

Virtual Bouquets


In this coding challenge, students will work in the classroom or remotely to send their teacher a bouquet of code flowers.

Teacher Prep



Video Call Prep

- Set up a video call with your students. Ensure that there is a way for them to share chat messages with you.
 - * If you are logging onto the call from your classroom with a Root rt1 Coding Robot and a magnetic whiteboard, place them in the background of your video so that students can see.


Code Overview

- Visit code.irobot.com and click the Download Project  icon at the top of the page.
- Download the project code: SVZA5
- Open the downloaded project “Flower Power!” and press Play with the simulator open.
- The shape Root draws is called a Shape Wheel. We think this Shape Wheel looks like a flower!
- In this lesson, you’ll invite students to code their own shape wheels and then send them to you via chat.
- Once sent, students can watch their projects run with the Root in your video background.

Uploading Projects

- Tap the “upload to cloud”  in the bottom-right corner of the project menu.
- Click on the project you’d like to share.
- Tap the “upload to cloud”  icon to confirm your project’s upload.
- Share the 5-character code that appears in the upload dialog.

Downloading Projects

- Tap the “download from cloud”  icon at the top of the page.
- Paste your project’s 5-character code and click “download.”

Subject(s):

Coding / Robotics
SEL: Communication

Experience Level:

Beginner

Time:

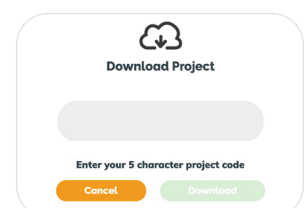
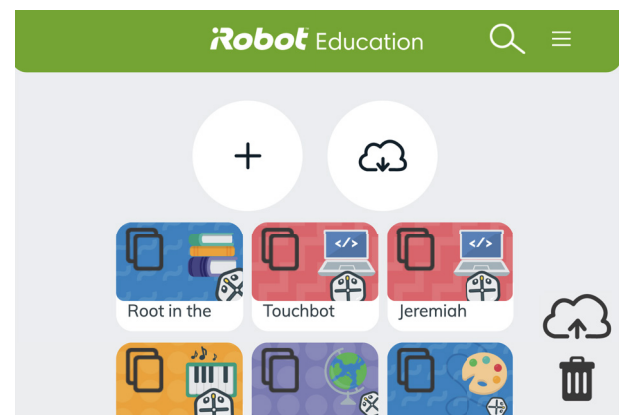
15-20 mins

Group Size:

Full-class activity

Supplies:

iRobot Coding App
Coding Devices



With the Class

1. Demonstrate how to upload and download code projects to your students.
2. Demonstrate the Flower Power project on screenshare.
3. Invite your students to create their own unique Shape Wheel flowers on code.irobot.com using the simulator.
4. When their flowers are ready to be shared, invite them to upload their projects to the cloud and send you their 5-character code.
5. As you receive student codes, download them and run them on the Root in your video background. Students will enjoy seeing how their code has travelled miles!

Extension

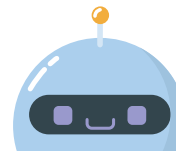
- Prepare some coding projects that create Shape Wheels of various shapes, sizes and patterns.
- Review them with the class and challenge students to guess what the shapes will look like when the code runs.

Example Flow



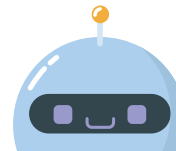
Teacher

Demonstrates: SVZA5



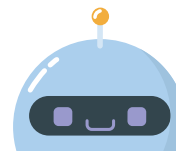
Student #1

Sends 1ABCD in chat



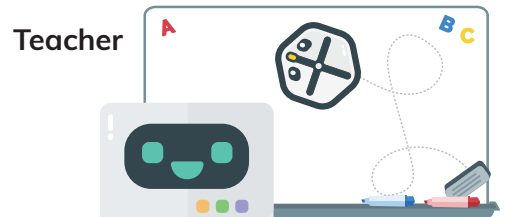
Student #2

Sends 2ABCD in chat



Student #3

Sends 3ABCD in chat



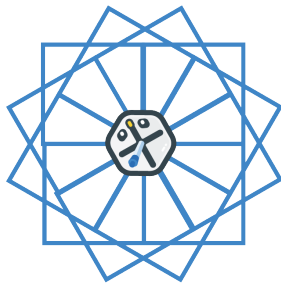
Teacher

Receives: 1ABCD, 2ABCD, and 3ABCD

Takes turns opening them and playing them on Root in the background!

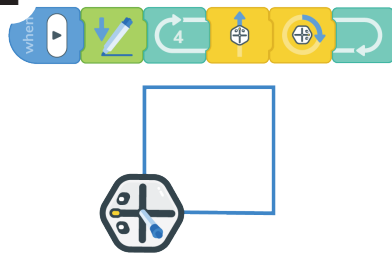
Coding Shape Wheel Flowers

1



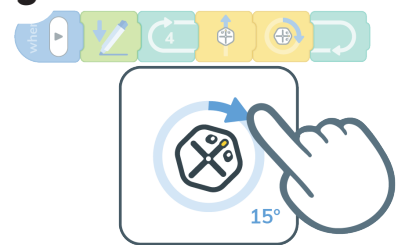
When Root draws a simple shape and turns slightly, repeating those steps over and over, it creates a pattern we'll call a shape wheel.

2



Let's start with some simple code that tells Root to draw a square.

3



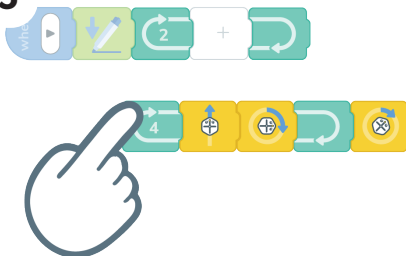
Add a Turn Block at the end of your square code. Edit it to change the angle the Root turns.

4



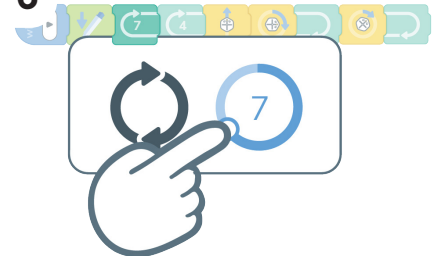
Add another Repeat Block after the Marker Block. This will tell Root how many times to draw a square and create a circular pattern.

5



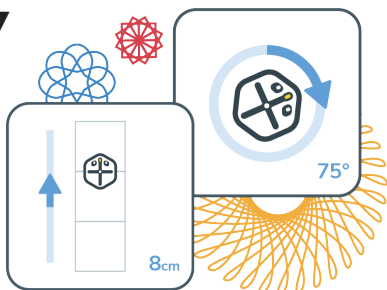
Move or nest your code inside of the new Repeat Block.

6



You can change how many times Root repeats code by tapping on the first Repeat Block.

7



Experiment with shape wheels by changing the turn angles and the distance Root moves.

8



You coded Root to draw patterns with the Repeat, Move, Turn, and Marker Blocks.