An object at rest will remain at rest and an object in motion will maintain a constant velocity unless acted upon by a net external force.

A net external force means the sum of all forces acting on the object.

Now that the object is on the ground, there is a force pushing it outwards from the surface. This is the force normal.

Adding both the force gravity and force normal will result to zero, therefore the object is at rest.

It looks like the princess has been taken hostage by these nefarious goblins!

Now you must use your forces to push the block towards the watchtower for this daring rescue!

Excellent! Now that the first block is in place, notice how it took a couple of knights to be able to move the block?

This is because of inertia, which causes the block to have more frictional force against the push force of the knights.

Inertia is the tendency of a physical object to resist a change in motion. A change in motion requires acceleration due to net force.

<show highlight on mass>

The mass of an object determines the object’s amount of inertia. The unit of measurement shown here is in kg (kilograms), which is 1000 grams per 1 kilogram.

So, the more mass an object has, the more resistance (inertia) it will have from change of motion.

I will now drop another object from the sky. This time with less mass. Just one more block to rescue our damsel in distress!