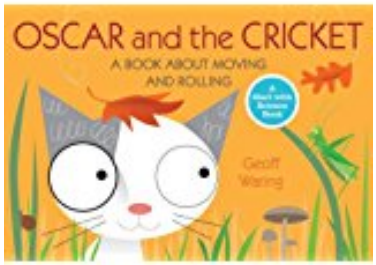
Move It! Ramps and Balls

Remember: In order to effectively build science understanding, *young children need opportunities for sustained engagement with materials and conversations that focus on the same set of ideas over weeks, months, and years* (National Research Council, 2007). This means you should plan to do the same programs with different materials and books over and over again…or a series of programs focused on the same STEM content and experiences.

In this program: Children will compare how balls move on ramps with different slopes. They will explore their ideas, observing how ramps help things move while using STEM inquiry practices: they will raise questions; explore materials; engage in simple investigations; observe, describe and compare; share and discuss ideas; and represent their ideas.

What's needed: Several ramps made from cardboard or flat boards and blocks or books to raise and lower ramps. Balls of the same size for the explorations.

Books for story time and explorations:
Move It! by Adrienne Mason
Roll, Slope, Slide by Michael Dahl
Oscar and Cricket by Geoff Waring
Favorite books about balls



First: Conduct your usual story time routine, just like you normally would, while introducing the concepts of *force and motion* as well as *rolling and sliding*.

Exploration: Introduce children to the ramps and materials. Using one of the ramp materials, talk with children about what a ramp is: a flat surface with one end higher than the other. An object placed on a ramp will roll, slide or stay put. Ramps help objects move.

Demonstrate with one ball, first with the surface flat.
Ask: What are some ways we can make the ball move?

Place one end of the surface on a book or block and explain that this is now a ramp.
Ask: What do you think will happen if we put the ball on our ramp?

Make a steeper ramp (raise that end higher).
Ask: What do you think will happen when the ramp is steeper?

Allow children time to build, change and talk about the ramps they make and what they observe happening.

Data representation: This activity is a great opportunity for children to *represent* their data. Here are some directions for making a child's recording sheet:
http://www.prekinders.com/science-ramps/

STEM Discovery Center: Set up a passive program area. Display ramp and ball materials and laminated instructions with prompts/questions for an interactive Discovery Center.

Community resources: A walk to a local playground with a slide could be an educational trip to test various larger objects to see if they slide or roll. (Basketball, Frisbee, etc.)

Promotion opportunities: Library display of photos and children's projects, social media, library website. Make and display a Documentation Panel of your Move It! programs.

For other program ideas see:
http://www.peepandthebigwideworld.com/en/educators/curriculum/family-child-care-educators/14/ramps/

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