




## 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 <b>type of energy</b> they use?			
Can you explain what a <b>structure</b> is, its parts and uses?			
Can you describe what a <b>lever</b> is, different parts and usage?			
Can you classify the different <b>types of levers</b> ?			
Can you describe what an <b>inclined plane</b> is and its usage?			
Can you explain what a <b>pulley</b> is and how it is used?			
Can you explain a relevant <b>invention from the past</b> ?			
Can you name the most important <b>inventions nowadays</b> ?			

# 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 \_\_\_\_\_.




## PULLEYS

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



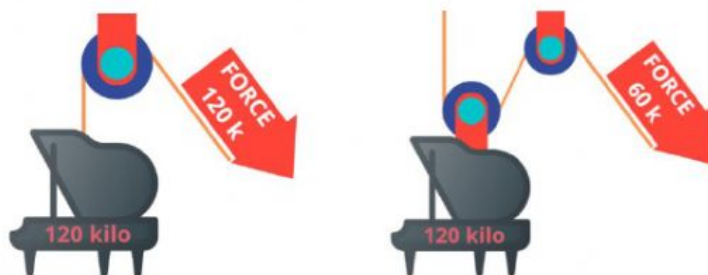
We attach the \_\_\_\_\_ to one end of the \_\_\_\_\_. We pull (\_\_\_\_\_) from the other end and the \_\_\_\_\_ moves the \_\_\_\_\_. The \_\_\_\_\_ fixes the rope to the wheel.



**To move heavy objects**

### 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

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Merry-go-round

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Swings

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Seesaw

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Skate ramp

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Zip wire

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