Unit 4 Hot Wheels

Content Area: **Technology**
Course(s):
Time Period: **January**
Length: **4 Days**
Status: **Published**

Unit Overview

Students will use the Hot Wheels Speedometry classroom set to perform several experiments.

1. Design a track that will allow the car to perform a loop.
    - Students will need to decide on launch height, track length, angle, and other variables in building their track.
2. Use repeated measurements to determine the "best" track car.
    - "Best" as measured by distance travelled after leaving the ramp.
    - Students will collect and graph multiple measurements in order to make a determination.
3. As a group, build the longest and highest ramp that will still allow the car to travel the entire path of the track.
    - Students will collaborate to create the best method of supporting the ramp along its length.

Standards

8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
8.1.2.CS.2	Explain the functions of common software and hardware components of computing systems.
8.1.2.CS.3	Describe basic hardware and software problems using accurate terminology.
8.1.2.DA.3	Identify and describe patterns in data visualizations.
8.1.2.DA.4	Make predictions based on data using charts or graphs.
8.2.2.ED.1	Communicate the function of a product or device.
8.2.2.ED.4	Identify constraints and their role in the engineering design process.

Materials

- Hot Wheel Kits

Assessment

Formative Assessment

- Teacher Observation
- Checks for Understanding

- Exit Tickets

Summative Assessment

- Performance Tasks & Projects

Accommodations & Modifications

Special Education

- Follow IEP Plan which may contain some of the following examples…
- In class/pull out support with special ed teacher or assistant
- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

504

- In class/pull out support with special ed teacher or assistant
- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

ELL

- Translation device/dictionary
- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

At-risk of Failure

- Preferred seating
- Directions repeated/clarified
- Extended time for completing tasks
- Vocabulary support
- Limit number of tasks

Gifted & Talented

- Independent projects
- Online games
- Extension activities

Interdisciplinary Connections

2-PS1-3	Make observations to construct an evidence-based account of how an object made of a small set of pieces can be disassembled and made into a new object. Constructing Explanations and Designing Solutions Energy and Matter

Career Readiness, Life Literacies & Key Skills

9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
9.4.2.IML.4	Compare and contrast the way information is shared in a variety of contexts (e.g., social, academic, athletic) (e.g., 2.2.2.MSC.5, RL.2.9).
9.4.2.TL.1	Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).
9.4.2.TL.3	Enter information into a spreadsheet and sort the information.
9.4.2.TL.6	Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).