

INV. 4 ACTIVITY—TOYS THAT MOVE

Toys that move.

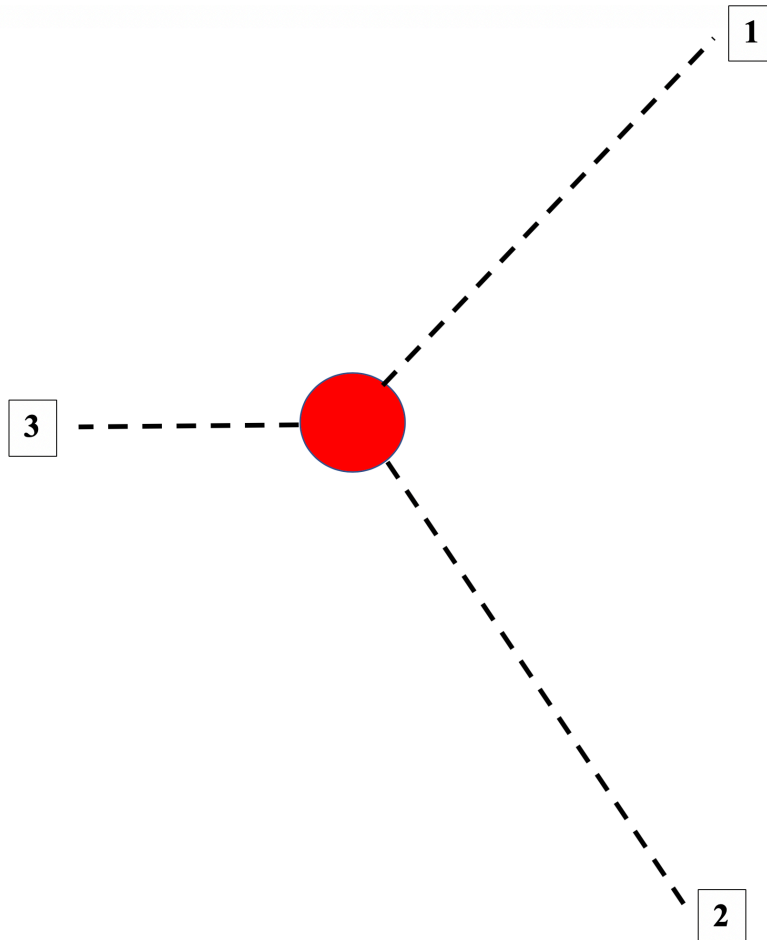
Do you have toys that you can make move with pushes or pulls? Do you have toys that can roll? Collect the toys and describe how they move.

INV. 4 ACTIVITY—MATH WITH RAMPS AND BALLS

Math Extensions—Compare runways

Work on this math extension together with your child. Look at the drawing below. It shows three different paths that a ball (the red circle) could travel (points 1, 2, or 3).

Ask your child to compare the lengths of the paths to find out which is the longest and which is the shortest path. Provide a variety of materials such as string, paper clips, or small beads to help them measure the lengths of the paths. Discuss the different ways that students make the comparison



INV 4. ACTIVITY—EXPLORING ROLLING BALLS

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Materials

- Indoor and outdoor balls
- Blocks, plastic bottles or cans

Suggested procedures

A. Collect blocks, 6–12 plastic bottles or cans, and a smaller ball.

Set up the blocks, cans or bottles like bowling pins. Roll the ball and see how many you can knock down. Make some predictions about the path the ball will take. Explore with different speeds.

You can try this outdoors too. If it is windy use plastic bottles with lids and fill half weigh up with water.

What are your observations? Draw one of your systems.

B. Look for something you have at home to make a ramp (books, cardboard etc.) Practice rolling balls on ramps and predict the path of the ball. If you have outdoor space you can plan to engineer a slope with cardboard and roll different kinds of outdoor balls down the slope. Change the speed of the ball.

- What do you observe?
- What predictions can you make about where the ball would go?
- What causes objects to move? Draw in your notebook.