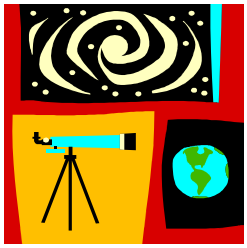

AGILENT SCIENCE KITS

This program is offered to Girl Scouts in the 5th – 8th grades by Agilent Technologies. Each self-contained kit serves 4 girls.

To assist in science kit selection, the following key has been assigned: Easy (**E**), Moderate (**M)** and More Difficult (**MD**).

Kit #1. Steady Hand Game **M**

The girls will explore the fundamentals of electricity. They build an electrical circuit that includes an energy source, resistance, a light, and a switch. The completed assembly is also a steady hand game that students will have fun playing and demonstrating to family and friends.

Kit #2. Newton's Rocket Car **MD**

The focus of this kit is on the careful assembly of a balloon-powered car that provides a practical application of Newton's third law of motion. After they have completed their cars and considered the importance of axles, bearings, and symmetry they will have a lot of fun racing them around the room.

Kit #3. Owl Pellets **E**

This hands-on investigation allows girls to take apart their own owl pellets and classify the bones, skulls, and other skeletal remains of mice, shrews, and small birds. They carefully observe and match the remains while engaged in discussions about the food web, animal behavior, and skeletal anatomy.

Kit #4. Periscopes **E**

This activity introduces the girls to the basic properties of reflection. They experiment with mirrors, reflection, geometric shapes, and symmetrical words and images. The session continues with each girl construction their own periscope and having a great time finding ways to apply the tool.

Kit #5. Deep Sea Divers **E**

The principles of floatation, air pressure, and density are introduced in this kit. Build divers using balloons, paper clips, and weights and place them in a one-liter bottle for 'deep sea diving'. Includes some measurement and data collection.

Kit #6. Kalimba (Thumb Piano) **MD**

Explore the fundamentals of sound through the vibration of metal and wood. Build your own thumb piano and have the opportunity to discover the concepts of vibration, frequency and pitch. Sheet music is provided for the girls to begin to master their new musical instruments.

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Kit #7. Catch A Thief E

This will encourage the girls to use their investigative and problem solving skills to solve a crime. Using paper chromatography the students reveal the underlying composition of the four suspects' pens and, utilizing the same scientific process on the ransom note, they identify the criminal.

Kit #8. Time Shadows E

This kit will provide girls an opportunity to build their own sundials and simulate the 'time shadow' created by the rotating Earth. The shape of the earth, their location on it and how a compass works are considered in this kit. Flashlights are even provided.

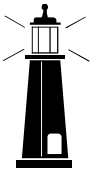
Kit #9. Oobleck E

As the girls take part in this activity, they learn to think like scientists as they investigate the properties of a strange substance called Oobleck. Once the girls have determined the key characteristics of the substance, they are given the challenge of designing a craft capable of handing these strange properties.

Kit #10. Electronic Matching Game M

This kit provides the girls with an opportunity to build an electrical circuit that serves as an electronic checker for matching questions and answers. Girls will install wires, resistors, LEDs, nuts, bolts, and batteries to create their own electronic matching game.

Kit # 11. The Light House MD



Girls will assemble both house and lamp assemblies. With rays of light emerging from the sides of their houses, girls will set up experiments to discover properties of light including the reflection, refraction, and conversion of light rays.

Kit # 12. Invisible Forces MD

With this kit the girls will have the opportunity to study these behaviors and investigate the forces of magnets attracting or repelling certain objects, compass needles, and electricity. They will try to 'see' the invisible forces at work by observing the effects of their experiments. In the end the girls will build their own electric motor.

Kit #13. Night & Day M

Girls create their own model of the earth, spinning on its axis and changing its seasonal position relative to the sun. They will observe the cause and effect relationship that these movements have on our days and nights, our years, and our lives.

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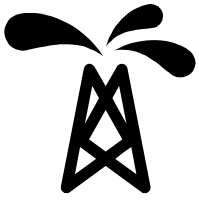
Kit #14. Pieces of Earth E

In the Pieces of Earth unit girls will explore Earth materials to find 12 important rocks and minerals found on Earth. They will observe and analyze properties of minerals and develop an understanding of the rock cycle. (This is a 2-part kit. Two sessions, two boxes, two units which cannot be separated. Plan a 2-hour event.)

Kit #15. Breath Taking Model M

What muscles and organs play a role in breathing and how do they interact with one another? In the Breath Taking Models unit, girls will explore the process of breathing and investigate two models that help to visualize and explain the process. Their take home is a wonderful plastic dome, with diaphragm attached. When pulled, it enlarges the two balloon lungs inside the dome.

Kit #16. The Oil Spill E



The earth has many sources of energy. From renewable sources like the sun and the wind…to non-renewable ones like coal and oil, the earth provides for our need of energy to warm our homes, power our factories, and keep our cars moving. But certain energy sources and the processes by which we obtain them present risks to our environment.

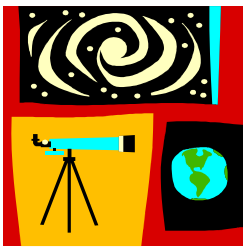
In the Oil Spill unit girls will create their own model of an ocean, river, or lake and allow an oil spill to occur. They will investigate many different materials and attempt to contain and clean up the spill. In the end they will have first hand thoughts about oil and the environment and end the unit with a look at less risky sources for their next unit…solar energy.

Kit #17. Airplanes MD

Since the beginning of time, man has looked to the sky and dreamt of flying. In this unit, students will build their own model airplane. They will build wings, fins and stabilizers. Creating their own rubber band powered plane, they will consider the effects of ailerons, elevators, and rudders on the movement of the plane through the air.

Kits #18 Solar Energy Cars MD

Using a solar cell and motor, girls will explore solar power by experimenting with the collection of light and its conversion to mechanical power to run a small car.



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