



CAR TRACK

SCIENCE: FORCE & MOTION – MOTION IDENTIFICATION

Every child is different. Do what works best for encouraging each child's exploration of this suggested activity.

OBJECTIVE OF THIS INVESTIGATION:

Use a variety of objects on a car track to see how different types of objects move

VOCABULARY:

- Roll
- Slide
- Round
- Flat

MATERIALS:

- A flexible car track (e.g., Matchbox, Hot Wheels; lacking a car track, any ramp would work)
- Small cars or balls
- Other objects that might slide down the track (e.g., figurines, plastic animals)

PROGRESSION STEPS (SCIENCE: FORCE & MOTION – MOTION IDENTIFICATION):

Visit [STEMIE Learning Trajectories](#) for details

- Motion Distinguisher
- Motion Type Recognizer
- Motion Type Identifier
- Motion Predictor
- Impact on Motion Identifier

THIS INVESTIGATION:

- Show children how they can start balls or cars at the top of the ramp and watch them roll down.
 - Ask children, **“How is this object moving down the ramp?” (Motion Type Recognizer/Motion Type Identifier)**
 - For children who are not yet able to consistently label the type of motion, label the motion for the children: **“Look! I notice that the ball is rolling down the ramp.”**
- Have children place figurines or plastic animals at the top of the track and watch them slide down.
 - Ask children, **“Is this object moving the same way or differently than the car/ball? (Motion Distinguisher)**
 - For children who are not yet able to consistently label the type of motion, label the motion for the children: **“Look! I notice that the leopard is sliding down the ramp.”**

ADAPTATIONS:

See [A Guide to Adaptations](#) for general ideas and strategies

Environment:

- Place a pillow or soft toy at the end of the ramp to keep cars and balls from rolling away.

Materials:

- Provide a scoop or grip support for children who may have trouble gripping the cars, balls, or other small items.





CAR TRACK

SCIENCE: FORCE & MOTION – MOTION IDENTIFICATION

Every child is different. Do what works best for encouraging each child's exploration of this suggested activity.

THIS INVESTIGATION (CONTINUED):

- Place different types of objects at the top of the ramp and ask children whether they think it will roll or slide.
(Motion Predictor)
 - If children correctly predict how the object will move down the ramp, ask them, **"Why do you think it rolled/slid? (Impact on Motion Identifier)"**
 - For children who are consistently labeling motion but not yet able to explain why, discuss why objects move as they do: **"I notice that this object is round, so it rolls. This other object is flat, so it slides."**

ADAPTATIONS (CONTINUED)

Instruction:

- Provide visual cue cards with pictures that indicate types of motion like rolling or sliding and properties like round or flat to children who need expressive language support.

HOW TO CONTINUE THIS INVESTIGATION:

- Depending on where children are on the Motion Identification progression, teachers may focus on identifying different types of motion **(Motion Type Identifier)** and showing children the properties of those objects that lead to sliding or rolling. For example, point to the wheels on a car and say, **"The car rolls because the wheels are round."** **(Impact on Motion Identifier)**
- Invite children who are able to predict what type of movement an object will have based on its shape to find other objects in the room that will move down the track either by sliding or rolling.

SUPPORT MATERIALS:

