Unit 6 Trackmania

Content Area: **Technology**
Course(s):
Time Period: **March**
Length: **5 Days**
Status: **Published**

Unit Overview

The Trackmania project is the culmination of several units throughout 2nd grade focused on engineering and design principles. Students will use Trackmania Nations Forever to design and build a virtual race track. They will have to work within the constraints provided by the teacher in order to make a track that is both functional and interesting to drive. This balancing of requirements introduces students to real-world considerations of engineering, wherein product creators must design with their end user in mind. Using 3d design fundamentals introduced in other units, the students will preview their tracks and then have other people drive on them in the computer. The students then receive feedback on their tracks and refine their designs.

Standards

CS.K-2.8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
CS.K-2.8.1.2.CS.2	Explain the functions of common software and hardware components of computing systems.
CS.K-2.8.1.2.CS.3	Describe basic hardware and software problems using accurate terminology.
CS.K-2.8.1.2.DA.2	Store, copy, search, retrieve, modify, and delete data using a computing device.
CS.K-2.8.1.2.NI.1	Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network.
CS.K-2.8.2.2.ED.1	Communicate the function of a product or device.
CS.K-2.8.2.2.ED.3	Select and use appropriate tools and materials to build a product using the design process.
CS.K-2.8.2.2.ED.4	Identify constraints and their role in the engineering design process.

Materials

- Laptops

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

Analyzing and Interpreting Data

Analyzing data in K–2 builds on prior experiences and progresses to collecting, recording, and sharing observations.

Career Readiness, Life Literacies & Key Skills

TECH.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).
TECH.9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
TECH.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).
TECH.9.4.2.TL.3	Enter information into a spreadsheet and sort the information.
TECH.9.4.2.TL.6	Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).
TECH.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).