

Try Not. Do or Do Not. –Yoda (Designing Using Balanced and Unbalanced Forces)

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Students will be designing...

1. A marble track
2. A pinewood derby car built to protect an egg

Through engaging in this challenge, students will learn...

NGSS: 3-PS2-1: Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

NGSS: 3-5-ETS1-1: Design a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time or cost.

NGSS: 3-5-ETS1-3: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Lesson 1: Statues

This is an introductory lesson addressing balanced and unbalanced forces. Students will learn about balanced and unbalanced forces using their bodies as well as a ball.

Lesson 2: May the FORCE be with you

Students will learn about balanced and unbalanced forces using simple materials to allow unbalanced force to move an object from one point to another.

Lesson 3: Need for Speed

Students will learn about balanced and unbalanced forces as well as vehicle and passenger safety while solving a challenge using limited time and materials.