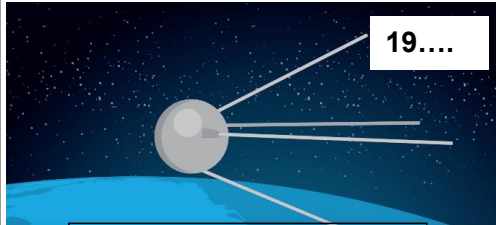


# THE SPACE RACE <https://www.youtube.com/watch?v=xvaEvCNZymo>

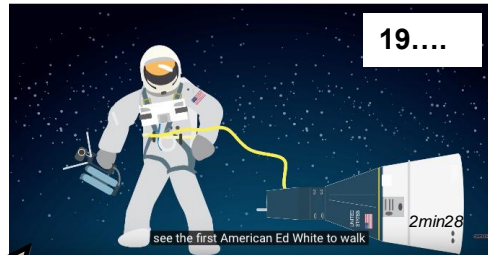
**Commentaire [11]:** La séance est introduite par des extraits d'une vidéo qui a été étudiée en anglais. Le but est d'amener les élèves à comparer la facilité de mouvement selon le lieu où l'on se trouve.

Video from 53s to 1min07s



.....

What ?  
Where ?  
When ?



.....

Who ?  
Where ?  
When



.....

Reorder these words to make a sentence :

Easier/ to/ is/ than/ move/ Moon/ on/ Earth/ It/ the/ on/ the

.....

**Weight** is a force acting on an object due to gravity. Weight is measured with a **dynamometer**.  
The unit of weight is **Newton**.

**Mass** is a quantity of matter. Mass is measured with a **scale**.  
The unit of mass is the **kilogram**.  
Fill in the blanks :



.....

.....

The teacher will give you a task : reader or **scientist**

Switch on the scale  
Wait until zero appears  
Put your pencil case on it  
Read the mass

**A**

Attach your pencil case to the  
dynamometer  
Wait until it doesn't move  
Read the weight

**B**

**Commentaire [I12]:** Les élèves travaillent en groupe. Ils disposent d'un dynamomètre et d'une balance. Je donne le texte A ou B à un élève qu'il doit garder caché. Il lit les instructions à un autre élève doit suivre la procédure lue par son camarade.

**READER (A or B):** Read the information written on a sheet given by the teacher

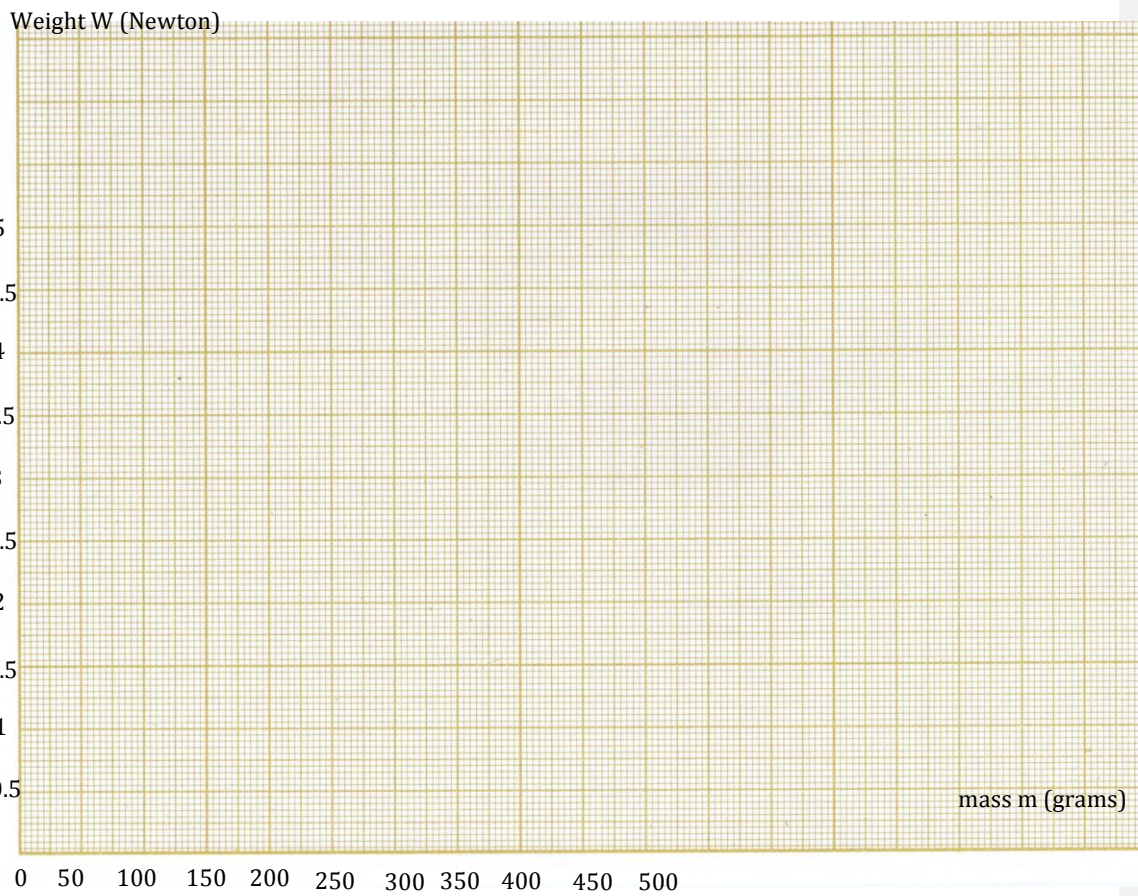
**SCIENTIST :** listen to the instruction given by the other pupil and do the experiment.

Do other experiments with objects given by the teacher and complete the data table :

<b>Mass (grams)</b>	<b>0</b>				
<b>Weight (Newton)</b>	<b>0</b>				

**Commentaire [I13]:** Lorsque les tâches précédentes sont terminées, je donne au groupe des masses 50g, 100g, 200g, 500g afin qu'ils réalisent d'autres expériences et remplissent le tableau

**Complete** the graph paper with your data :



**Connect** the points by a straight line

If you did the same experiment on the moon the data would be different. The results on the Moon are given below :

<b>Mass (grams)</b>	<b>0</b>	<b>50</b>	<b>100</b>	<b>200</b>	<b>500</b>
<b>Weight (Newton)</b>	<b>0</b>	<b>0.1</b>	<b>0.15</b>	<b>0.3</b>	<b>0.8</b>

**Complete** the graph paper with these data and **connect** the points by a straight line

**Complete** with : Earth, Moon, weight, mass.

It's easier to move on the .....than on the .....because the .....is lower although the .....is the same.

There is a relationship of proportionality between weight and mass :

**W= m x g** (g is gravitational field strength)

On Earth g= 10N/kg, On Moon g=1.6N/kg.

Exercise :

Nathan and Neil have the same mass (80 kg). Nathan is on the Earth and Neil is on the Moon. What can you say about their weight ? Calculate their weight.