

METEORITES & CRATERS

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): Force & Motion, Gravity, Collision, Structure & Properties of Materials, Cause & Effect

Sometimes we see flashes of light shooting across the sky at night. These streaking fireballs, or shooting stars, begin as meteorites from space and become meteors when they enter our Earth's atmosphere. And if the meteor makes it to Earth's surface, it becomes a meteorite. **Sometimes if the meteorite is large enough it can create a crater when it crashes into the ground.**

Help your child identify and understand the **effect** of **materials** have on **force and motion** by **dropping** objects of various sizes into different **materials** (e.g., water, sand, soil, rocks).

STEM IDEAS/WORDS

- Compare & Contrast
- Cause & Effect
- Meteorite
- Crater
- Hypothesis testing
- Predict

MATERIALS

- Different sized, weighted, and/or textured objects (pebbles, balls)
- Large container to drop into filled with water, sand, soil, and/or rocks

OPEN-ENDED QUESTIONS

- *What do you notice?*
- *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?*
- *If you could have a meteorite made of anything, what would it be? Why?*
- *Which crater do you like the most? Why?*



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ADAPTATIONS

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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 (e.g., sign language, gestures) to meaningfully engage children
- Provide hand-over-hand or hand-under-hand assistance
- Model and demonstrate how to interact with materials



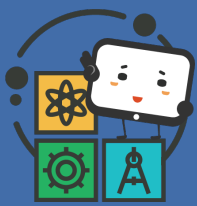
Follow your child's lead and interests. Enthusiastically ask your child questions about what they are doing and what they like.



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.



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ADDITIONAL ACTIVITY IDEAS

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- 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 (like a meteor) 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 (e.g., 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



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