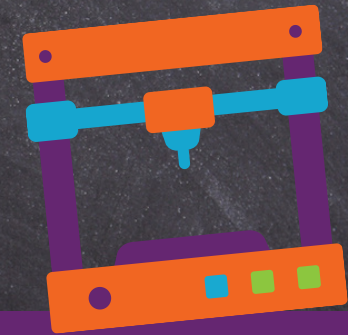




NextWaveSTEM

Discovery of 3D Tech: Design Using Tinkercad

Designed for learners in Grades 6-8



Course Description:

3D printing technologies are rapidly revolutionizing the ways we make things. Homes, clothes, transportation, and even food are being 3D printed! At the heart of that revolution is the Engineering Design Process: building solutions to help people. Students will put the Engineering Design Process at the forefront of their thinking and skill development as they learn how to design objects like stamps, architectural models, and simple machines.

Equipment, Curriculum, and Training Available:

- Classroom set of 3D Printers
- 15 Lesson Hours
- Curriculum and supporting materials
- Ongoing product and curriculum support
- Professional development
- Facilitation by a trained STEM instructor (optional)

LESSONS



LEARNING TARGET EXAMPLES

1: Computer-Aided Design	Navigate Tinkercad
2: Modeling Pt. 1	Use Tinkercad to design an object to print at full scale.
3: Modeling Pt. 2	Use Tinkercad to create a model of a bag tag to print.
4: Modifying Designs	Search and modify an object already found in Tinkercad.
5: Designing a Stamp Pt. 1	Create a detailed blueprint and sketch of a design solution.
6: Design a Stamp Pt. 2	Design a product solution.
7: CAD Applications	Understand 3D printing applications.
8: Engineering Design Pt. 1	Use the Engineering Design Process to solve a problem.
9: Engineering Design Pt. 2	Work in teams to develop a product solution.
10: Slicing Software	Choose the best orientation of a model for 3D printing.
11: Preparing for Printing	Calculate the cost of a 3D print.
12: Printing in 3D	Identify the parts of a 3D printer.
13: Product Testing	Test a product solution.
14: Design Improvements	Use the data from my test to suggest design improvements.
15: Reflect and Share	Reflect on my design and my development experience.