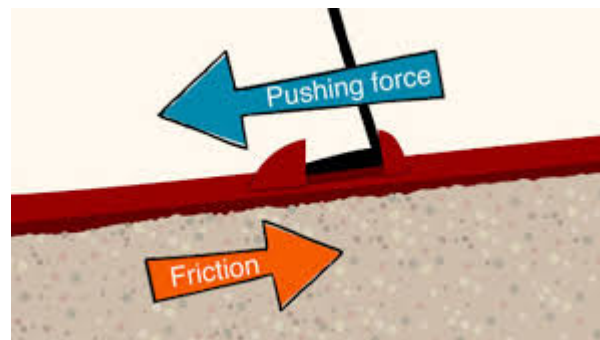


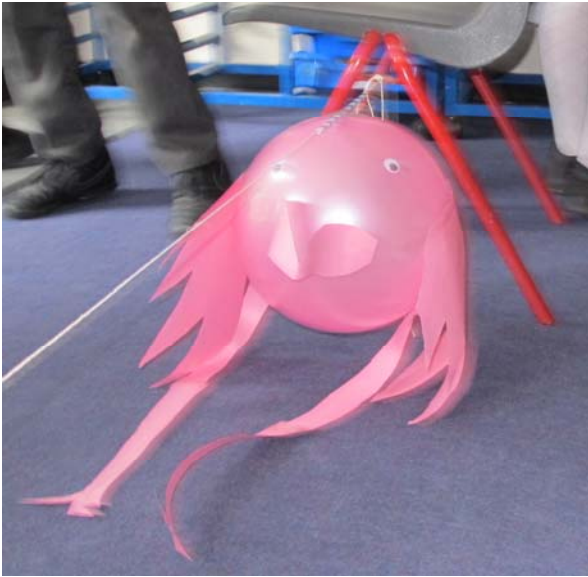
Frankie does Engineering - Friction

Friction is a force that holds back the movement of a sliding object. You will find friction everywhere that objects come into contact with each other. Friction acts in the opposite direction to the way an object wants to move and always slows a moving object down.



In the balloon race the friction occurs between the string and the straw. To overcome the frictional resistance more force has to be applied. The force in the race comes from how much the balloon has been blown up. In this picture the Clarence balloon is bigger than the Frankie balloon and so, if everything else is equal, you would expect Clarence to win.





Friction also occurs when objects move through water or air (known as resistance). In the race the balloons have to overcome air resistance. A long pointy object will overcome air resistance better than a short flat object as it will be able to move through the air more easily. A balloon that has a lot of extra decoration (like this Frankie the flamingo balloon) will meet more air resistance and will need extra force.



In this picture the Clarence balloon and the Ellie balloon are the same size, the same shape and both have about the same amount of decoration. It could be a very close race. But look at Ellie's string. It's not as taut (tight) as Clarence's string. This means the frictional resistance between the string and Ellie's straw will be greater and the Clarence balloon will probably win.