

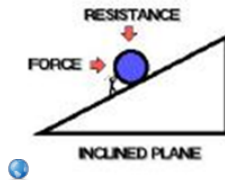
### Inclined plane



- Sloping surface (ramp)
- Can be designed to reduce the force needed to lift an object/load in two ways:
  - increase the length of the ramp
  - decrease the height of the ramp

### Rule to inclined plane

- The longer the ramp, the less force is needed to move the object

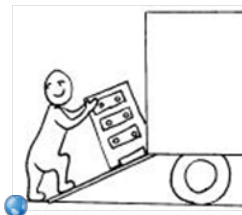


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### Examples






- Wheelchair ramp
- Moving truck ramp
- Roads on hills



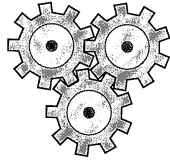



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<p><b>Screw</b></p>	<ul style="list-style-type: none"> <li>• ·A wedge/ inclined plane wrapped around a cylinder</li> </ul>
<p><b>Examples</b></p>	<ul style="list-style-type: none"> <li>• ·Screw</li> <li>• ·Corkscrew</li> <li>• ·Light bulb</li> <li>• ·Clamps</li> <li>• ·wrench</li> </ul>   

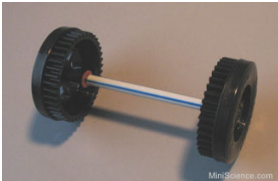

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<p><b>Wedge</b></p>	<ul style="list-style-type: none"> <li>• ·2 inclined planes put together</li> <li>• ·Used to pull, cut or break things apart</li> </ul>
<p><b>Examples</b></p>	<ul style="list-style-type: none"> <li>• ·Scissors</li> <li>• ·Axe</li> <li>• ·Knife</li> <li>• ·Teeth</li> <li>• ·Nail</li> <li>• ·fork</li> </ul>   





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<p><b>Gears</b></p> <p><b>Examples</b></p> 	<p>- wheels with teeth</p> <p>- clock</p> <p>- car engine</p>   
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<p><b>Wheel and axle</b></p> <p><b>Examples</b></p>	<p>• 2 circular disks held together by a rod</p>  <p>• Car</p> <p>• Lawn mower</p> <p>• Wagon</p> <p>• Shopping cart</p> 
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<p><b>Complex machines</b></p>  <p><b>Examples</b></p> 	<ul style="list-style-type: none"> <li>·Made of 2 or more simple machines</li> <li>·Sometimes called a compound machine</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <ul style="list-style-type: none"> <li style="width: 50%;">-Lawn mower</li> <li style="width: 50%;">- Roller coaster</li> <li style="width: 50%;">·Can opener</li> <li style="width: 50%;">- Bicycle</li> <li style="width: 50%;">·Wheel barrow</li> <li style="width: 50%;">-Scissors</li> </ul>
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<p><b>Work</b></p>	<ul style="list-style-type: none"> <li>-when a force moves an object <ul style="list-style-type: none"> <li>- a force must be applied AND the object must move</li> </ul> </li> <li>-caused by energy</li> <li>- Work = Force X Distance</li> <li style="padding-left: 20px;"><math>W = fd</math></li> <li>- unit: Joules (J)</li> </ul>
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