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MAGNA-TILES® LESSON PLAN #4:
Winning the Race with Magna-Tiles®

STEM Integrations:

- **Science:** Which car rolls down the ramp the fastest? Why? What can you do to make your car go faster?
- **Technology:** Use a stopwatch to see which car goes the fastest.
- **Engineering:** Build a car that goes the fastest.
- **Math:** Create a graph showing how fast each car goes.

Materials:

- 1 set of Magna-Tiles®
- 1 Magna-Tiles® Cars 2-Piece Expansion Set
- 1 ramp (can be made from plywood, foam board, or a table leaned on its side)
- 1 stopwatch
- Paper
- Crayons, markers or colored pencils

Directions:

#1. Allow children to explore creating a car with the Magna-Tiles®.

#2. Working in pairs, have one child place his/her car at the top of the ramp. Have the other child say, “Go!” and start the stopwatch. Have the other child release his/her car from the top of the ramp.

#3. When the car reaches the bottom of the ramp have the child with the stopwatch click to stop it.

#4. Have the children record how many Magna-Tiles® were used to create the car and the time it took the car to reach the bottom of the ramp. (Encourage the children to race the car expansion piece without any other Magna-Tiles® attached to it to see how fast it goes down the ramp.)

#5. After the children have data from racing 5 to 10 cars down the ramp, have them create a graph with their data. One axis of the graph should contain the number of Magna-Tiles® used to

create the car. The other axis should contain the number of seconds it took the car to travel down the ramp.

#6. Have the children answer the following questions by looking at the graph:

- Which car was the fastest?
- Which car was the slowest?
- Why do you think that car was the fastest?
- Why do you think that car was the slowest?
- What could you do to make a car faster?
- What could you do to make a car slower?