STEM

2023
2024

Elementary School STEM Lessons

LESSON 1: THE SCIENCE OF ROLLER SKATING

Students will learn about the parts of a roller skate/inline skate and how each part functions to make the skate. They will discuss how surfaces in the rink are made of different materials and how that affects the skate in motion. Students will have a chance to showcase their creativity and design a new feature for a skate.

Topics Like: Geometry, Friction, Reverse Engineering, Design

LESSON 2: MOTION & SKATE DESIGN

Students will get an introduction into the physics of roller skating by discussing the four parameters of motion. Students will answer an open-ended question by inventing their own skate design.

Topics Like: Motion, Physics, Design

LESSON 3: MUSIC, MATH & ROLLER SKATING

Students will learn how to count using the beats of the music played in a roller rink and will learn how the type of music affects the speed of the skater. Fourth and fifth graders will also learn how to control the speed of skaters using the beat of the music.

Topics Like: Sound Waves, Beats per Minute, Frequency

LESSON 4: SUPER SOUND! ACOUSTICS & RINK DESIGN

Students will explore how sound waves look and how they travel through different mediums. They will discuss sounds that relate to the roller skating rink including the differentiation in speaker pitch and tones.

Topics Like: Sound Waves, Doppler Effect, Sound System Design

LESSON 5: SCIENCE OF LIGHTING

Students will learn about the speed of light and how light travels. Students will learn the exciting effects of light with the use of reflection and refraction.

Topics Like: Electromagnetic Spectrum, The Speed of Light, Light Waves

LESSON 6: HEART, HEALTH & FITNESS

Students will learn about basic human biology and how the body works from the inside out. Students will focus on heart related anatomy, nutrition, and exercise. Students will have fun exploring through heart healthy activities, such as finding and calculating an average heart rate. Students will also learn about the importance of making heart healthy food choices by identifying and understanding nutritional labels and facts.

Topics Like: Basic Anatomy, Heart Health, Calculating an Average, Labeling a Graph

LESSON 7: FORMULAS, FRACTIONS, AND FUN; THE RELATIONSHIP BETWEEN MATH & ROLLER SKATING

Students will learn how math concepts can be found all over the skating rink. Students will measure and calculate the speed of a skater, use mean, median, and mode to talk about skate sizes, and study all of the shapes that can be found in a skating rink.

Topics Like: Mean, Median, and Mode, Geometry, Calculating Speed

LESSON 8: NEWTON'S LAWS OF MOTION

Students will learn about Newton's three laws, how they relate to real world experiences and roller skating. They will learn how force and mass play a large role in motion and construct a balloon rocket.

Topics Like: Motion, Inertia, Force

LESSON 9: THE SCIENCE BEHIND ROLLER AND ICE HOCKEY

Students will learn how STEM plays a very large part in sports, specifically roller and ice hockey. They will learn how three different kinds of motion can make a difference in the outcome of the game. They will also learn how roller skates and inline skates used in roller and ice hockey work .

Topics like: Physics, Force, Potential Energy and Motion

LESSON 10: ARCADE STEM

Students will learn about reaction time, what it has to do with arcade games and how to improve it. Students will also learn about probability through discussion of arcade games in our facility.

Topics like: Reaction Time, Probability and Engineering Through Game Design

CALL 614-846-5626 to BOOK your school TODAY!

4900 Evanswood Dr. Columbus, OH 43229
www.SkateZone71.com • 614-846-5626