Implementing 3D Printing with Career Connections

Launch 3D Printing Unit

Lesson 1
Anchoring Phenomena, Initial Model, DQB

Lesson 2
Students learn 3D printing and modeling

Lesson 3
Students create clay prototypes and the first 3D model

Lesson 4
Students print their first 3D model

Lesson 5
Plan an obstacle course to test their design

Lesson 6
Create the final prosthetic design and test the obstacle course

Wrap up 3D Printing Unit

3D Printing in Our World

Youth brainstorm real-world applications of 3D printing.

Sequencing:
After Lesson 1

3D Printing in Our World

Students revisit their 3D printing brainstorm.

Sequencing:
After Lesson 3

Design Thinking Activity

Youth apply the engineering design process to a local problem using 3D printing.

Sequencing:
After Lesson 4

Intro to career connections

- Introduce STEM learning goal:
  - What is STEM, and what are examples of STEM Careers?
- STEM Career Card Sort activity
- Introduce STEM Career Wall activity

Sequencing:
Prior to unit launch

STEM Career Wall

Students revisit the STEM career wall and discuss careers and skills related to 3D printing.

Sequencing: After Lessons 2, 3, and 5

Synthesizing career Connections

- Revisit STEM learning goal:
  - What is STEM, and what are examples of STEM Careers?
- STEM Career Wall wrap-up + My Career Profile (mynextmove.org)
- Create class consensus definition:
  - What is STEM?
  - What is a STEM career?

Sequencing:
Following/integrated with unit wrap up

STEM Mentors integrated when available, according to a format that works best (Mentor Typology Tool)