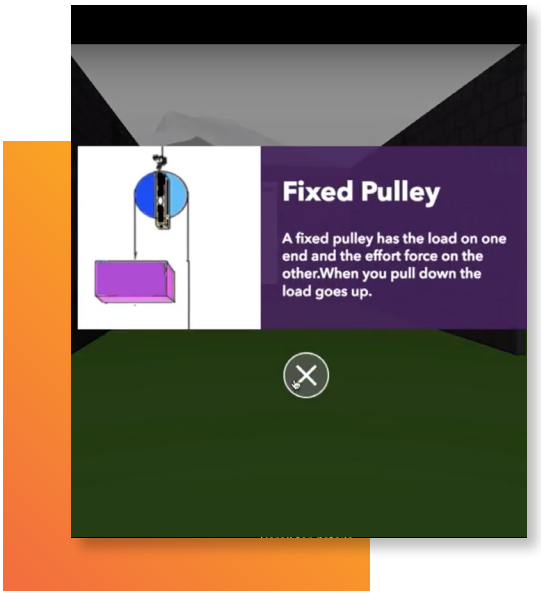
Simple Machines

Grades 4–7

Created by Mike Page & Nate Lott *Requires accounts with CoSpaces Edu Pro and Tinkercad



Difficulty 2 | 3-45 minutes | small group

Tags: Simple machines, Complex machines, CoSpaces Edu

App/Tech Tools	CoSpaces Edu Pro accounts, Tinkercad account, MERGE Cube, MERGE Headset (optional), device (phone/tablet)
Materials	

Learning Objectives

- Demonstrate student learning of simple machines. This is a grade 4 example where they took images from online and inserted them in.
- Export and modify a 3D model in Tinkercad to CoSpaces.
- Use science inquiry processes and skills to — ask questions; gather, interpret, and analyze ideas; and communicate findings and decisions.

Activity

1. This can be done in a number of ways. Students can choose a number of simple machines, focus in an be an expert on one simple machine or grade/skill depending, students can move onto complex machines. We chose to focus on all 6 simple machines in a grade 4 class. My grade 7 class is creating their simple machines in Tinkercad and bringing them over into cospaces then into AR on the Merge Cube.

Here are the list of simple machines we cover:
Wheel & Axle, Inclined Plane, Wedge, Lever (3 types), Pulley (3 types), Screw

CoSpaces video Video 1

2. Determine what information you want your students to display on their simple machine pictures or models. Your students can brainstorm facts as a class, do personal research and come up with a set number of facts that need to be presented.

   Loading your images or coding the scene Video 2

3. The interaction you can code into your map is limitless. If you would like your students to learn more fundamental coding in CoSpaces go through the "CoSpaces" lessons here. Once your scene is complete grab your Merge Cube and display the interactive map on it through CoSpaces by pressing play. SHARE WITH YOUR FRIENDS!!!

Suggested Questions

- An electric fan is made up of several simple machines. Tell where you would find an inclined plane on a fan. Also, tell where you would find a wheel and axle. Can you create this in 3D and into AR?
- Where do you use simple machines in daily life? Examples.
- The floor of a bathtub is an inclined plane. Explain. Can you create this in 3D and into AR?

Extension Idea

- We will be creating our own simple machines in Tinkercad. More basic tinkercad lessons can be found here. This is where students can be creative and make their own simple machines in 3D instead of images from the internet. Here are some examples of simple machines on Tinkercad. Please copy and tinker if you want a place to start with your students.