# Simple Machines



Written by Vaishali Batra

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For teachers' inspection ONLY

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# Introduction

A simple machine is a machine with no moving parts or, at the most, only one. It helps people move things that are too big or heavy. The thing that is moved is called a **load**.

When people move a load by pulling, pushing, or lifting it, they are doing **work**. When they use a simple machine, they move the load a longer distance, but with less effort. So simple machines make work easier. This book is about the six simple machines that most complex machines are based on.



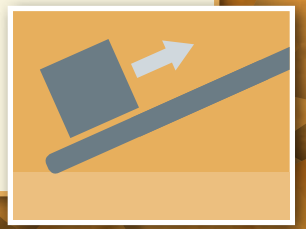
A wagon is a machine for pulling a heavy load.

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# Inclined Planes

Flat, slanted surfaces are inclined planes.
People use them to move things
to a higher or lower level.

A flat board that is used to move a load
up or down is called a **ramp**.
Ramps are inclined planes.
You can slide a heavy box along a ramp
to load it onto a truck.
It is easier to push something
along a ramp than to lift it up
or carry it down a steep step.
Ramps make the work easier.



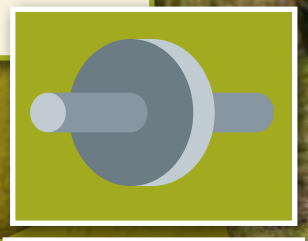
Inclined plane

A ramp makes it easier to move things.

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# Wheel and Axle

A wheel and axle can also help people move loads.
People often use this simple machine made of a wheel and a rod.
The rod that is attached to a wheel is called an axle.
The axle begins to turn when the wheel begins to turn.
All wheeled vehicles have axles.
The axles on a bicycle are small compared to the axles on a car.



Wheel and axle

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An axle connects the two wheels of this wheelbarrow.

axle

wheels