

SCIENCE

SCIENCE 109

MACHINES AROUND YOU

CONTENTS

I. LEVERS	4
Some Simple Levers	6
Levers That Work Together	8
How Levers Work	10
II. WHEELS	14
Wheels	16
Gears	18
Pulleys	20
III. INCLINED PLANES	24
Ramps	26
Screws	28
Wedges	30

Author:
Editor:
Consulting Editor:
Revision Editor:

Phyllis A. MacDonald, M.Ed.
Mary Ellen Quint, M.A.
Harold Wengert, Ed.D.
Alan Christopherson, M.S.

Alpha Omega Publications

a division of:

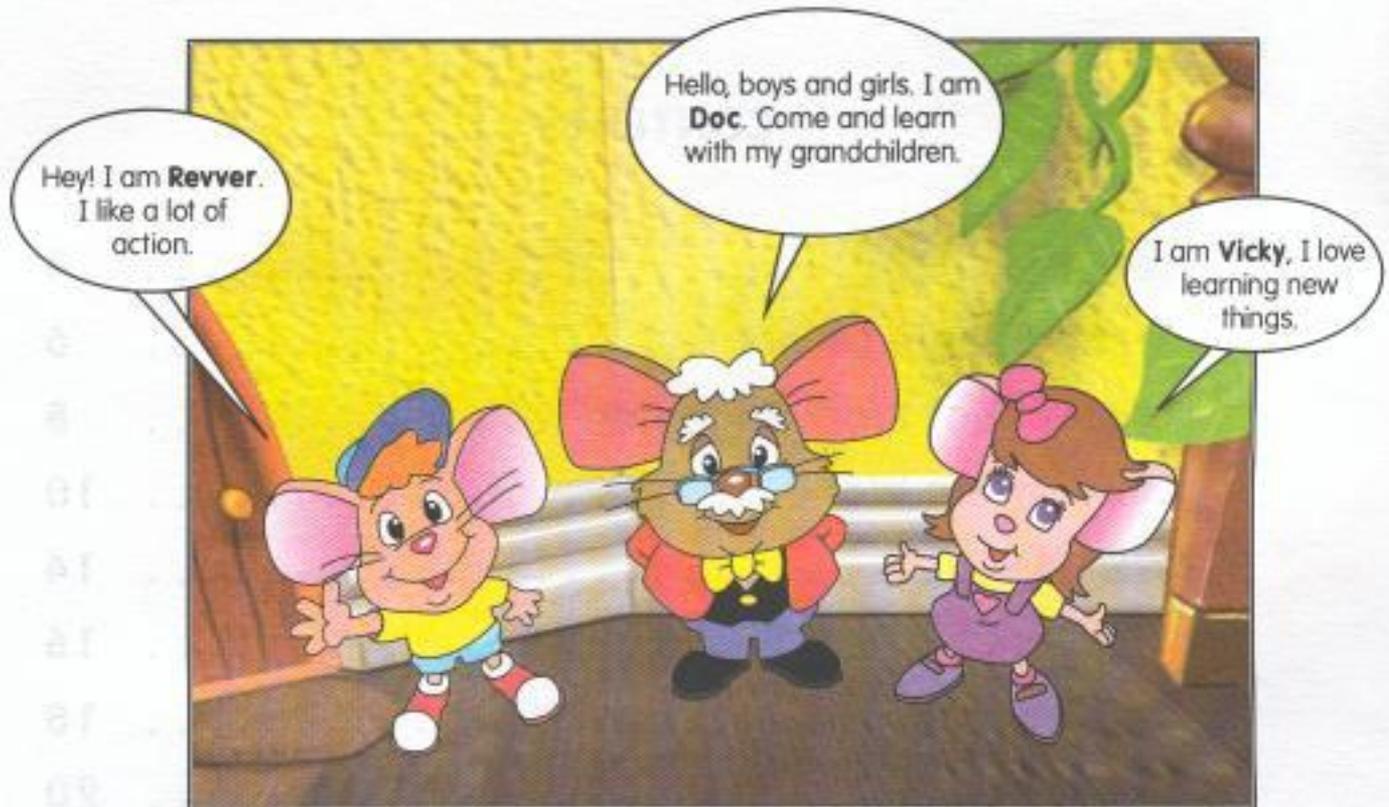
Bridgestone Multimedia Group

300 North McKemy Avenue, Chandler, Arizona 85226-2618

Copyright © MCMXCV, All rights reserved



Learn with the Bridgestone characters:



When you see me, I will help your teacher explain the exciting things you are expected to do.



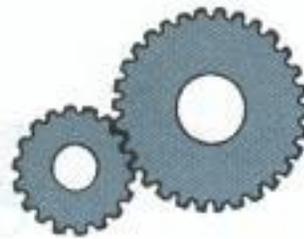
When you do actions with me, you will learn how to write, draw, match words, read, and much more.



You and I will learn about matching words, listening, drawing, and other fun things in your lessons.

MACHINES AROUND YOU

Lift it up.
Push it down.
Turn the wheel
Around and around.
Whatever the work
That you do,
A simple machine
Makes it easy for you.



Objectives

1. I can tell about some levers.
2. I can tell about some wheels.
3. I can tell about some inclined planes.

Here are some simple machines.
Tell what work they help you do.





Draw something you can do with a simple machine.



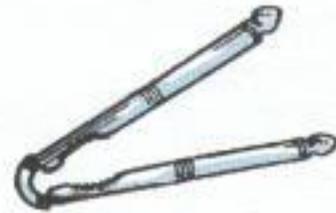
I. LEVERS



To open a can
Or fill a pail,
To crack a nut
Or pull a nail,



Do you know
What you should use?
A lever is
The one to choose.



A lever is a simple machine.



Can you name some levers you might find in the kitchen or in a toolbox?



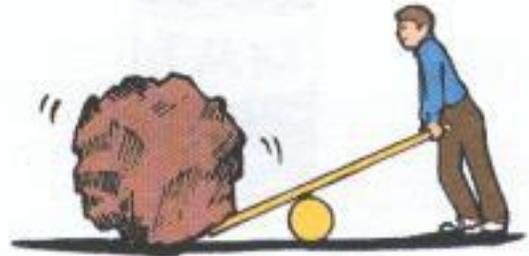
Follow the dots to see a lever you can ride.



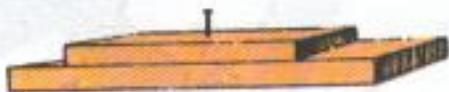
SOME SIMPLE LEVERS



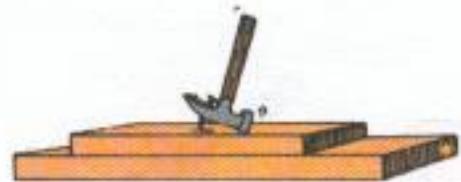
The rock is too big.



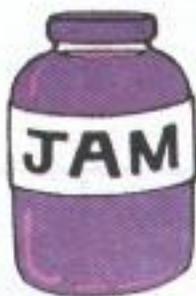
A lever can help.



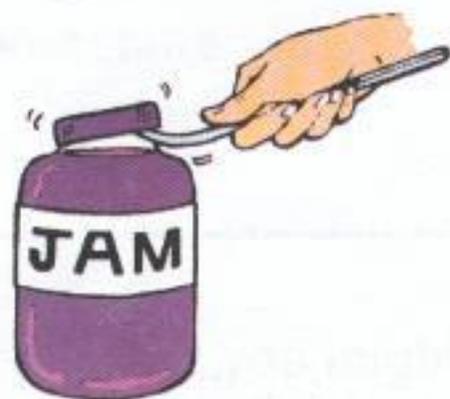
The nail is stuck.



A lever can help.



The cover is too tight.



A lever can help.

The boy needs to dig a hole.



Circle the lever he will use.

This girl wants to open a bottle.



Circle the lever she will use.

Father needs to lift his car.



Circle the lever he will use.

LEVERS THAT WORK TOGETHER

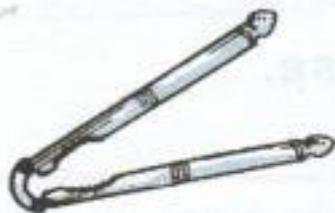
Some tools are made of levers.
The levers work together.



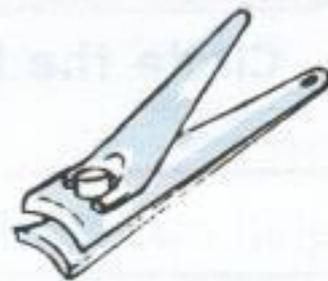
Scissors



Pliers



Nutcracker



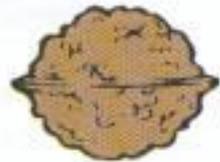
Nail Clippers



Can you name some jobs
these tools can do?



Match the levers with the jobs they do.

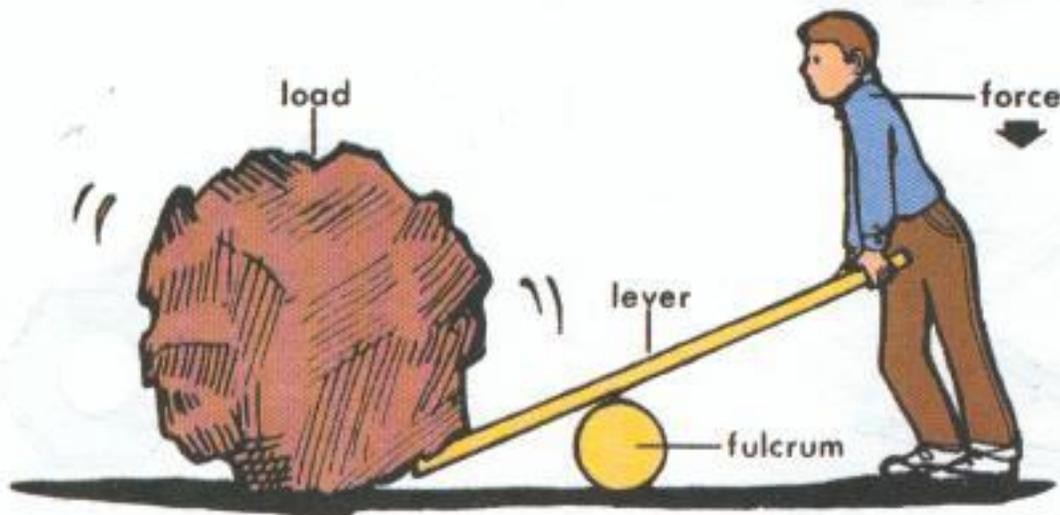


HOW LEVERS WORK

A lever needs a force.
The boy is the force.

A lever moves a load.
The rock is the load.

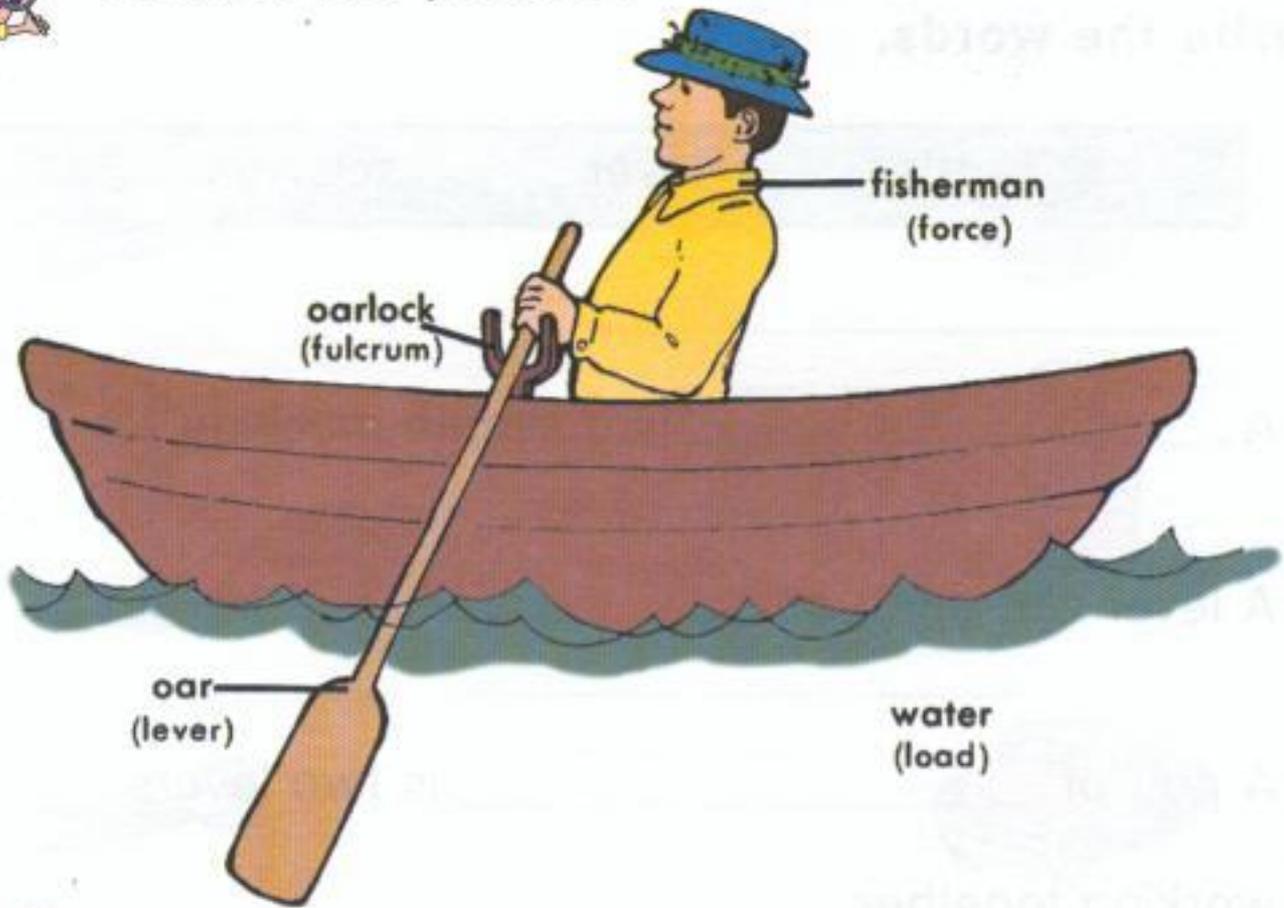
A lever needs a fulcrum.
The log is the fulcrum.



Can you show the force, the load, and the fulcrum on a teeter-totter or on a pump?



Look at the picture.



Write the words.

fisherman oar water oarlock

The _____ is a lever.

The _____ is the force.

The _____ is the load.

The _____ is the fulcrum.

SELF TEST 1

Write the words.

bottle

lever

scissors

A _____ is a simple machine.

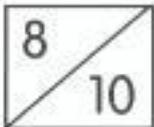
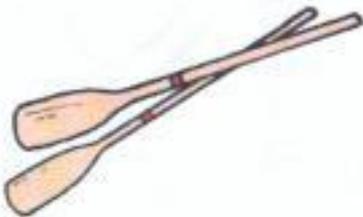
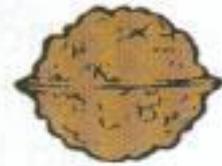
A lever can open a _____.

A pair of _____ is two levers working together.

Circle the levers that will work to pull the nail.



Match the levers with the jobs they do.



Teacher Check _____

Initial

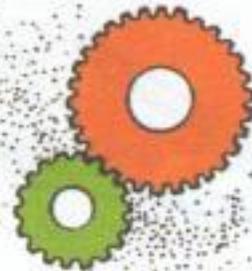
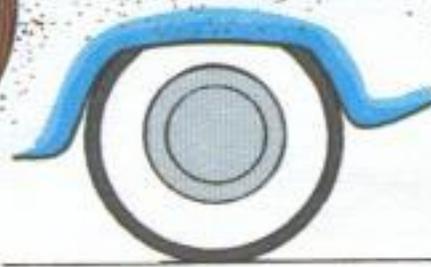
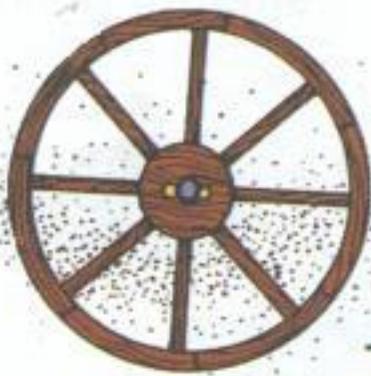
Date



My Score

II. WHEELS

Without the **wheel**
Things bump and bounce
And drag along the ground.
Without the wheel
No bikes or cars
Or trucks could move around.
Without the wheel
No clocks would tick
Or flags slide up a pole.
Aren't you glad
We have the wheel
To make so many things go?

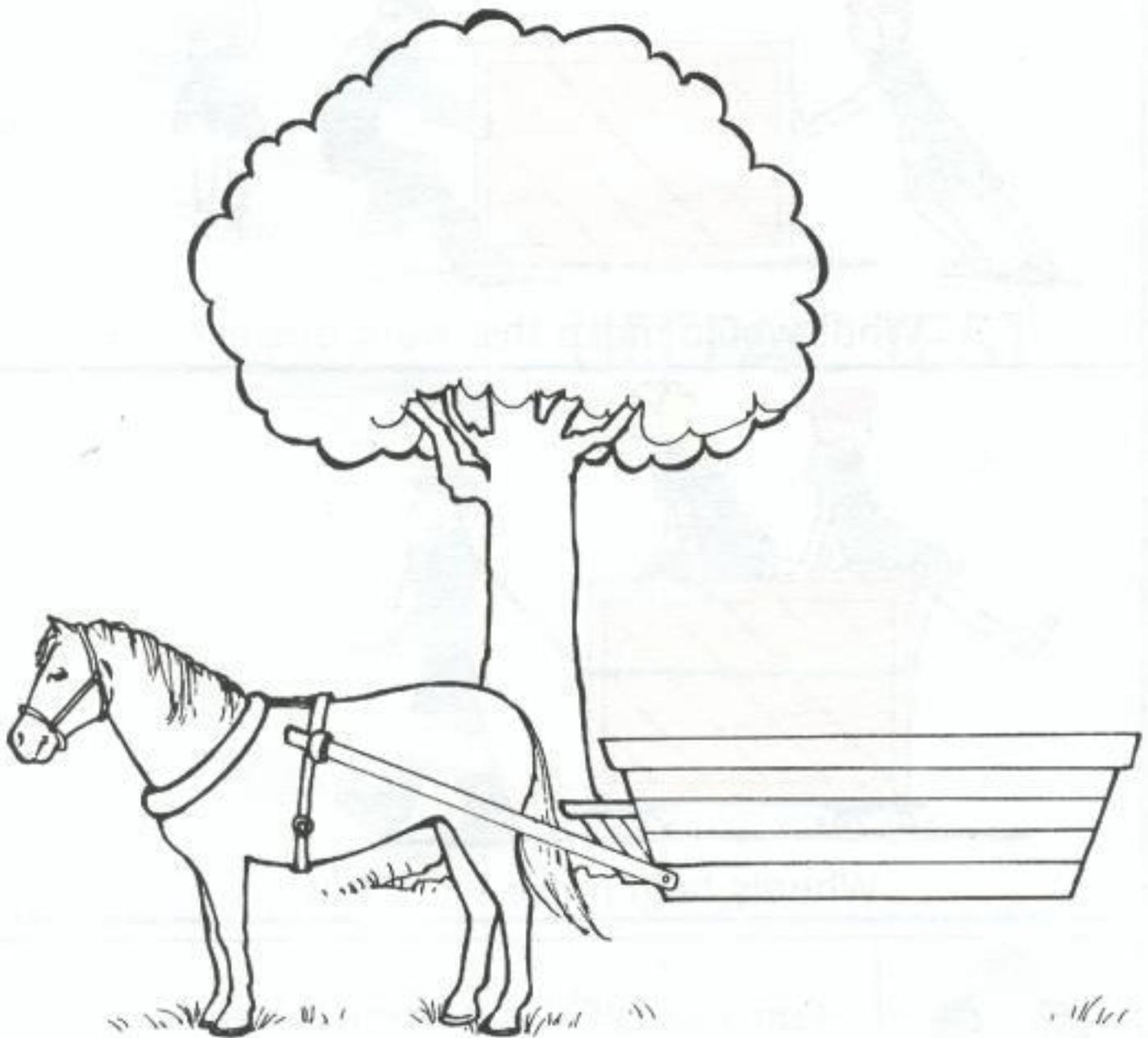


A wheel is a simple machine.

What will help the horse pull the wagon?

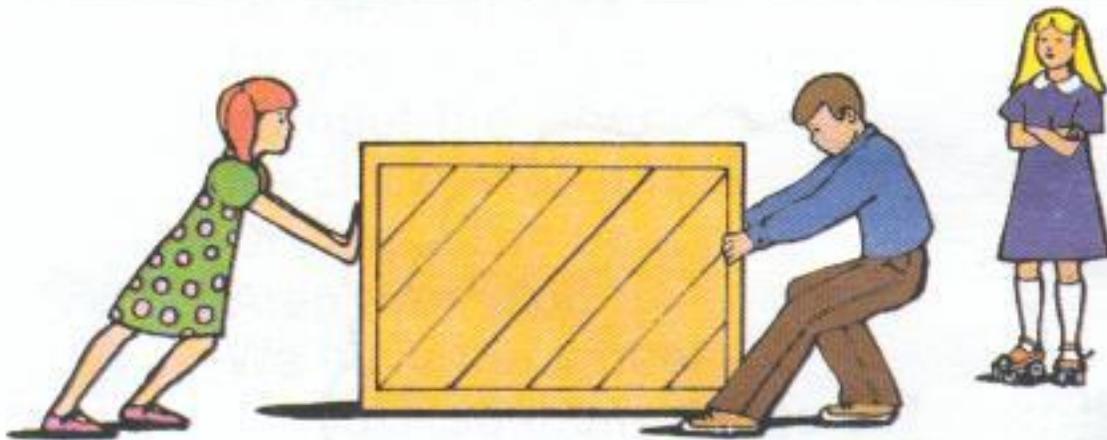


Draw some things that will help.
Color the picture.

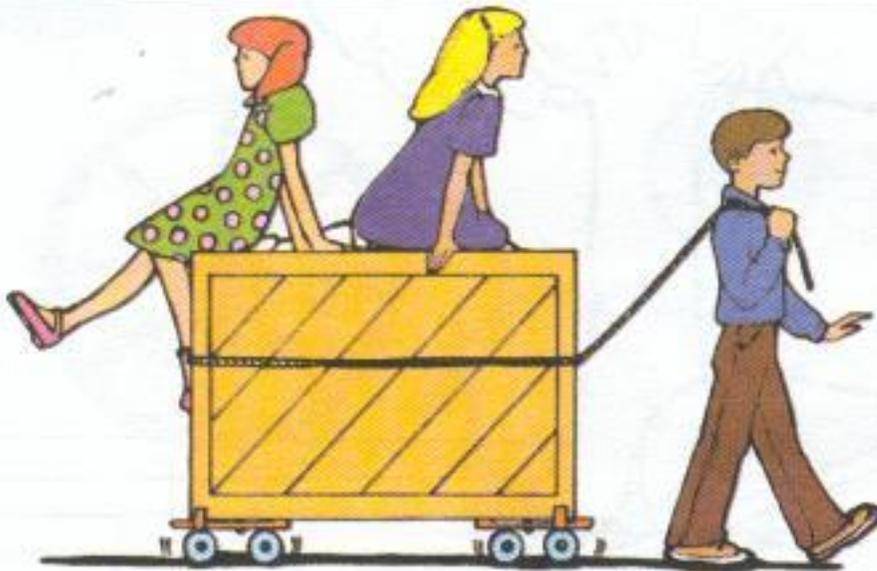


WHEELS

Wheels are machines.
Wheels help things move.
Wheels make work easier.



What would make this work easier?



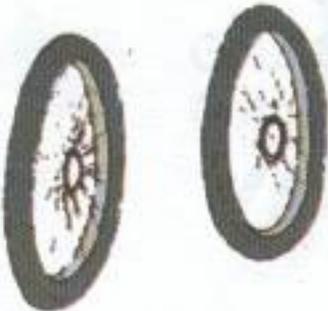
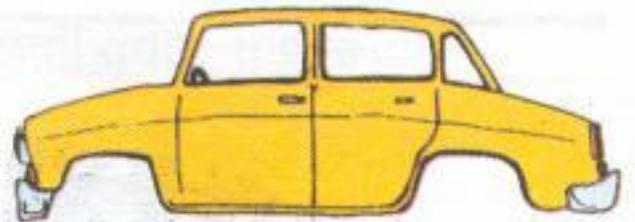
Wheels help make work easier.



Can you tell about some wheels
that help things move?

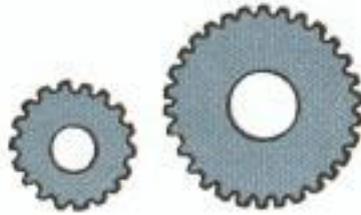


Match the wheel to the thing it moves.



GEARS

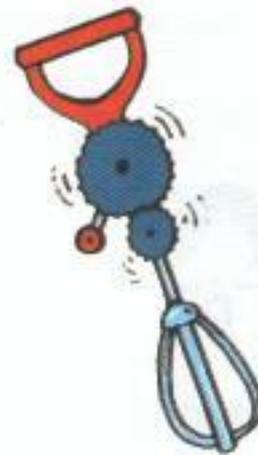
Gears make work easier.



Gears are wheels with teeth.



Small gears make large gears move easily.



Large gears make small gears move fast.

Large gears move slower than small gears.



Write the words.

easily

gear

fast

A _____ is a wheel with teeth.

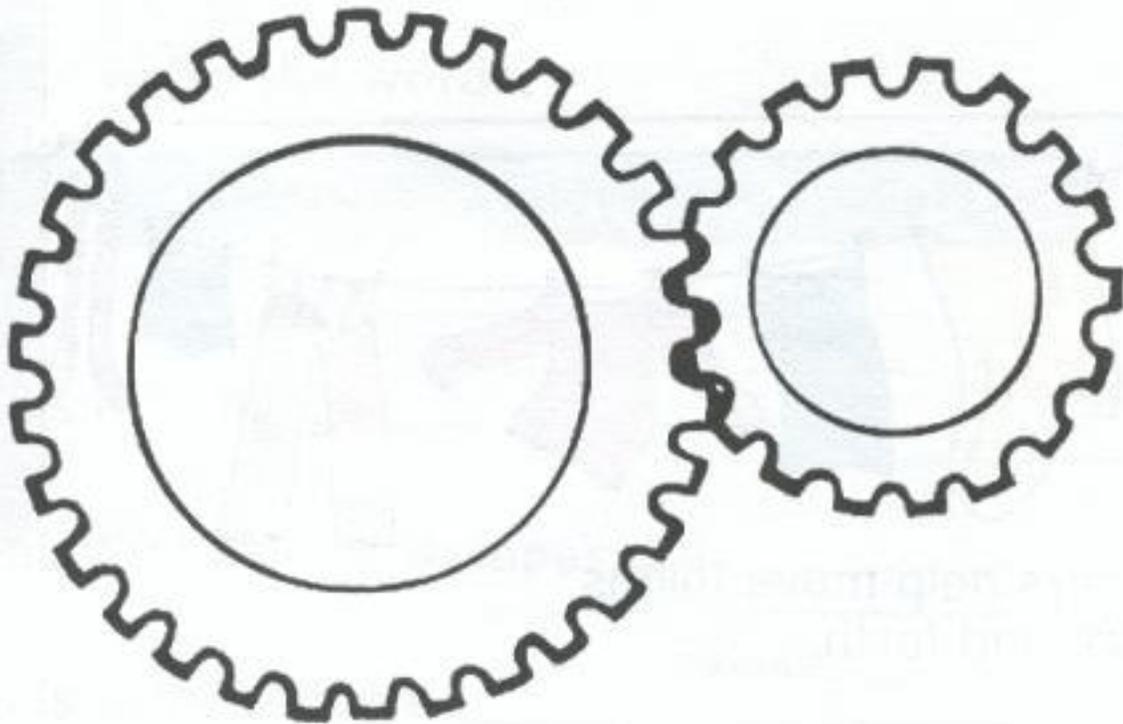
A small gear makes a large gear move

A large gear makes a small gear move



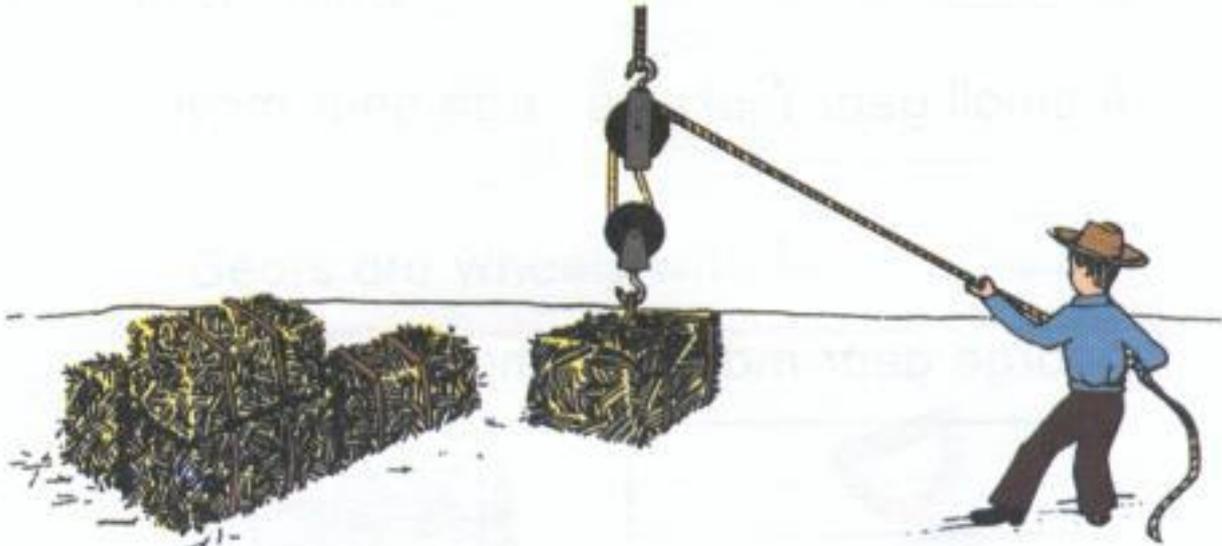
Color the slow gear **orange**.

Color the fast gear **blue**.



PULLEYS

Pulleys are wheels.
Pulleys work with ropes.



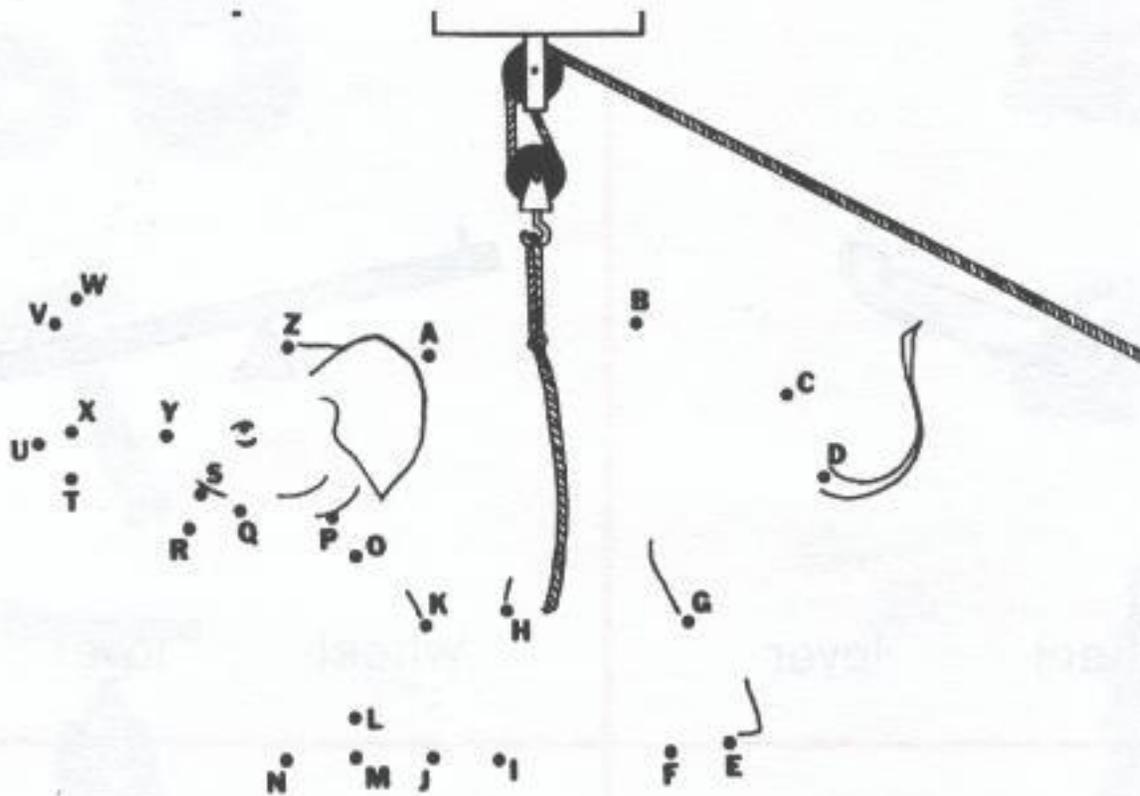
Pulleys help to lift heavy things.



Pulleys help move things
back and forth.



Follow the dots.
Color the picture.



What is the pulley helping to lift?



Write the words.

gears move pulleys

Wheels help things _____

Wheels that work with ropes are _____

Wheels with teeth are _____

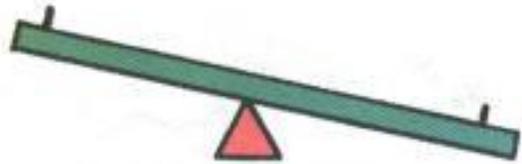
SELF TEST 2

Circle the answer.



wheel

lever



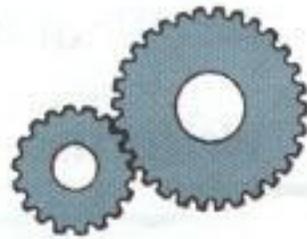
wheel

lever



wheel

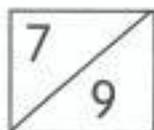
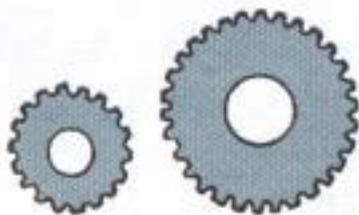
lever



wheel

lever

Match the simple machines with the jobs they do.



Teacher Check _____

Initial

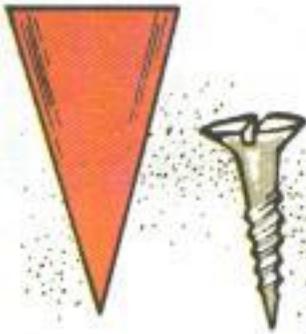
Date

page 23 (twenty-three)



My Score

III. INCLINED PLANES



Up so easy and
Down so smooth,
An inclined plane
Helps you move.



Turn it around,
A metal rod,
You have a screw
To do a job.



Put two together
You make a wedge
To chop some wood
Or trim a hedge.



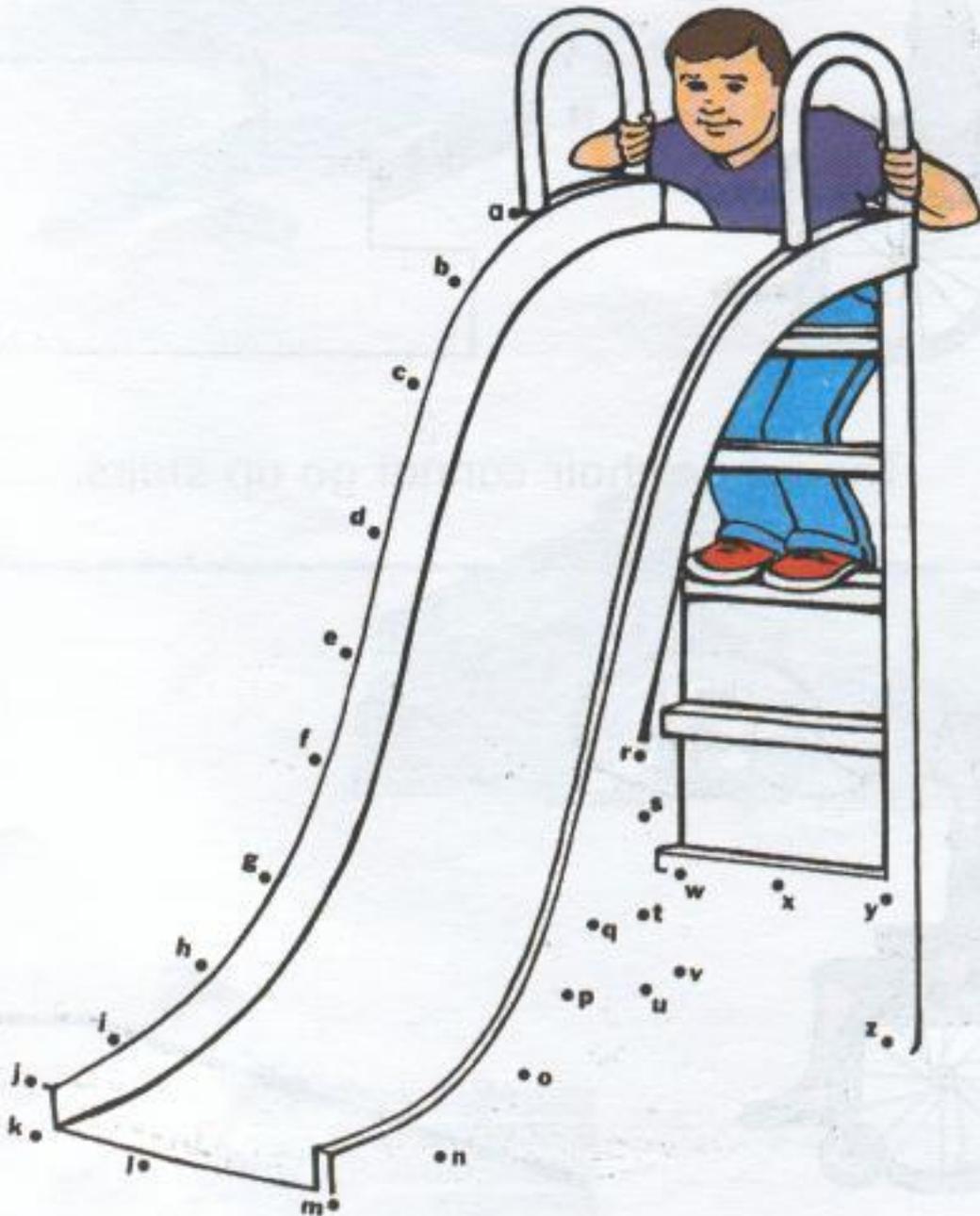
That simple machine,
The inclined plane,
Can help a lot
In many ways.



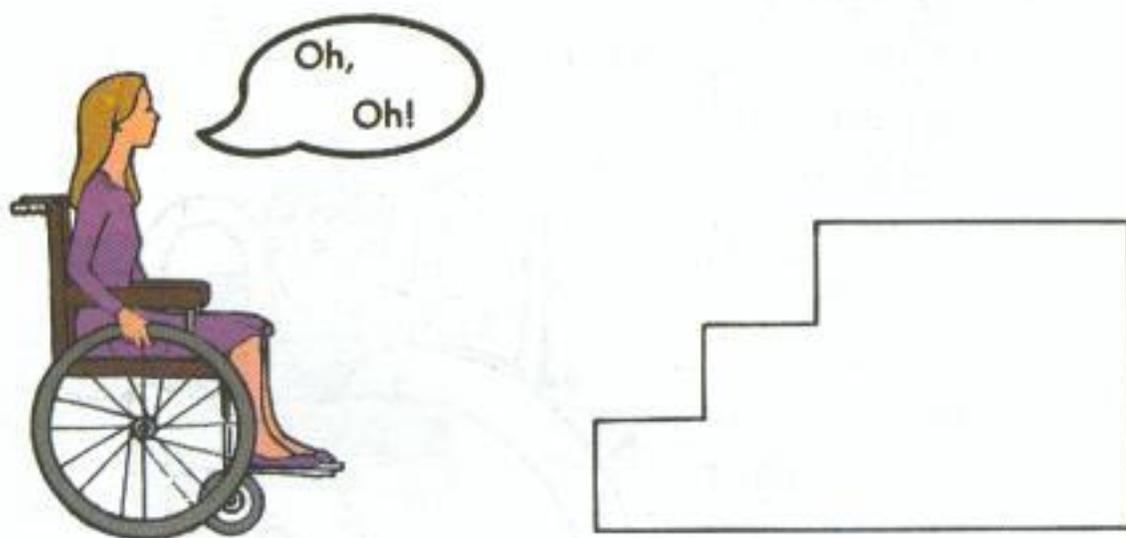
This inclined plane helps you play.



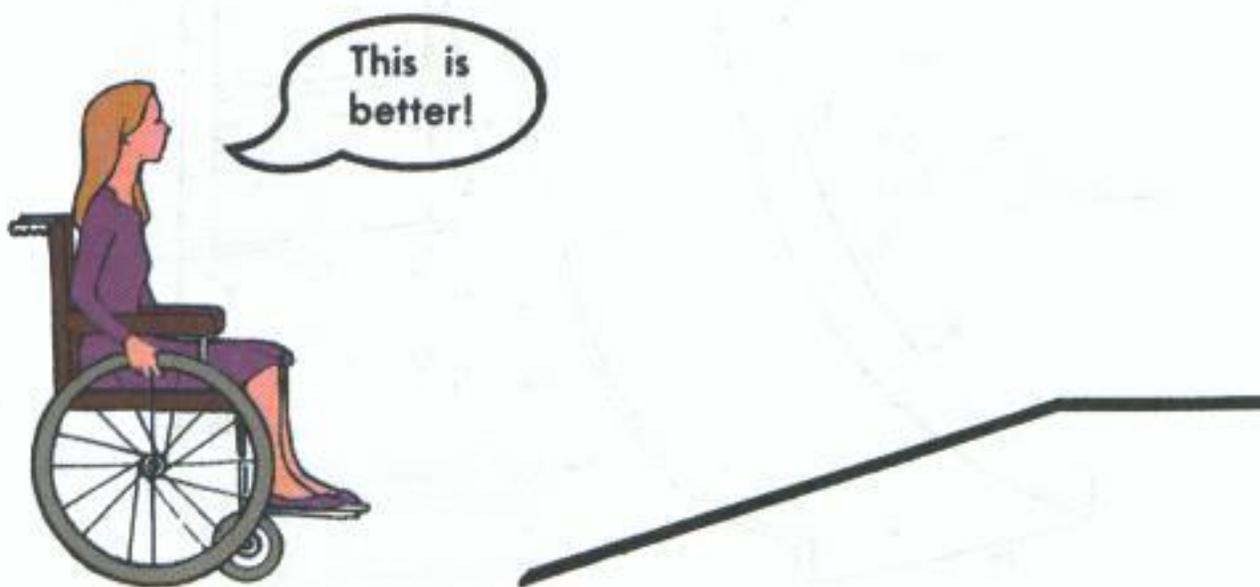
Follow the dots to see.



RAMPS



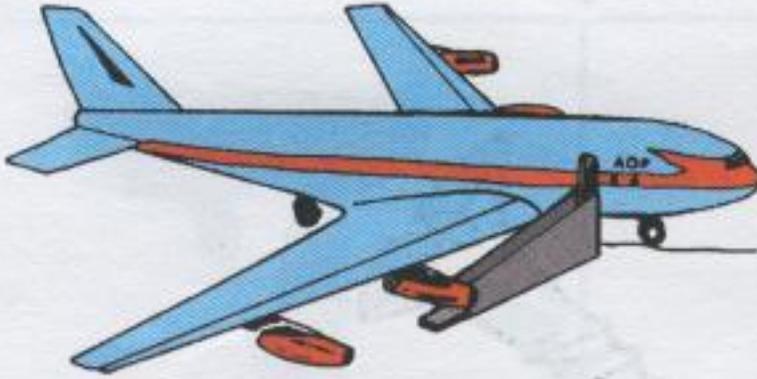
The wheelchair cannot go up stairs.



A ramp can help.
A ramp is an inclined plane.



Circle the inclined planes.

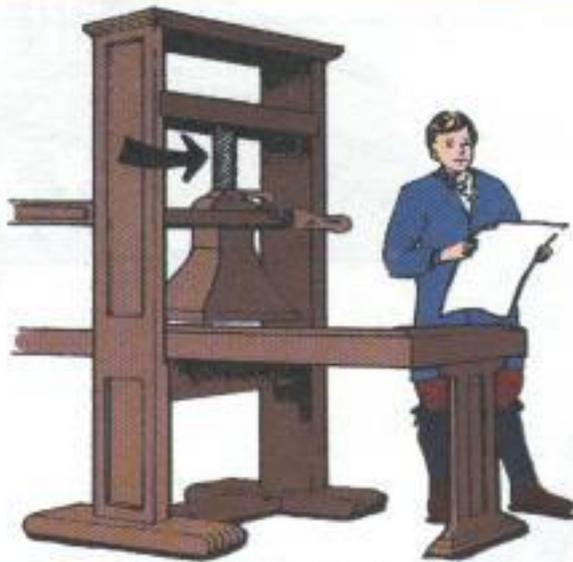


SCREWS

A screw is an inclined plane.



The plane goes up and around.



A screw can hold things tight.



Can you tell about some places a screw might be used?



Look at the picture story.
Write 1, 2, 3 to show what happened
first, second, and third.





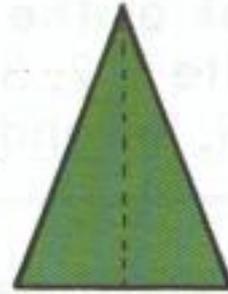




What kind of simple machine
is the screwdriver?

WEDGES

Two inclined planes make a wedge.



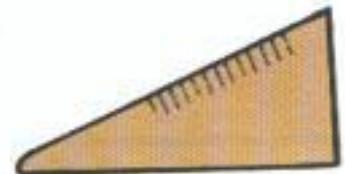
A wedge can help split wood.



A wedge can chop wood.
An ax is a wedge.



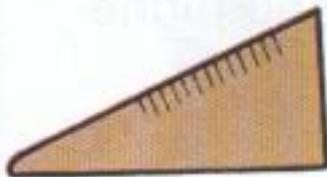
A wedge can cut things.
A knife is a wedge.



A wedge can hold things.
A doorstop is a wedge.
A nail is a wedge.



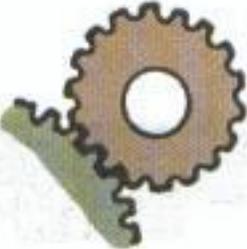
Match the wedge to the job it can do.



How can a wedge trim a hedge?
What other wedges can cut?

SELF TEST 3

Circle the words.

A  is _____.
a lever a wheel

A  is _____.
a lever a wheel

A  is _____.
a lever an inclined plane

A  is _____.
a wheel an inclined plane

Draw the missing machine.



Match the words to the simple machines.

inclined plane

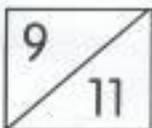
lever

wheel



Write 1, 2, 3 to show what happened first, second, and third.





Teacher Check _____

Initial

Date



My Score

NOTES

Match the words to the right machines.

How can we

formed plane



the machine is used to

what

in form

the machine

wheel

What is the purpose of the machine?

to

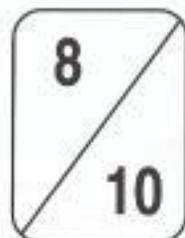
transport



SCIENCE

1 0 9

LIFEPAC TEST



Name _____

Date _____

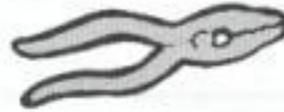
Score _____

SCIENCE 109: LIFE PAC TEST

Circle the answer.



To dig a hole, you need a _____.



The lever you need to cut paper is _____.



To pull a nail, you need a _____.

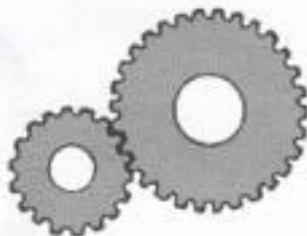


To move something, you need a _____.

Circle the levers.



Circle the wheels.



Circle the inclined planes.



NOTES