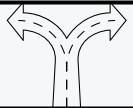


Graphing Motion Menu

Directions: Explore the different ways you can show how **motion** can be represented on a graph using the choices below. Pick the ONE activity that you think will best demonstrate your understanding and that you'll find interesting to do!

Ask and Investigate 	Model It! 	Be a Data Detective 
Come up with a question about how different types of motion look on a graph. Plan how you could move and record data to graph.	Create a model that shows how the movement of an object relates to its distance vs. time graph. Explain your model.	Observe an object moving in a simple way. Collect distance and time data and create a line graph to represent its motion. Share your graph and explain what it shows.
Math Connections! 	Explain It! 	Solve a Problem! 
You are given a distance vs. time graph of an object's motion. Use the graph to describe the object's movement and calculate its speed during different parts of its journey.	Explain in your own words how a distance vs. time graph can show different types of motion.	Imagine you have data showing distance and time. Create a graph and use it to predict future motion.
Tell a Story! 	Create a Visual! 	Be the Teacher! 
Write a story about a moving object's journey. Then, create a distance vs. time graph that matches.	Create a poster or infographic that explains how to read and interpret a distance vs. time graph.	Teach someone how to create a simple distance vs. time graph from data. Explain what the parts of the graph mean.

Charting Your Ideas About Graphing Motion!

Explore the core concepts of graphing motion with these starting points. Remember, you can always come up with your own amazing projects too!

Ask and Investigate 	Model It! 	Be a Data Detective 
1. How does ramp steepness affect a ball's graph? 2. Can you predict a motion graph before testing? 3. How does the surface an object moves on affect its motion graph?	1. Draw steady/speeding up motion and their graphs. 2. Animate motion using an online tool and sketch the graph. 3. Use different colors to model the graphs of two objects moving at different speeds on the same path.	1. Graph your walking (normal vs. fast). 2. Graph movement data from a phone app. 3. Collect data on the motion of a pendulum and try to graph its swing.
Math Connections! 	Explain It! 	Solve a Problem! 
1. Fastest Human: Find the Guinness World Record for the fastest 100m run. 2. Speedy Animal: Research the fastest land animal (Guinness). 3. Fastest Bird: Look up the Guinness World Record for the fastest diving bird.	1. What does a steep/shallow line mean about speed? 2. Why does a flat line mean no movement? 3. How would a graph of something returning to where it started look different?	1. Sketch a graph to travel 10m in 5s (can speed change?). 2. Graph two cyclists with different speeds to see when they meet. 3. Sketch a graph to show a journey with a stop in the middle.
Tell a Story! 	Create a Visual! 	Be the Teacher! 
1. Turtle and hare racing. 2. Someone going for a walk. 3. A balloon filled with air that has been released.	1. Infographic: Motion types and their graphs. 2. Cartoon of motion with mini-graphs. 3. Create symbols to represent different speeds on a graph.	1. Simple presentation on graphing motion. 2. Guide someone to graph a toy car's movement. 3. Use your body to demonstrate the motion shown on a graph.