Digital Making Resources (K-8)

Please Note: There are several hyperlinks throughout the document.

Introduction

Learners of all ages enjoy playing, exploring, experimenting, and learning in safe and conducive environments. The Maker Education tools and ideas shared through these digital making resources build on the efforts of educators who provide environments that are conducive for exploration and play.

We hope these lesson plans assist you in teaching coding and computational thinking in the form of maker education in your classroom.

Instructions

Choose from the activities found in the links below. We suggest you choose at least 2 activities, either on a rotational schedule, or over a period of 2 days.

1. Robot Art
2. Digital Making with Conductible Materials
3. Interactive Artwork with Conductive Paint
4. Pythagorean Theorem Spiral using Scratch

Suggested Time

1. **Settling In:** 5 minutes
2. **Thinking About:** 5 minutes
3. **Demonstrating:** 2-3 minutes
4. **Exploring:** 10 minutes
5. **Consolidating:** 5 minutes
6. **Exit Activity:** 3-5 minutes

Teacher Tips

- If you are using centres/stations, it is important to have an adult at each station to monitor the tech being used.
- You may mix unplugged activities with tech activities to allow more options.
- You can choose to complete centres in a library, gym, classroom, or other communal space.
- View students as mini apprentices to help them develop transferable skills.
- You may view your role as a facilitator or supervisor in a workplace or lab. This will allow students to engage, observe, explore, question, and play in a productive learning environment.

Exit Story & Sharing Beyond the Classroom

Even if their story is the same as their friends who said it first, kindergarteners enjoy sharing about what they made, saw, or heard. You may use a picture or a screenshot that was taken to prompt and encourage students to share about the activity they have completed in class.

Students will be excited and proud to talk about their designs, robots, colours, and so much more. This is why we have included a printable *Letter to Parents/Guardians* so that they can continue to share and learn outside of the classroom.

There are many other opportunities beyond the traditional classroom setting. These opportunities will allow your students to continue exploring and enhancing the skills they need for success. The following list is not meant to be exhaustive:

- Sharing ideas and projects with students in other classrooms/schools
- Participation/Creation of a small start-up project/business
- Robotics competitions
- Field trips to universities, museums, art galleries, hospitals, STEAM Labs, etc.

Steam Skills

- Engineering (drawing a blueprint or plan)
- Visual Arts (Abstract and digital artwork)
- Numeracy (operations and algorithms)
- Geometry (quadrants, angles, rotation, and coordination geometry)
- Scientific (trial and error, circuitry, conductive materials).
- Programming Skills (Block-Based Coding Language)