



METEORITES & CRATERS

DISCOVERY PLAY ACTIVITIES WITH YOUR YOUNG CHILD



ABOUT THIS ACTIVITY:

A meteorite is a rock from space that lands on Earth, and a crater is the hole it makes when it hits. Encourage your child to create simple “craters” by dropping different objects (like balls, rocks, or crumpled paper) into different containers of different materials.

Help your child to predict what will happen, then explore how changing the object’s shape, weight, material, or the height they drop it from affects how the crater looks.

As your child drops different objects from different heights, they discover that what an object is made of and how far it falls can change what happens when it lands.

STEM LEARNING AREAS:

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

- **Forces & Motion:** Concepts related to objects moving, how they move, and how to make them move
- **Structure & Properties of Materials:** Understanding characteristics of things and how those characteristics impact what things do

WHAT DO I NEED?:

- Variety of objects: Balls and Rocks of different sizes, weights, and textures
- Containers of different materials: Water, Grass, Sand, Dirt, Rocks

WHAT CAN I TALK ABOUT?:

- Textures: Smooth/Bumpy/Spikey
- Forces and Motion: Drop
- Size: Small/Big
- Height
- Weight: Light/Heavy
- Senses: Feel, See
- Compare and Contrast
- Cause and Effect
- Predict
- Sound
- Meteorites and Craters

WHAT CAN I ASK?:

- What do you think will happen when we drop this into that?
- What does the crater look like?
- What sound did that make?
- What do you think will happen when we add this to that? Will it go faster? Slower?
- Which crater do you like the most? Why?





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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/hat if outside and sensitive to bright light
- Use modified or flexible seating
- Place activity items on an anti-slip mat or in a container or tray
- Place objects within reach
- Introduce materials one at a time to help children stay focused
- Reduce the noise level to help children hear the sounds

MATERIALS

- Have child's assistive technology ready and available, including augmentative & alternative communication (AAC) device and/or power wheelchair
- Add additional material(s) to objects to make it easier to grasp, lift, or turn

INSTRUCTION

- Use a variety of methods of communication (sign language, gestures) to meaningfully engage children
- Provide hand-over-hand or hand-under-hand assistance
- Model and demonstrate how to interact with materials



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:

- Compare and contrast the effects of dropping different sized objects (rocks, balls) at different speeds (normal, fast) into different materials (water, sand, soil, rocks)
- Compare and contrast the sounds each object makes as it hits different materials
- Add a plastic bag or paper (like a parachute) or string to the object being dropped
- Count how many seconds it takes for dropped objects to fall from different heights and/or speeds
- Create a visual chart with your child to capture the data (the size of the crater)
- Check out these great books about gravity:
 - *Gravity is a Mystery* by Franklyn M. Branley
 - *Baby Loves Gravity* by Ruth Spiro
 - *Gravity* by Meg Gaertner

