



## S.T.E.A.M. – Tastic Science

**Activity title:** Strength and movement, by Margarida Barbieri

from Portugal

**Theme:** Reels

**Month:** February

**Aim:** Explore the displacement of rolling objects, dropped on a ramp (covered with different materials) and observe the influence of the nature of covering materials in its displacement.

### **Introduction:**

In many of the children's games there are forces that produce movement. It happens when they make towers, when they set up ramps for cars to move faster, when they put rope toys in motion, or when they realize that is easier when they ride a bicycle down the street than going up.

Outdoor equipment is also an example of movement and force. This activity will be explored, in implicitly, content related to the displacement of rolling objects (cotton reels) on ramps (influence of slope and friction).

### **Resources/materials needed:**

- Wood or paperboard for ramps
- Cork, plastic, polystyrene, paper, rubber, aluminum, ...

### **How to do it:**

Make ramps with approximately 1m in length and height from 5 to 10 cm. The ramp is only intended to set the object in motion on the horizontal surface, with the same instantaneous initial force.

Test each of the covered materials, dropping the cotton reels from the top of the ramp.

Register the place of arrival in each case, using a flag or a highlighter.

Measure the distance of each cotton reel, using different colored threads and register it.

Additionally, we can also make an experience using ramps with the same length but different heights (20, 30, 40 cm) and use again cotton reels

