Yellow Scope Science Kits for Girls (https://yellow-scope.com)

Studies have shown that up to third grade, boys and girls are equally interested in science. However, by middle school, girls tend to lose that enthusiasm while boys continue to develop it. As this trend continues throughout their academic careers, women end up making up more than half the workforce but fill only a quarter of the science and technology jobs.

Many publishers and materials providers have tried to appeal to girls by producing “science kits” for them. However, an analysis of these kits finds that most come in sparkly boxes, are loaded with colorful stickers, and have the participants make crafts, makeup, or perfume. Now, while there is nothing wrong with this, these kits do not expose their intended audience (young girls) to real science. To fill this much-needed gap, a pair of “science moms” have developed an exciting collection of authentic science kits that expose participants to real science experiences: making predictions, collecting data, and drawing conclusions.

Yellow Scope Science Kits for Girls is a collection of boxed science kits that include topics such as DNA & Traits; Acids, Bases, & pH; and Paper Chromatography (there is also a chemistry-focused kit called Beakers & Bubbles). Each of these self-contained kits comes with almost everything a student will need to perform an actual experiment.

For example, the DNA & Traits kit, which involves extracting DNA from strawberries, includes a work mat, plastic beakers, a dropper, solution bottles, chalk, stickers, data sheets for several traits, a sieve, and a flashlight. Due to safety and shipping regulations, the only things missing are the consumables (the alcohol, soap, and fruit).

Before starting the activity, students need to read through the lab manual, which not only details the steps of the DNA extraction but also provides a plethora of age-appropriate background about what DNA is and why it is important. The students are then guided, step-by-step, through removing the DNA from the fruit cells and then observing it in the beaker.

The second part of the DNA & Traits activity has students investigating actual genetic traits. The background in the lab manual connects the concepts of DNA and traits and then shows how they apply in the real world. Students are given a data sheet with several genetic traits listed. They are instructed to survey their family and friends to see how many of them express each trait. They then calculate percentages of individuals with each trait.

In the third part of the DNA & Traits activity, students use DNA codes to determine the traits of a monster. They use a “monster traits key” to randomly select the genetic code of the monster’s body from a provided list of codes. They repeat the process for eyes, mouth, and spots. They then use the enclosed stickers and craft materials to construct a model of what their monster looks like.

The other kits from Yellow Scope are designed the same way and have the same level of scientific thinking involved. While the subject matter offerings are somewhat limited at the moment, there are activities in environmental science and food science in development. Each kit comes in its own box, but the company has also put together classroom packs of 10 or 25 for larger groups. Yellow Scope Science Kits are designed to do at home, under adult supervision. However, with the addition of the classroom packs, the activities and experiments can easily be performed in a classroom.

While specifically created to entice girls ages 8–12 into science, the activities are not gender specific and boys will enjoy them just as much. Elementary and middle school parents and teachers can use the activities and experiments within the kits to teach new concepts, or to enhance other learning. The DNA & Traits kit is specifically for biology, but the Paper Chromatography and Acids, Bases, & pH kits could easily be adapted to show how these ideas are related to life science.

Getting, and keeping, girls interested in science is essential in today’s climate. Yellow Scope Science Kits do a great job of catering to girls (and boys too) to help keep them interested as they move through their schooling.