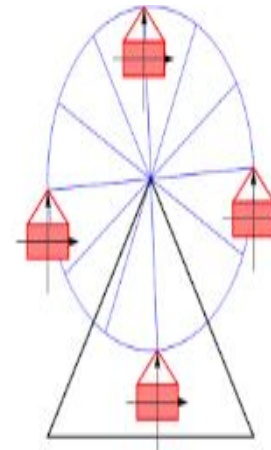
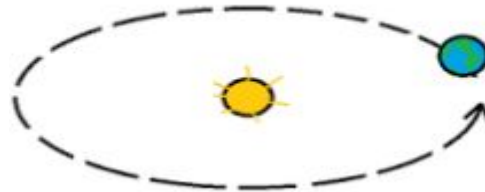
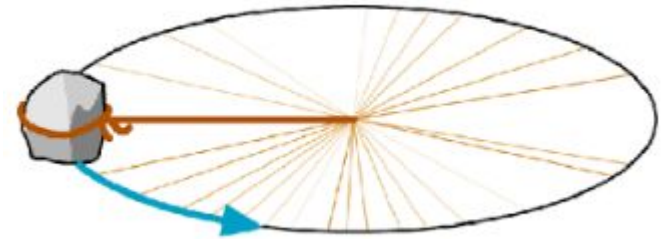
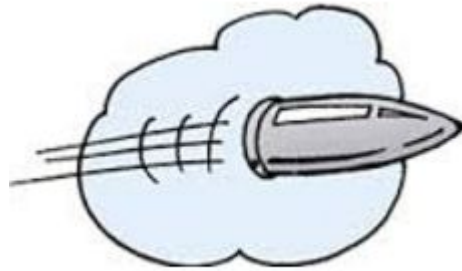


FORCES



INMACULADA PINAR SELVA
PHYSICS AND CHEMISTRY
4TH ESO

ENGAGE



CAN WE MOVE WITHOUT FORCES?

THE GOAL OF THIS ACTIVITY IS TO ENGAGE THE STUDENTS AND ALSO TO REMEMBER WHAT WE STUDIED THE UNIT BEFORE.

[Engage activity](#)

EXPLORE



LET'S GO TO THE LAB

THE EXPLORE ACTIVITY CONSISTS ON AN EXPERIMENT THAT WE ARE GOING TO CONDUCT IN THE LAB.

<https://drive.google.com/open?id=1uZBpUF6jMi7rihzqg1DhkyP4mgutrFR3LoU52OaUsuU>

EXPLAIN



- ✓ WHAT IS A FORCE?
- ✓ FORCE AS A VECTOR
- ✓ TYPES OF FORCES
 - Gravity force (weight)
 - Normal force
 - Friction force
 - Spring force



EXPLAIN

FORCE AS A VECTOR

EACH STUDENT ARE GOING TO PERFORM THESE EXPERIMENTS
TO UNDERSTAND THAT FORCES ARE VECTORS

<https://drive.google.com/open?id=0B0Wr9Z2-n-KnWDZhMnFJShkySlk>

<https://drive.google.com/open?id=0B0Wr9Z2-n-KneEgyYy1naHZhemc>

<https://drive.google.com/open?id=0B0Wr9Z2-n-KnS1g3TEhVRDIUQ2s>



EXPLAIN

TYPES OF FORCES

➤ GRAVITY FORCE (WEIGHT)

THIS ACTIVITY WILL BE EXPLAINED WITH THIS SIMULATOR

https://phet.colorado.edu/sims/html/gravity-force-lab/latest/gravity-force-lab_es.html

<https://drive.google.com/open?id=0B0Wr9Z2-n-KnRldaQUFGbnN2eU0>

WE WILL ALSO CALCULATE OUR WEIGHT IN DIFFERENT PLANETS.

EXPLAIN

TYPES OF FORCES

➤ NORMAL FORCE

1. THE STUDENTS WILL CALCULATE THE NORMAL FORCE OF DIFFERENT OBJECTS IN DIFFERENT SURFACES

2. THE STUDENTS WILL ALSO CALCULATE THE NORMAL FORCE IN A RAMP

EXPLAIN

TYPES OF FORCES

➤ FRICTION FORCE

IN CLASS THE STUDENTS WILL ANALYZE STATIC FRICTION AND SLIDING FRICTION COEFFICIENT USING THE EXAMPLE OF A TRASH CAN THAT IS ABOUT TO MOVE.

ELABORATE



WORKSHEETS TO PRACTICE THE CONTENT THAT
WE HAVE BEEN STUDYING

EVALUATE



STUDENTS DESIGN THEIR OWN FORCE METRE.

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