Grades K-2

Below are some sample programs – we can also work with you to design a custom option. These programs are designed for a one-time session. They will typically run for 30 minutes and will focus on participants learning a single concept or skill. A list of materials with substitutions will be provided ahead of time and time will be given during the program to gather materials.

**Little Coders**

Dive into coding with a mix of activities: teach a robot how to make a pb&j sandwich, play if-then Simon Says, or guide a friend through a maze.  
CA Computer Science Standards: K-2.AP.10, 12, 13, 14, 16

**Pattern Power**

Patterns are everywhere! We’ll clap, dance, rhyme, and build our way to a better understanding of patterns.  
CA CCSS Standards for Mathematical Practice: 4, 7, 8

**Animal Mix-n-Match**

Animals and their environments fit together in all sorts of interesting ways. Explore a few examples and then stretch your imagination by creating a new animal.  
NGSS Standards: K-LS1-1, K-ESS3-1, 2-LS4-1

**Sink or Float?**

What makes something sink or float? Using just a small piece of tinfoil, we’ll test out different designs and try to find what works best to hold up our cargo.  
NGSS Standards: K-2-ETS1-2, K-2-ETS1-3

**Musical Instruments**

Use straws, beans, rubber bands, boxes, trays, and more to make musical instruments. Learn about sound and make music together! Note: This program works best with breakout rooms to allow those with different supplies to make different instruments.  
NGSS Standards: 1-PS4-1, 2-PS1-2, 2-PS-3

sjpl.org/makerspaceship
Grades 3-6

Below are some sample programs – we can also work with you to design a custom option. These programs are designed for a one-time session. They will typically run for 30-40 minutes and will focus on participants learning a single concept or skill. A list of materials with substitutions will be provided ahead of time and time will be given during the program to gather materials.

**Art Meets Math**

Explore topology with paper – can a piece of paper have more than one side? Grab a sheet of paper and tape to make moebius strips and hexa-flexagons.

CA CCSS Math Standards: 3.G.2, 4.MD.7, 4.G.2

**Power of 2**

Experience exponential growth with some simple experiments – we’ll double money, paper and even cockroaches to appreciate the power of 2.

CA CCSS Math Standards: 3.OA.3, 3.OA.7, 4.NBT.5, 4.NF.4a, 5.NF.4a, 5.NF.5b

**Create with Tinkercad**

The world isn’t flat, so why should our designs be? Build in a 3D environment to meet a design challenge or explore the world around you.

This can be tied into curriculum and can also be offered with a 3D printing context.

NGSS: 3-5-ETS1-1, 2, 3

**Morse Code**

Send messages with a simple pattern of just two options. We’ll explore the history and then explore ways to express Morse code with everyday objects.

NGSS: 4-PS4-3

**Machine Learning**

Explore how training data is used to enable a machine learning model to classify new data. Students will be introduced to Machine Learning a type of Artificial Intelligence (AI) with code.org.

CA Computer Science Standards: 3-5.IC.20, 3-5.AP.10

**Paper Towers**

Think like an engineer! After learning about how structures are built, we’ll see how tall and strong we can make our towers with only paper and tape.

NGSS: 3-5-ETS1-1, 2, 3

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