# PreK 4 - Simple Machines: Inclined Planes

## Objectives:

- Gain a basic understanding of the various uses of inclined planes.
- Think about how ramps are used to make places accessible for everyone.
- Experiment with household items that can be turned into a ramp.
- Vocabulary – inclined plane, steep, slope, accessible

## Careful Looking of an Artwork:

- Look at the painting *Up or Down Hill* by Rayberry from the Smithsonian American Art Museum’s collection: [https://www.si.edu/object/or-down-hill:saam_1995.18.5](https://www.si.edu/object/or-down-hill:saam_1995.18.5)
- Look carefully at the painting. Discuss the following questions:
  - What do you see?
  - What does it make you think about?
  - What does it make you wonder?
  - What direction is the car going?
  - The car is going down a hill. What kind of simple machine is the hill shaped like?
  - What would happen if the hill was steeper?
  - The hill is an inclined plane. Inclined planes can be found in nature. Can you think of any that you have seen?
| Video:          | • Ramps are another name for inclined planes.  
|                | • Watch a video by SciShow Kids called *Ramps: A Super, Simple Machine*:  
|                |  [https://youtu.be/3COvm0TtxWg](https://youtu.be/3COvm0TtxWg)  
|                | • Check out their website as well for more fun science information:  
|                |  [www.scishow.com](http://www.scishow.com)  |

| Lombard Street: | • Lombard Street is a famous street in San Francisco.  
|                | • What simple machine does it remind you of?  
|                | • Why do you think the road needed to zig zag?  
|                | • What would happen if the road went straight instead?  
|                | • Can you find materials in your house to make a road that uses inclined planes?  
|                | • Image from:  
|                |  [https://commons.wikimedia.org/wiki/File:Lombard_Street_San_Francisco.jpg](https://commons.wikimedia.org/wiki/File:Lombard_Street_San_Francisco.jpg)  |

| Play with Ramps: | • Check out the following website for 15 activities to play and explore inclined planes:  

| Inclined Planes for Accessibility: | • Inclined planes are very important simple machines because they ensure that everyone, regardless of ability, can have access to buildings and other spaces.  
|                                  | • To learn more about the history of disability rights look here:  
|                                  |  [https://www.historyforkids.net/disability-rights.html](https://www.historyforkids.net/disability-rights.html)  |
### Ramp Scavenger Hunt:

- Take a walk through your neighborhood. Can you spot any inclined planes?
- When you come home, draw a picture of a ramp that you found.