FUNKY PHYSICS

5 DAYS OF THEMED SCHOOL-AGE SUMMER CAMP LESSONS

BEST DAY EVER!™

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FUNKY PHYSICS

Embark on an amusement park adventure through physics! Explore how roller coasters turn potential energy into kinetic energy, discover the science behind Ferris wheels and circular motion, and learn how bumper cars use electricity to power up. It's an exciting mix of science and thrills! Funky Physics is a robust school-age unit steeped in activities that enable students to challenge themselves, experiment, and transform information into meaningful content and skills. While the lesson plan incorporates many different Pennsylvania Learning Standards, it focuses on the key learning area of "Approaches to Learning through Play" and "Scientific Thinking and Technology." Specifically, students will learn to engage in learning activities that meet the PA Standard Areas of Constructing, Organizing, and Applying Knowledge, Physical Science, and Engineering.

SCHEDULE

DAY 1

ARRIVAL ACTIVITY	180 MINUTES
READY, SET, LEARN	45 MINUTES
HANDS-ON ACTIVITY – BUILD A ROLLER COASTER	30 MINUTES
BREAK/SNACK TIME	15 MINUTES
LET'S GET MOVING – DICE ROLL FUN	45 MINUTES
HANDS-ON ACTIVITY – PAPER ROLLER COASTER	30 MINUTES
BREAK/LUNCHTIME	45 MINUTES
HANDS-ON ACTIVITY – POOL NOODLE ROLLER COASTER	45 MINUTES
SOCIAL-EMOTIONAL LEARNING – POSITIVE AFFIRMATIONS	45 MINUTES
HANDS-ON ACTIVITY – PAPER PLATE ROLLER COASTER	45 MINUTES
WRAP UP/GOODBYES	15 MINUTES
LATE PICK-UP	10 MINUTES

DAY 2

ARRIVAL ACTIVITY	180 MINUTES
READY, SET, LEARN	45 MINUTES
HANDS-ON ACTIVITY – CRAFT STICK FERRIS WHEEL	30 MINUTES
BREAK/SNACK TIME	15 MINUTES
LET'S GET MOVING – BEAN BAG TOSS	45 MINUTES
HANDS-ON ACTIVITY – ENJOY THE VIEW	30 MINUTES
BREAK/LUNCHTIME	45 MINUTES
HANDS-ON ACTIVITY – COFFEE FILTER FERRIS WHEEL	45 MINUTES
SOCIAL-EMOTIONAL LEARNING – MR. FERRIS AND HIS WHEEL	45 MINUTES
HANDS-ON ACTIVITY – THUMBPRINT FERRIS WHEEL	45 MINUTES
WRAP UP/GOODBYES	15 MINUTES
LATE PICK-UP	10 MINUTES

MATERIALS LIST

- Multimedia player
- Online pictures of amusement park rides
- Large die (i.e. inflatable)
- Cardboard
- Round cardboard cake boards (for 2 crafts)
- Construction paper
- Scissors
- Rubber balls
- Playground balls
- Clear tape
- Liquid glue
- Pool noodles
- Masking tape
- Poster paper
- Markers
- Paper plates
- Chenille stems
- Pony beads
- Pictures of Ferris wheels
- Craft sticks
- Skewers
- Paint
- Paintbrushes
- Stickers
- Sequins
- Foam pipe insulation
- Bean bags
- Rulers
- Pencils
- Glue sticks
- Crayons
- Round coffee filters (white)
- Colored pencils
- Blank paper
- Washable ink pads
- Baby wipes
- Wide straws
- Small straws
- Bendy straws
- Plastic bottle caps
- Playground ball
- 1.5-volt AA battery
- 1.5-volt lightbulb
- Bread bag ties
- Electrical tape
- Measuring cups
- Flour
- Water
- Salt
- Vegetable oil
- LED lights
- Toy cars
- Cardboard tubes
- Paper cups (various sizes)
- Balloons
- Yo-yos
- Notebook paper
- Elastic bands
- Empty tin cans
- Hole punch
- Paper clips, small toy figures, or small erasers
- Optional: Play dough
- Optional: Sand
- Optional: Soccer ball
- Optional: Cardstock

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ACTIVITY/CONCENTRATION

HANDS-ON ACTIVITY: PAPER ROLLER COASTER

- **STEP 1:** Start with a sturdy cardboard base to hold the coaster.
- **STEP 2:** Fold paper strips into hills, loops, and turns.
- **STEP 3:** Tape or glue the strips onto the base to create a roller coaster path.
- **STEP 4:** Roll small pieces of paper into tube shapes and use them to elevate the tracks.
- **STEP 5:** Roll a rubber ball along the track. Adjust loops and inclines as needed.

DURATION/SCHEDULE

30 minutes – 11:15 to 11:45 a.m.

MATERIALS

- Cardboard
- Construction paper
- Scissors
- Rubber balls
- Tape or liquid glue

GOALS/OBJECTIVES

- Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for a purpose
- Apply skills necessary for making in design
- Use tools to perform advanced tasks

STANDARDS

- 3.2 2.B
- 3.5.K-2.Q
- 10.5 2.C

LEARNER MODIFICATIONS

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PERSEVERANCE FOR INVENTORS

MY INVENTION: _____

ABOUT MY INVENTION:

CHALLENGES:

1. _____

2. _____

3. _____

4. _____

SOLUTIONS:

1. _____

2. _____

3. _____

4. _____

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