TOOLBOX!

- inclined planes
- marble, train, ball, or toy car to roll down that plane
- blocks or containers

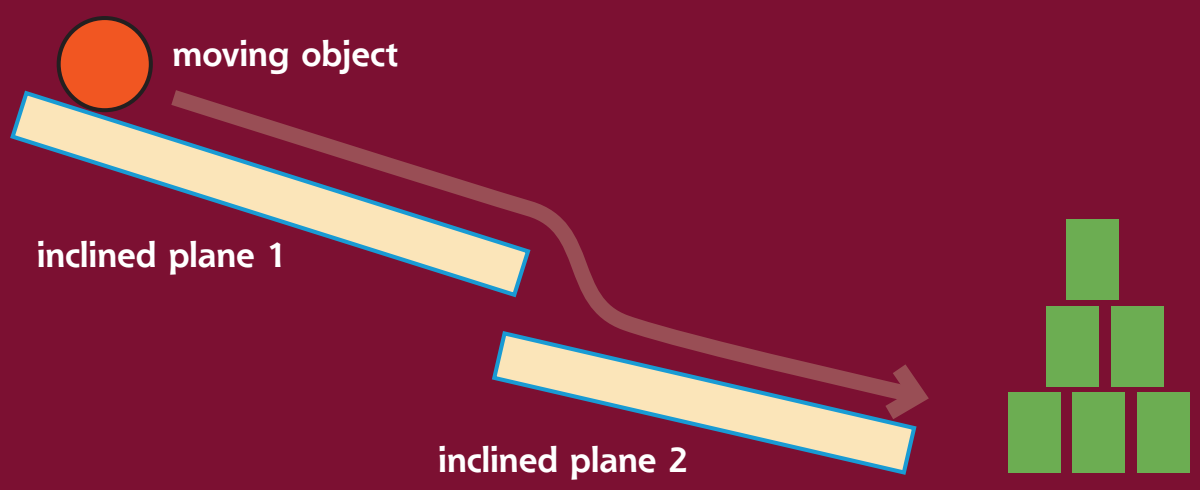
PYRAMID DEMOLITION

Let's make things a little more complicated. Now you will use two or more inclined planes together.

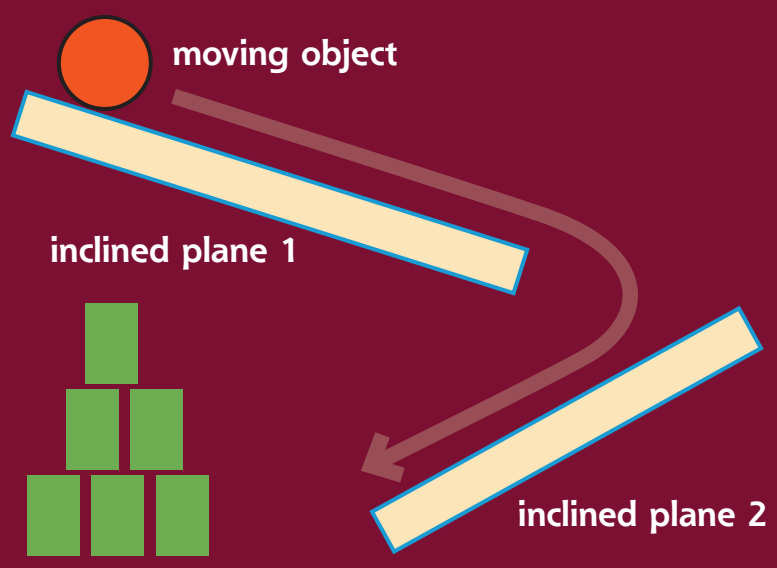
The Challenge Identified: Use *two* inclined planes (or maybe you want to try *three*!) and something that can roll or slide down the ramps to knock over a pyramid you build.

Brainstorm ideas and supplies: Your two planes can use the same materials or they can use different materials. Consider how you will raise one plane above the other. You will also need to figure out what you want to build your pyramid out of and what moving object you will use.

Draw a plan: There are a couple ways to think about the challenge. Your two planes could keep the moving object headed downward in the same direction.



Or, the second plane could make the moving object change direction.



Build: Putting this contraption together is going to take a little more time because you will need to figure out how to raise the first plane above the second.

Test: Go ahead—send the object down the inclined plane.

Evaluate: How did your two planes function together? Did the moving object miss the second plane? Maybe you want to use a different moving object. Or, maybe you need to line up the two planes more carefully or stabilize them more. Was there enough force to knock down the pyramid you built? If not, you may need to incline your planes more. Or maybe you need a moving object with greater mass.

Redesign? How could you redesign this mini-contraption? Could you use different materials? Move things around? Add elements?

SUPER CHALLENGE

How many inclined planes can you use in a single simple contraption? As you add on inclined planes, try to use different objects as the plane. Also, try using different objects to move down the planes—marbles, cars, trains, Ping-Pong balls, and more. Can you figure out how to get an object to move up an inclined plane?