



INVENTOR'S BOX

DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD



ABOUT THIS ACTIVITY:

Provide an “inventor’s box” filled with recycled materials and loose parts like cardboard tubes, boxes, lids, paper, and tape, and invite your child to design and build their own creations.

As your child builds, they explore how different shapes and materials behave, how to test and improve their designs, and how to solve simple problems by trying new ideas and strategies.

Invite your child to share their ideas with you and others!

STEM LEARNING AREAS:

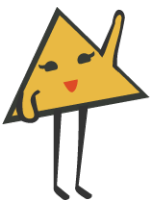
Physical Science: Concepts related to objects or things, what they do, and how they move

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

Engineering: Figuring out how things work and using materials to design, build, test, and improve solutions to problems

WHAT DO I NEED?:

- Easy to open and close container (box, bin or bucket)
- Variety of materials (see following pages for ideas)



WHAT CAN I TALK ABOUT?:

- Colors
- Textures
- Engineering: Plan, Test, Reflect, and Revise
- Materials
- Tools
- Size: Tall/Short, Big/Small, Narrow/Wide
- Strength: Strong/Weak

WHAT CAN I ASK?:

- What are you making/creating/designing/building? How will you create it?
- How does your creation work? What needs to happen to make your creation work?
- What would you do differently next time? What will happen if XYZ doesn't connect?



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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 activity items on an anti-slip mat or in a container or tray
- Place objects within reach

MATERIALS

- Have child's assistive technology ready and available, including augmentative & alternative communication (AAC) device and/or power wheelchair
- Have materials in various sizes, textures, and colors (see below for ideas)
 - Broken/old toys
 - Clothes pins
 - Coffee filters
 - Craft sticks
 - Egg cartons
 - Empty food containers
 - Empty spice containers
 - Empty water bottles
 - Journal
 - Loose buttons
 - Old t-shirts
 - Packing materials
 - Paper
 - Paper clips/binder clips
 - Paper cups/plates
 - Pebbles
 - Pencil
 - Pipe cleaners
 - Plastic lids
 - Pom poms
 - Rubber bands
 - Ruler
 - Scissors
 - Seashells
 - Small boxes
 - Small sticks
 - Spools
 - Straws
 - Tape
 - Toilet/paper towel tubes
 - Toothpicks
 - Yarn/string/rope

INSTRUCTION

- Use a variety of methods of communication (sign language, gestures) to meaningfully engage children
- Provide a prompt, these can be verbal or visual cues, if struggling with an idea of what to build (see below for ideas)
 - Art sculpture
 - Car/Truck
 - Garden trellis
 - Hanging mobile
 - Pet/animal
 - Plane
 - Robot
 - Rocket
 - Wind chimes



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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ACTIVITY IDEAS FOR DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD

ADDITIONAL ACTIVITY IDEAS:

- Check out these great books about engineering:
 - *Andrew Learns About Engineers* by Tiffany Obeng
 - *ABC's of Engineering* by Chris Ferrie & Dr. Sarah Kaiser
 - *Human Computer: Mary Jackson, Engineer* by Andi Diehn
 - *Rosie Revere, Engineer* by Andrea Beaty
 - *This Little Engineer: A Think-And-Do Primer* by Joan Holub & Daniel Roode

