Go Green: Engineering Recycled Racers

Unit Overview
In this unit, India and Jacob; a fictional, world-traveling brother and sister duo; visit Senegal, where they learn about creative reuse and recycling. India and Jacob guide kids through the engineering activities as they consider items that would ordinarily be discarded and use them to engineer their own toy cars. Kids test and improve their designs to get them ready to compete in the Recycled Racer Rally.

Engineering Application/Unit Goals
Kids will use the steps of the Engineering Design Process as they become green engineers and design racers made from recycled materials. Green engineers think about how to solve problems in ways that prevent harm to the environment. In this unit, kids learn about the basic parts of a car, including wheel systems, to send their recycled racers down a multisurfaced track.
Unit Map

Prep Adventure 1: What is Engineering?
Kids engineer a tower and are introduced to the Engineering Design Process as a problem-solving tool.

Prep Adventure 2: What is Technology?
Kids explore the idea that they are engineers who can design and improve technology.

Adventure 1: Let's Get Rolling
Kids build and test two wheel systems and see how well other wheel materials roll.

Adventure 2: Scrap Market Engineering
Kids think about how to use recycled materials as car components and experiment with different wheel designs.

Adventure 3: Recycled Racer Track
Kids make the track for the Recycled Racer Rally.

Adventure 4: Create a Recycled Racer
Groups use what they have learned from testing and from other groups to begin engineering their own racers.

Adventure 4a (Optional): Air Power
Groups are introduced to the idea that they can use air and sails to power their cars.

Adventure 5: Improve a Recycled Racer
Groups improve their racers and make sure they are ready for the Recycled Racer Rally.

Adventure 6: Engineering Showcase
Kids present the racers they engineered and share their knowledge of the Engineering Design Process.

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