

Grade Level: 4 - 5

Curriculum: Explorations, Science, ADST

Title of Lesson: Simple Machines: Inclined Planes

Learning Goals/Objectives:

- Machines are devices that transfer force and energy.
- The choice of technology and tools depends on the task.

Materials Needed:

- Internet access to watch video
- Pencil & Paper

Activity Instructions: (Step by Step)

Begin by watching this video: <https://youtu.be/2TVpJUAM9eU>

- You can refer back to the video to help you answer the questions below:

Inclined Plane

How does an inclined plane make doing work easier?

All Simple Machines form a relationship between Force and Distance. When talking about Inclined Planes, what is meant by Force?

What is meant by Distance?

Explain how changing Distance can change the amount of Force needed.

A screw is a special type of inclined plane. Describe how it is different from a regular inclined plane.

A wedge is a special type of inclined plane. Describe how it is different from a regular inclined plane.

How does a bolt with many threads behave differently than a bolt with fewer threads?

What is the advantage of using a screw instead of a nail?

List as many types of inclined planes as you can. Next to them, write whether they are a simple inclined plane, a screw, or a wedge.

How could you use a wedge to help you with a task that normally doesn't use one? Think about each of the different types of Inclined Planes, and how they may help you in different ways. Draw a sketch of how this would work!