



CODING WITH LEGO BLOCKS

DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD



ABOUT THIS ACTIVITY:

Encourage your child to use Lego® bricks or similar connecting blocks to create simple patterned sequences, like red-yellow-red-yellow, big-small-big-small, or square-rectangle-square-rectangle.

As your child builds, encourage them to follow and create step-by-step sequences and notice how the pattern repeats or changes in a regular way.

Your child can also “test” their patterns by asking you, a sibling, or a friend to copy them, helping them see if their directions work or need fixing.

STEM LEARNING AREAS:

Computational Thinking: Concepts involved in programming computers and coding.

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?:

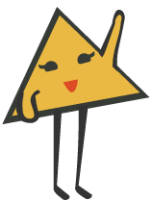
- Legos or similar connecting blocks

WHAT CAN I TALK ABOUT?:

- Patterns
- Colors
- Sequence
- Size
- Shape

WHAT CAN I ASK?:

- What should we do first? Then what? Can we do them together?
- What would your name look like (spelled out OR Lego blocks with assigned letters)?
- What is this Lego block pattern/sequence saying?
- Can you create a ‘secret message’ for (insert name)?





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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 and distractions
- Use modified or flexible seating
- Place Lego blocks on an anti-slip mat or in a container or tray within reach

MATERIALS

- Have child's assistive technology ready and available, including augmentative & alternative communication (AAC) device
- Use large blocks that are easier to grasp and manipulate
- Use blocks that are bright with contrasting colors and sizes so that children can differentiate
- Use stabilizing mats or Velcro for lining up contrasting materials in patterns
- Provide blocks with different sizes, textures, and colors

INSTRUCTION

- Use a variety of methods of communication (sign language, gestures) to meaningfully engage children
- Use pictures and icons to signal next steps (see following page for an example) or each step of the sequence
- Provide prompts and modeling to help the child create a patterned sequence and help the child imitate



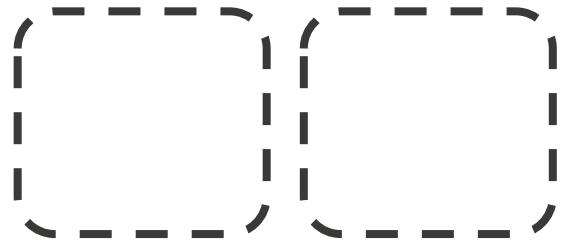
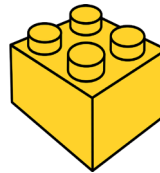
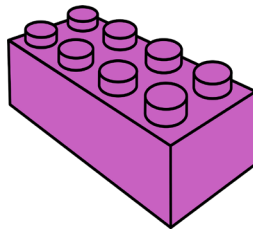
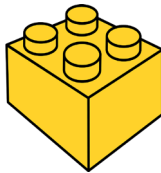
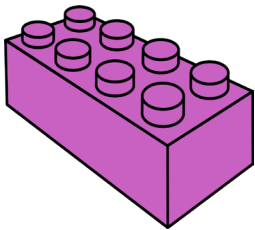
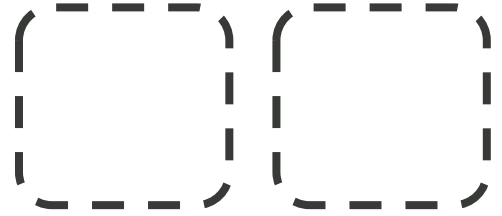
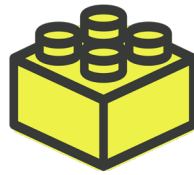
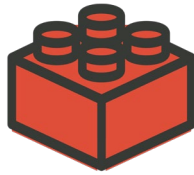
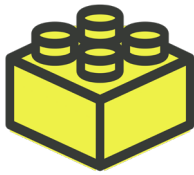
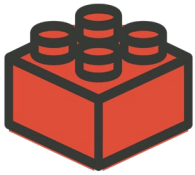
Need visual cues?

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





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ACTIVITY IDEAS FOR DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

ADDITIONAL ACTIVITY IDEAS:

- Have the created patterns mean movements (hop, clap, stand) and act out the pattern
- Record different “codes” creating a large “codebook” (can be visuals, slides, or notes) to document different dances the children have created
- Extend the idea to different play and daily activities, “Can you tell me the steps I need to take to feed the baby? How can I remember what order they go in?”
- Check out our [Storybook Conversations](#) for *I See Patterns* by Linda Benton
- Check out our [Discovery Play Activities](#) for *Let’s Talk Patterns!* and *Patterns in Nature*
- Check out these great books about the patterns:
 - *Pattern Breakers* by Daniel Finkel
 - *My First Book of Patterns* by Bobby & June George
 - *Pitter Pattern* by Joyce Hesselberth

