**Subject area/course**: Mathematics

**Grade level/band**: 9

**Task source**: Summit Public Schools

**Graphing Stories**

**STUDENT INSTRUCTIONS**

1. **Task context**:

Math is everywhere around us. For this project, your task is to capture 15 seconds of the world on video and create an accurate graph that represents a quantity that is present in the video.

1. **Final product**:

Your final product will include the 15-second video, the graph, and a detailed explanation of that graph.

Specifically, the final product should include:

* A video that:
  + is exactly 15 seconds long
  + is school-appropriate
* A graph that:
  + has time (in seconds) on the x-axis from 0 to 15
  + has a clearly-defined quantity on the y-axis, including units
  + has an appropriate scale on the y-axis
  + is neat, accurate and precise
* A graph explanation that:
  + makes connections between the graph and the events in the video
  + correctly uses terms and symbols (as needed)
  + provides logical reasoning to explain or justify graph
  + includes/explains any necessary calculations
  + expresses ideas with clarity and specificity
  + discusses potential sources of error

**Additional Information**

1. **Knowledge and skills you will need to demonstrate on this task:**

* Understanding independent and dependent variables.
* Interpret key features of a graph
* Sketch a graph given a context/story
* Describe the relationship between key features and sketch of a graph
* Use desmos to graph and show key features

1. **Materials needed:**

* Item E. Math Race Task Sheets
* Item F. Math Race Graph Sheet
* Item G. Acting Out the Graphs

1. **Time requirements:**

Your teacher will provide additional details regarding deadlines and due dates.

1. **Scoring:**

Your work will be scored using the Graphing Stories Rubric. You should make sure you are familiar with the language that describes the expectations for proficient performance.