

Gravity Power Cars Stopping the GFC Student Inquiry Sheet



Name _____ Class _____ Date _____

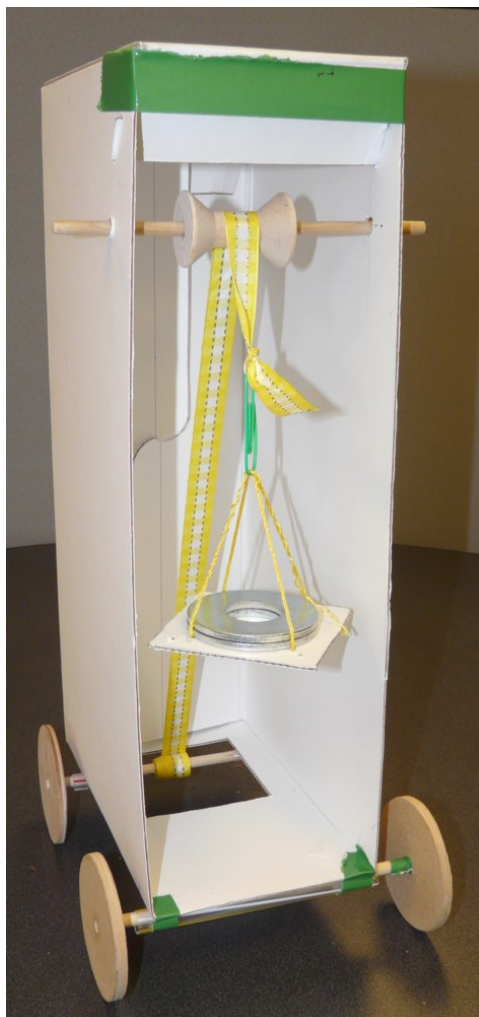
Investigation #4: What Factors Make The GFC Stop?

To make the GFC move, you need a force to push or pull it. Things do not start or stop unless something makes them start or stop. What are some forces that can make your GFC speed up or slow down? What about the force of gravity? Also think about one of the most common forces we never see because it is invisible, **friction**.

Friction is a force that happens when objects touch each other. Frictional force keeps things from sliding past each other. For example, your feet do not slide well on rough concrete with lots of friction but they do slide well on a wet tile floor that has little friction. When your GFC moves there are lots of moving parts that all experience friction. Your GFC stops mostly because of friction. This friction changes the energy of motion into thermal (heat) energy. Making your GFC travel far requires reducing the friction.

In the picture below, label at least 3 places where friction may reduce the distance your GFC travels. Find at least 1 place where friction may help your GFC move further. Can you also identify 2 simple machines that are used to help make the GFC move. How do they help it move?

Identify three places where friction may reduce the distance the GFC travels:

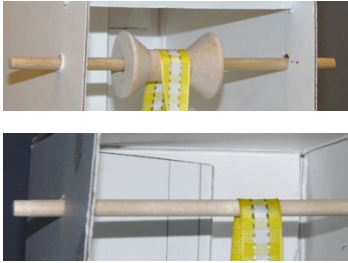


Identify one place where friction may help move the GFC further.

Identify two simple machines that are used to help make the GFC move. How do they help it move?

Experiment 4: Testing the Effect of Friction in the GFC

Invent and conduct one experiment (test) to measure the effects of the rubbing together of things during the motion of your GFC. You could test the effects of a different pulley, the rubbing of a wheel on the straw holding the axle, the distance that the GFC moves on different surfaces, or any other thing where contact or “rubbing occurs.



Describe what you will do for your experiment:

Record the results of your test:

Explain your results:

The force of gravity can make the GFC move. Can the force of gravity also stop the GFC? Explain how this is or is not possible:



**Check
Point**