

## SCIENCE OF MOVIES

Mondays, September 8-December 8 (no class Oct 13 and Nov 24; 12 weeks)

9:30am-10:45am

Ages 8-10

In this STEM-focused class, students explore scientific principles and engineering challenges inspired by popular films and characters. Through hands-on experiments, they investigate aerodynamics using dragon flight models (*How to Train Your Dragon*) and explore chemical reactions inspired by *Harry Potter*. While no movies are shown, students engage in physics, chemistry, engineering, and space science concepts using themes from *Shrek*, *Pokémon*, *Minecraft*, *The LEGO Movie*, and more to spark creativity and learning. All lab costs are included in the registration fee.

Instructor: Jessica Barnes, BSc

Location: Science Center (suite 5)

Full semester - \$220 OR \$20/lab (plus \$0.99 AH fee)

10% off sibling discount

Register for full semester or individual labs.

### LAB SCHEDULE:

#### **SHREK SWAMP SCIENCE – Monday, September 8**

Inspired by Shrek's love for the swamp, students dig into the science of soil, mud, and earthworms to learn how these messy environments support life and recycle nutrients.

#### **HARRY POTTER POTIONS – Monday, September 15**

Students become wizards as they practice the science of pH and create color-changing "potions" inspired by *Harry Potter*, learning how different acids and bases cause dramatic transformations in liquids.

#### **LEGO MOVIE BUILD - Monday, September 22**

Students build creative structures inspired by *The LEGO Movie*, while applying engineering concepts like stability, balance, and design to construct functional and imaginative models.

#### **MINECRAFT BOW AND ARROW - Monday, September 29**

We explore the science behind the mechanics of bows and arrows, using *Minecraft* as a foundation to understand force, trajectory, and the physics of projectile motion.

### **DESPICABLE ME SHRINK RAY - Monday, October 6**

Students explore the fascinating science of polymers, focusing on their unique properties of shrinking and stretching, with a fun twist inspired by the shrink rays from *Despicable Me*.

### **HOW TO TRAIN YOUR DRAGON GLIDERS - Monday, October 20**

Inspired by the dragons in *How to Train Your Dragon*, students explore the science of flight through gliders and paper airplanes, using principles of aerodynamics and flight control.

### **MUFASA AND LION HABITAT FRAGMENTATION - Monday, October 27**

Students examine the impact of habitat fragmentation on lion populations, drawing inspiration from *Mufasa* and the challenges faced by Mufasa's pride in the wild.

### **ELIO AND ADAPTATIONS - Monday, November 3**

Students explore the science of adaptations, learning how living organisms evolve and adjust to their environments, inspired by the unique alien biology in the movie *Elio*.

### **ANIMAL COMMUNICATION AND THE WILD ROBOT - Monday, November 10**

We explore the science of animal communication, studying how different species use sounds, signals, and body language to interact, inspired by the animal behaviors in *The Wild Robot*.

### **MINECRAFT MOVIE REDSTONE ENGINEERING - Monday, November 17**

Students learn the basics of circuits by comparing real electrical components to Minecraft's redstone system.

### **PADDINGTON AND THE AMAZON RIVER - Monday, December 1**

Inspired by the movie *Paddington Goes to Peru*, students explore the Amazon River's ecosystem, learning about its biodiversity and the unique plants and animals that call it home.

### **POKEMON AND CATAPULTS - Monday, December 8**

Students explore the science of catapults through the lens of Pokémon, learning how force, angles, and energy affect a Pokéball's trajectory. By building and testing their own mini catapults, they discover real physics concepts like projectile motion and kinetic energy—just like when aiming for the perfect catch!