons are also patterns. Help your child explore the patterns that can be found in the natural world with their **senses** during a nature stroll.

STEM IDEAS/WORDS

- Pattern/Sequence
- Predict
- Colors
- Repeat
- Observe/Notice

MATERIALS

- Observation guide (see following pages)

OPEN-ENDED QUESTIONS

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



PATTERNS IN NATURE ADAPTATIONS

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ENVIRONMENT

- If possible, limit background noise & distractions
- Wear sunglasses/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
- Have your child wear headphones if they are sensitive to sound/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 (e.g., sign language, gestures) to meaningfully engage children
- Narrate/sign your child's actions
- Allow longer waiting time for child to respond and/or 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.



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.

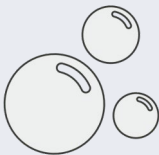
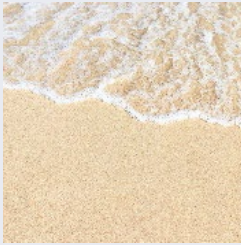


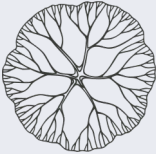







PATTERNS IN NATURE

OBSERVATION GUIDE

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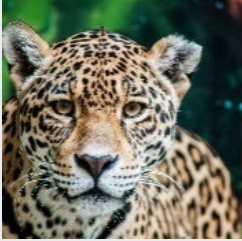





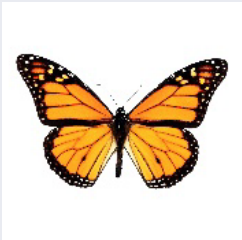

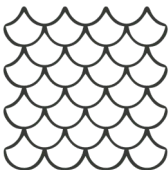



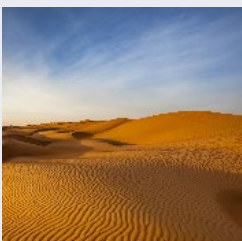

Pattern Type	Description	Natural Example(s)
Bubble 	When something is spherical, like sea foam bubbles	
Cracks 	When something splits open, like dried mud	
Fractal 	When something branches off and the area of the branches together equal what it branched from, like a tree crown or a spider web	
Meanders 	When something zigzags, like a river bending around	
Spiral 	When something follows the Fibonacci sequence (1, 1, 2, 3, 5, 8, 13, ...), like seashells	

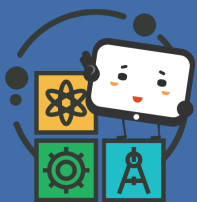


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Pattern Type	Description	Natural Example(s)
Spots 	When something has repeating dots, like a cheetah or ladybug	 
Stripes 	When something has repeating lines, like a zebra or tiger	 
Symmetry 	When something repeats in a predictable manner on both/all sides, like a monarch's wings or a snowflake	 
Tessellation 	When something has repeating surface tiles, like a honeycomb or reptile scales	 
Waves 	When something repeats in a crescent shape and/or leaves ripples, like sand dune ripples or water waves	 



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ADDITIONAL ACTIVITY IDEAS

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- 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 – 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

