



Elementary School Modules

Reaching for the Stars: (Science: Astronomy, Physics)

Astronomy: one of the earliest sciences ever studied by humankind. But it's more than just stars and planets! What roles do black holes play? What *actually* makes a galaxy, a galaxy? In this module, Scouts will take a trip through the known universe! Beginning in our own solar system, they'll navigate throughout the galaxies, discovering stars, asteroids, and even adventure deep into black holes!

New! Animation: (By WozEd, Technology: Stop Motion, Animation) **WOZ ED**

The Animation Level II Kit will introduce students to video editing through Stop Motion Studio. Students will deepen their understanding of animation using 3D animation tools provided by anim8:3D and Toontastic. Students will become producers, directors, and voice actors after creating a dancing 3D character and telling an original story with 3D animation. These final products will be enhanced by the skill of summarizing and critical thinking when comparing stop motion, 2D animation, and 3D animation.

It's Not Magic, It's Magnets: (Science: Physics, Electromagnetism)

Magnets are pretty easy to understand — opposites attract, like repel. But their mysterious power doesn't stop there! In this module, Scouts will analyze and be able to explain what makes a magnet, a magnet, and then will use a magnet's unique force to create a NEW kind of force – an electromagnetic one! Did we mention Earth's invisible force shield? Or levitation? May the magnetic force be with us as we observe and experiment with a magnet's power and full potential!

Meet Your Earth: (Science: Earth Sciences)

Our Earth is a rich history book! From its rocks to its oceans, Earth gives us a glimpse into its ancient past, but only if we look hard enough! In this module, Scouts will investigate the various parts of our planet by differentiating and recreating various rock formations, learning whether or not weather can truly be predicted, and by examining the deepest oceans and even the highest stars! Let's meet our Earth!

Get Under Your Skin: (Science: Anatomy)

Head, shoulders, knees, and — organs? There is more to us than meets the eye! Let's get under your skin and recognize what really holds you together! In this module, Scouts will identify the bones in our major skeletal system, assemble muscles groups, and design functional organs. They will then investigate our major power source – the brain – and will reconstruct our smallest yet strongest communicator, the neuron!





Middle School

New! Animation: (By WozEd, Technology: Stop Motion, Animation) **WOZ ED**

The Animation Level III Kit will introduce students to animation creation using the Stop Motion Studio Pro app. Students will deepen their understanding of animation by creating flipbook, stop motion, claymation, and pixilation animation projects. Students will practice their communication and presentation skills by sharing these animation projects in a student showcase.

That's Showbiz, Baby: (Technology: Film Production, Engineering Sound Effects)

The Silver Screen has been fascinating audiences since the early 19th century. We think of the movie industry as compelling storylines, red carpets, popcorn and candy. But beneath the glamour, there is a whole world of scientific engineering and innovation that made all our favorite films possible. In this module, Scouts will focus on the "science" of movie making. They will discover the tools to create every element in filmmaking—from building their own pinhole cameras, engineering their own sound effects, to writing, directing, acting in, and "shooting" and editing their own cinematic masterpieces. Lights, Camera, Action!

New! Simple Machines – They Run the World: (Engineering: Physics)

Sure, they're simple, but they do all of the heavy lifting! In this module, Scouts will explore simple machines and how they, more or less, run the world around us! And without the understanding of force, distance, and work exerted, simple machines wouldn't be so simple.

New! Circuits – Light it Up: (Science, Technology: Electrical Engineering)

Electricity doesn't just keep your phone charged; it also has been used to command you do to things! What does a blinking red light mean? To stop, look, then go. All because of a blinking light! The theater lowers its lights and you know the movie is about to start! But how does a light blink or dim? In this module, Scouts will explore the electrical current world of lights by experimenting with their own circuit board to achieve various lighting signals.

APPventures: (By WozEd, Technology: Mobile Application Development) **WOZ ED**

A WozEd Module: The Mobile App Development module will engage Scouts in important aspects of the app design process. Scouts will be encouraged to plan for the creation of an app by exploring purpose, functionality, and design. They will build paper and digital prototypes, gain feedback from peers, and make changes to improve their designs before using App Lab by Code.org to create final versions of their apps. Scouts will also experience augmented reality (AR) and be given an opportunity to create an AR experience of their own. Throughout the modules, Scouts are encouraged to use both traditional and digital material as they design, test, and create their apps.

