Low-Tech Scientific Exploration for Students at Home

This article is from the website “Edutopia” and was written by Pete Barnes. The article talks about Low-Tech.

It’s a form of innovation that respects the principles of resilience, ecology or the circular economy that opposes High-Tech. Simply, without electricity, light up a house and keep food cool, cycle to work and cook with a solar oven. That’s it.

Here, a fifth-year teacher shares ideas for students, in and around their home, to conduct experiments with simple materials.

Today, technology is everywhere, to give distance and hybrid courses during the pandemic. Many students use tablets or computers. This technology replaced spiral notebooks and textbooks.

But technology is at its limits, a WIFI that breaks down, an app that doesn’t work anymore, and headaches from screens. Students spend a lot of time learning science from a distance without being able to touch or observer it.

These 4 activities aimed at students can be adapted to younger students. They are designed to avoid screens, but some technologies maybe useful. The teacher always shows two ways to carry out the experiment.

The first, Explore Sound, the experiment is to find out which materials best convey sound. Choose multiple surfaces and a partner. The partner tapes the first surface with a coin and you stick your ear against it. Listen carefully and repeat with as much surface as you have. Solid materials, like metal or wood, let sound through better than air. Heavy materials transmit lower sound.

The second, Investigate Light, shows fundamental principles of physics. A CD or DVD or pieces of glass or a spray water in your garden can create a beautiful rainbow.

The third, Inspect force and motion, helps us understand how forces affect our lives (Newton and his apples). Get a shoebox and some balls. Throw them, one after the other and watch which one pushes the box further. You can even calculate their speed. Run one-legged gold sheep races with friends, says the teacher.

The fourth, Examine the mysteries of life science, deals with all the small animals and plants that break down the earth. Explore the small animals in your garden and the mushrooms that are part of it. Turn over tree stumps or large rocks and you will find a lot of small animals.

Students love science, science is all around them. This way of learning is hybrid and much for fun. Low-Tech is applied in education but also in everyday life.