



# STEM

DEVELOPED BY  
Professional  
Educators  
NATIONWIDE!

ELEMENTARY SCHOOL EDUCATIONAL

FIELD TRIPS

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ALL  
S.T.E.M.  
LESSONS  
Meet State  
Standards!

## ELEMENTARY SCHOOL S.T.E.M. LESSONS!

### LESSON 1: THE SCIENCE OF ROLLER SKATING

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

TOPICS LIKE: **Geometry, Friction, Design**

### LESSON 2: MOTION & RINK DESIGN

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

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 learn the role that each speaker plays and how they work in the skating rink. They will explore how sound waves look and how they travel through different mediums.

TOPICS LIKE: **Sound Waves, Doppler Effect, Sound System Design**

### LESSON 5: ENGINEERING MAGIC & LIGHTING

Students will learn about how light travels and the speed of light. They will discuss how wavelength allows us to see colors, and discover each color of the rainbow in the skating rink.

TOPICS LIKE: **Light Waves, Color, The Speed of Light**

### LESSON 6: HEART, HEALTH AND 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 their 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**

