Seeds of STEM: Integrated STEM At-Home

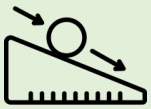
Week 5: Forces and Motion

Each activity can take anywhere from 10-30 minutes.

Day 1: Push and Pull

- Explain that a force makes something move, stop, or change direction; a force is a push or a pull.
- Go on a search around your home or neighborhood for things that can be moved by pushing or pulling. Help your child draw/take pictures and label what you find with the words: push, pull or both.

Day 2: Sliding and Rolling



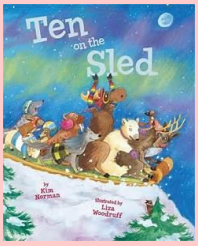
- Use a piece of cardboard, some books, or other easily found materials to make a ramp.
- Help your child collect items around the house to test on the ramp.
- Try them out. Which items slide? Which items roll? Do some items not move at all?
- Help your child sort the items into 'roll' and 'slide' groups based on the results of this experiment.

Day 3: Exploring Forces through Art

- Gather items your child can use with paint.
- Invite your child to explore how pushing, pulling, sliding, or rolling the different items can create different patterns and "brush strokes" to make an art piece.
- If you do not have paint, try mixing equal parts flour, salt, and water (add color if desired).

This child is rolling a ball dipped in paint.

Day 4: Ten on the Sled



- Watch the video read aloud of Ten on the Sled. Ask your child, what is the problem? (The animals fall off the sled).
- Tell your child that they will be an engineer and create a new sled to keep the animals on.
- Help your child to brainstorm ideas, pick one, and draw a plan.
- Based on the plan, collect materials from around your home that can be used to make a sled. Also, collect 10 small items of different shapes and sizes to use as the "animals".

Day 5: Solve the Problem

- Help your child use their plan and the materials to create a sled. Make sure the sled is big enough to fit all 10 items.
- Test the sled by pushing or pulling it around the room. Do any animals fall out? If they do, revise your design to make it better!
- Ask your child: Do you move your sled by pushing or pulling? Does your sled roll or slide?
- Challenge: Can you design a sled that can be moved by pushing *and* pulling?

Check out more Seeds of STEM home activities from at https://www.seedsofstem.org/products