

Lesson Plan: Physics and Fun (Grades 6-8)

Overview:

This lesson will explore basic physics concepts through hands-on activities at AdventureLand, helping students connect classroom learning to real-world experiences.

General Preparation and Follow-Up Activities for All Grade Levels:

Before You Go:

- Review the map and list of activities from AdventureLand's website.
- Discuss the importance of teamwork, rules, and safety of each activity.
- Prepare questions to ask staff about the operation and design of the attractions.

Follow-Up:

- Discuss the importance of teamwork and playing by the rules.
- Research the history and mechanics of a chosen game or sport.
- Design and play a mini version of an activity, using math or physics concepts learned during the trip.

Standards:

Alabama State Standards for Science:

6th Grade: 6.P.1, 6.P.2

7th Grade: 7.P.1, 7.P.2

8th Grade: 8.P.1, 8.P.2

Essential Question:

How do physics principles apply to everyday activities like driving go-karts and hitting baseballs?

Student Learning Objectives:

Students Will:

Understand the concepts of force, motion, and friction.

Analyze the impact of these concepts through practical applications in go-karting and batting cages.

Physics Discussion:

Discussion Prompts:

How does friction affect go-kart speed?

What role does force play in hitting a baseball?

How can understanding physics improve your performance in these activities?

Curriculum Content:

Activities:

Go-Kart Physics:

Lesson: Introduction to force, motion, and friction.

Activity: Observe and measure go-kart speed, calculate average speed, and discuss friction.

Worksheet: "Go-Kart Speed Calculation" with space for observations and calculations.

Batting Cage Mechanics:

Lesson: Understanding the physics of hitting a baseball.

Activity: Practice in the batting cage and analyze the impact of force and angle on hits.

Worksheet: "Batting Physics" with questions about force, angles, and trajectory.

Follow-Up Project:

Create a simple experiment to demonstrate friction or force and present the findings to the class.
