Spin Art Challenge

Teacher Guide

VIDEO

Link:
https://www.youtube.com/watch?v=s0x7s4gnd3Y&t=21s

ABOUT

Exploring patterns is a wicked cool STEAM skill. Patterns show up in science, engineering, arts, and math. We look to observe and describe patterns. We create patterns. In this activity, we will use a spinning disk on a LEGO motor and a marker to create and share patterns called Spin Art!

When first starting out with LEGO programming, turning on and off a motor (output) at different speeds is often called a "hello world" activity. "hello world" activities originated in the computer programming world. They are often your first code to try when learning a new coding language. Combining this intro "hello world" activity with an exploration of patterns is a great way to tie technology skill building with science, engineering, and math standards.

WHAT YOU WILL NEED

- Cardboard sheet (approximately 6"x6")
- LEGO beams and pegs
- LEGO motor
- EV3
- Markers with multiple colors

WHAT YOU CAN DO

- Use this as a coding project. Students write code patterns for turning on and off the motor at different speeds and in different directions.
- Use this as a gears and mechanisms activity. Add gears to make it spin faster. Add linkages to make the movement of a pen more complex.
- Students get to keep their final products – the spin art papers!
- Make the platform sturdier and use it as a platform for studying rotating fluids or other science experiments. Experiment with mixing and rotating fluids with different densities and colors

PREPARATION

- Read through the Teacher Guide
- Print Spin Art Challenge placemat for student use

TIPS

- Create a more permanent cardboard deck that is easier to add and remove paper (binder clips)