

DAY 8 – KPSI: MACHINES

Write "YES" or "NO" in every box to evaluate your knowledge.

	 I don't know	 I know a little	 I could explain it
Can you differentiate machines depending on the type of energy they use?			
Can you explain what a structure is, its parts and uses?			
Can you describe what a lever is, different parts and usage?			
Can you classify the different types of levers ?			
Can you describe what an inclined plane is and its usage?			
Can you explain what a pulley is and how it is used?			
Can you explain a relevant invention from the past ?			
Can you name the most important inventions nowadays ?			

ACTIVITIES: INCLINED PLANE AND PULLEY

1. Watch the video "[Ramps: a super, simple machine!](#)" and tick only the images where you can see structures.

1.1. What is a **ramp**?

A ramp is a _____ surface with one end _____ the other end.

1.2. What is a **machine**?

A machine is anything that _____.

1.3. Which **kind of machine** is a ramp?

It is a _____.

1.4. When does Squeaks have **to push** the box **harder**?

It pushes the box easier when the ramp is _____.

1.5. Tick the **examples** that describe a ramp:



To move things into and out of a truck.



To create documents and send emails.



To move cars on and off of a highway.



To remove a nail from the wall.



To lift people between floors



To let wheelchairs get on and off sidewalks.

2. Watch the video “[Need a lift? Try a pulley!](#)” and complete the following questions.

2.1. Which **simple machines** did Jessi mention in the video?

___ a lamp

___ a computer

___ a lever

___ a ramp

___ a pulley

___ stairs

2.2. What kind of machine is a **pulley**?

It is a _____.

2.3. What are **pulleys used for**?

They are used to _____.

2.4. What parts do a **pulley** have?

___ string or rope

___ a fulcrum

___ an inclined plane

___ a ramp

___ a pulley

___ wheel with a groove

2.5. Tick the **images** that show pulleys:



Flag that waves on the fort's flagpole.



Computer to send information by email.



Cranes that build skyscrapers.



Hammer that removes a nail from the wall.



Elevator that lifts people between floors.



A **ramp** to move things in and out of a truck.

3. Complete the diagram by choosing the correct words.

INCLINED PLANE

Simple machine with an _____ used to _____ (move) objects with less effort.



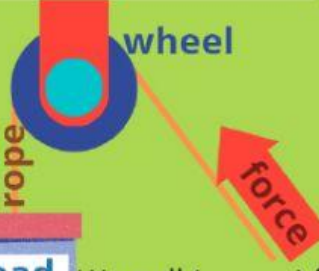
It is harder to move the load when the ramp is _____ inclined and _____.



To move
heavy
objects

PULLEYS

Simple machine made up of a _____ with a groove through which a rope moves to lift weight.



We attach the _____ to one end of the _____.

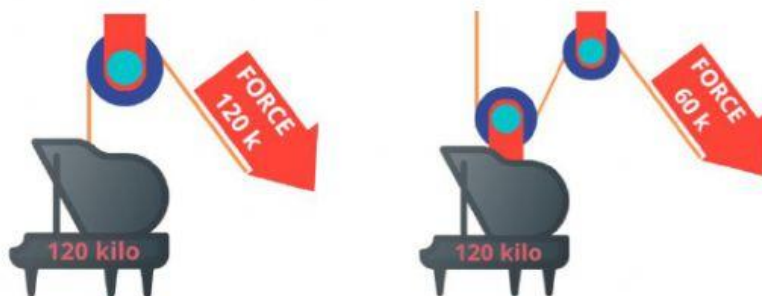
We pull (_____) from the other end and the _____ moves the _____.



The _____ fixes the rope to the wheel.

4. Read the explanation and solve the problem.

When two pulleys are connected, we can use half the effort.



For example, lifting a **120-kilo** piano with two pulleys uses the same force as lifting a **60-kilo** object.

What force do you have to use to lift the piano with four pulleys?

We have to use a _____-kilo force to lift the piano with four pulleys.

5. Choose the correct simple machine.



Slide



Merry-go-round



Swings



Seesaw



Skate ramp



Zip wire
