

# 8th Grade Science STEAM Integration

**Unit 2: Force and Motion**

**Topic: Digital Art and Design**

**Time: 3 Days**

## Standards:

**MS-PS2-1:** Apply Newton's Third Law to design a solution to a problem involving the motion of two colliding objects.

**MS-PS2-2:** Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.

**MS-PS3-1:** Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.

## Scenario

You've been assigned to the Universal Space Agency's debriefing communications team. Your job: create a dramatic but educational video explaining the physics behind the failed space pod docking and what should've happened instead.

## Success Criteria

I can produce a short, creative video that explains how force and motion led to a docking failure and uses correct physics concepts.

## Lesson Outline

### Day 1: Script + Storyboard

- Watch real NASA docking videos (or bloopers from animation demos)
- Write a script:
  - *What went wrong (too much force, too little velocity)?*
  - *Which laws of motion were violated or misunderstood?*
  - Optional characters: Flight Commander Newton, Pod AI gone rogue
- Sketch scenes (before, during, after docking)

### Day 2: Film and Edit

- Record scenes with dramatic acting, labeled animations, slow-motion effects
- Use Adobe Express or iMovie to edit
- Add motion arrows, crash sound FX, or Newton voiceovers

### Day 3: Watch + Reflect

- Watch videos and leave peer feedback
- Final quick-write: *Which law of motion was most important in your video—and in real space dockings?*

