eTwinning	TEAM:3	
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Smartphone-accelerations into physics situations	Italy	Bonuomo Giulia Miriam Sassaoui Eleonora Bussi
EXPERIMENT:		

We chose to do the roll experiment; this means we will use our phone with PhyPhox running in the background to measure the speed of a roll going down a slope with a variable angle by neatly putting the phone inside the roll.

1. ORIENTATION

1.1. **Research question:**

What is the correlation between the size of the orbital speed an object experiences and the angle from which the object is set into a rolling motion?

1.2. **Hypothesis**

De correlation is kwadratic, because $vorb = (2\pi * F)^2 * r$

2. PREPARATION

2.1. **Material**:

- Roll that is big enough to put your phone in
- Phone with PhyPhox
- An incline with adaptable angles. (examples a wooden plank)
- Ruler(to measure the diameter)

2.2. **Method:**

- Put your phone inside the roll and make sure it is fastened
- Take the plank and set up your incline
- Hold the roll in its place at the top of the incline

- Set up Phyphox (roll-experiment) to start the measurements
- Press on the three points in the right upper corner and press on timed measurement.
- Delayed start 5s and duration experiment 10s. (check this time while doing the experiment and adapt if necessary.)
- Press on start button and let the roll move
- When you are ready press again on the three points and export the data to excel.
- Do this experiment 3 times without changing the angle
- Change the angle to an arbitrary value and repeat the experiment three times over. Don't forget to export the data!
- Change the angle one last time and repeat the experiment 3 times.
- Export the data

3. DATA ANALYSIS and DISCUSSION

3.1. **Observations and Measurements**:

3.2. **Discussion:**

4. REFLECTION

4.1. **Conclusion**:

4.2. **Comparison** of the results of the different countries

4.3. **Reflection:**

5. REFERENCES