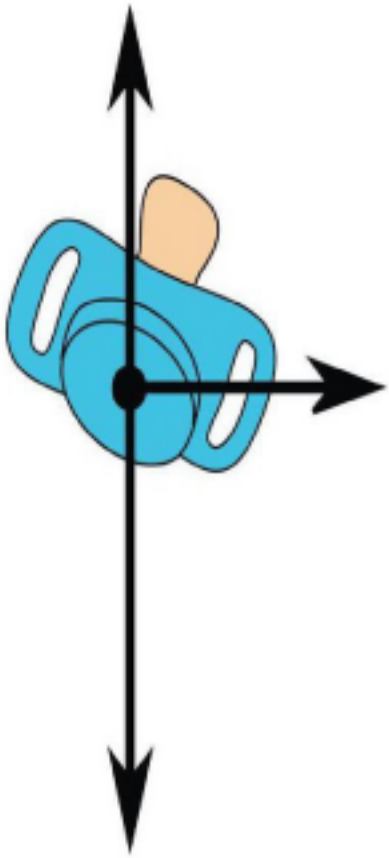
Newtonian Physics for Babies



by Chris Ferrie

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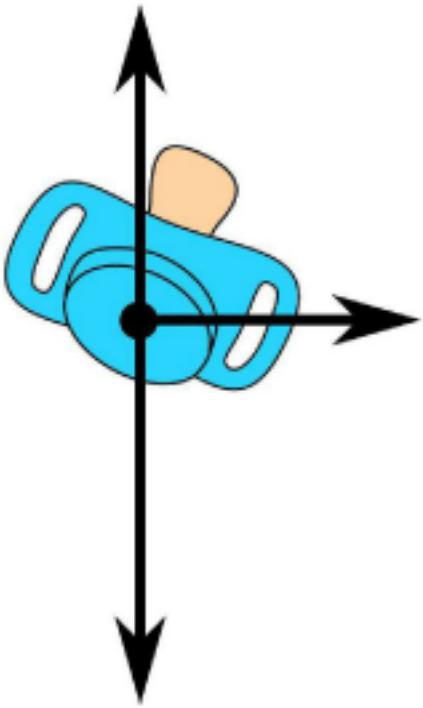
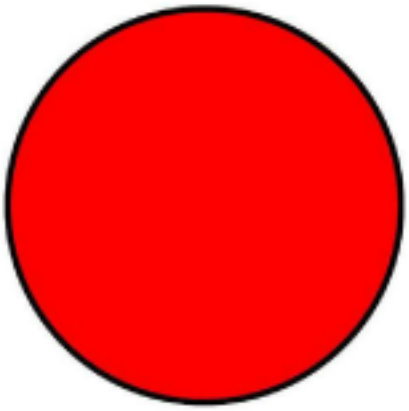
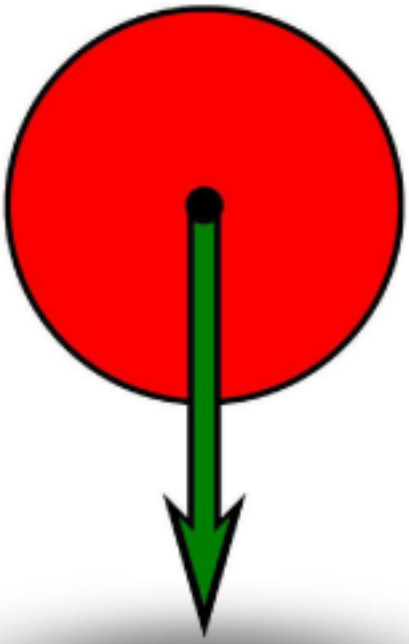


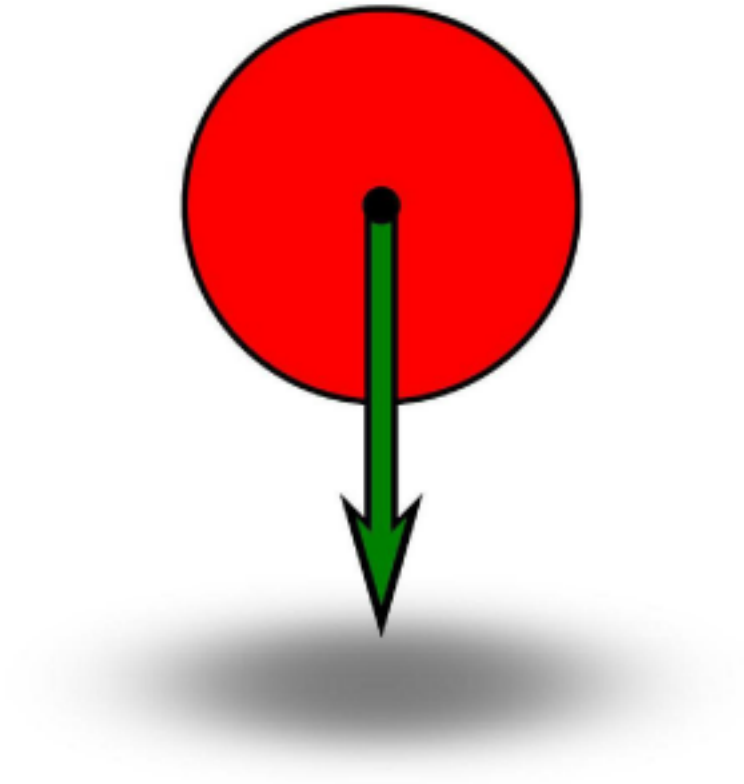
by Chris Ferrie



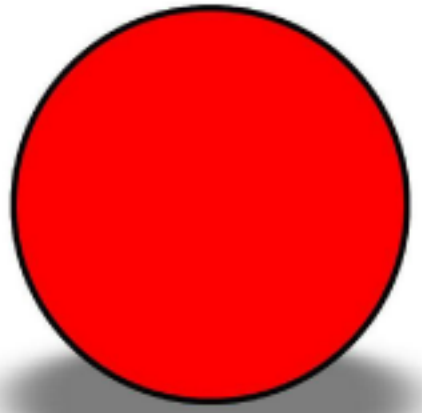
This is a ball.



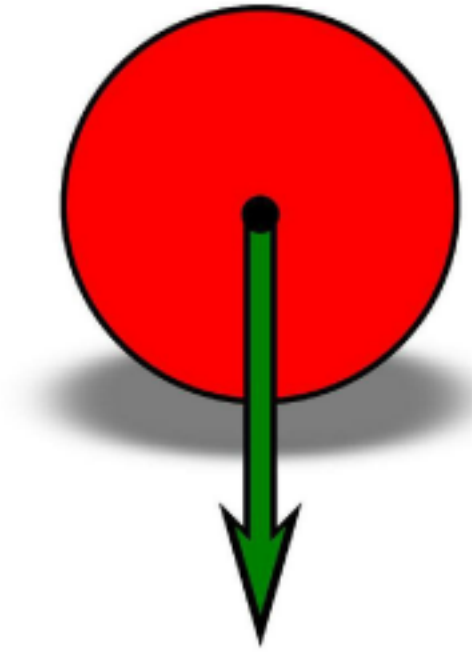
This ball feels the force of gravity.



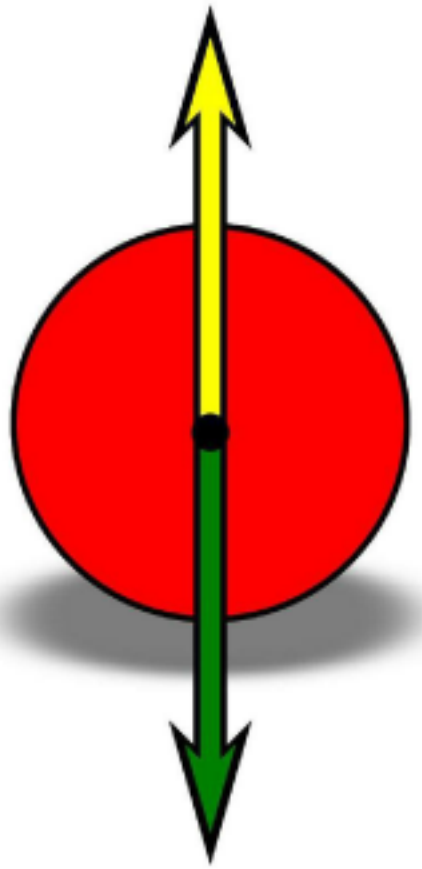
The force of gravity pulls the ball down.



This ball is on the ground.

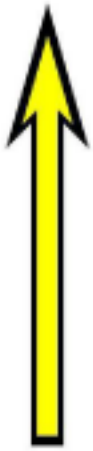


It still feels the force of gravity.

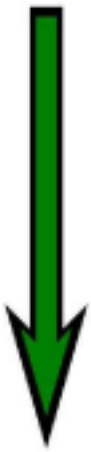


But it also feels the force of the ground.

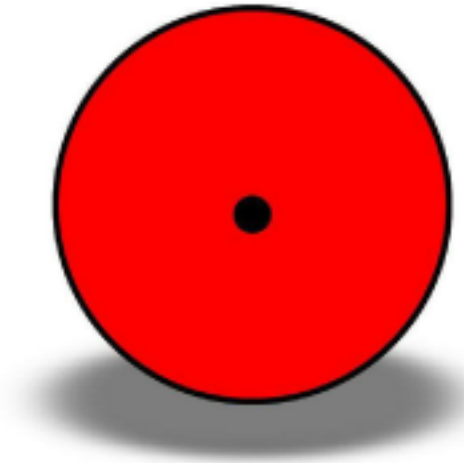
The force of the ground



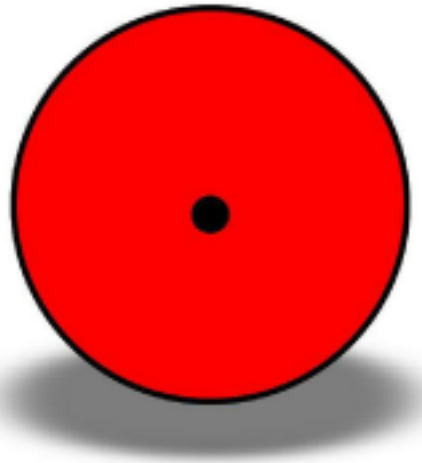
equals



the force of gravity.

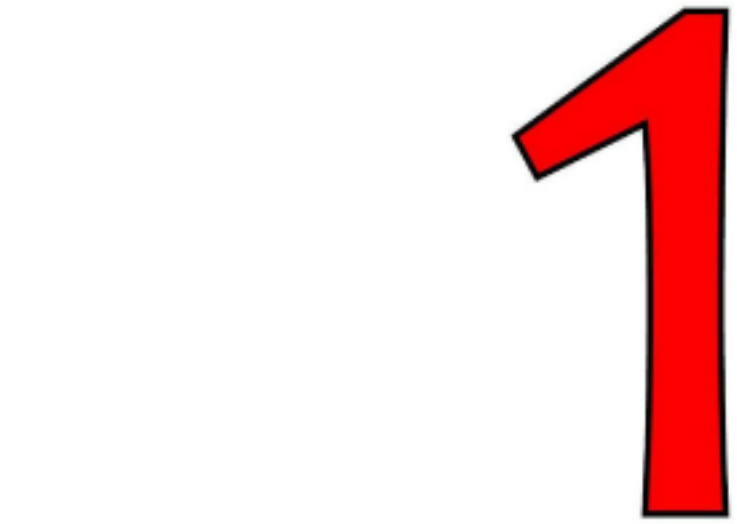


The net force on the ball is zero.

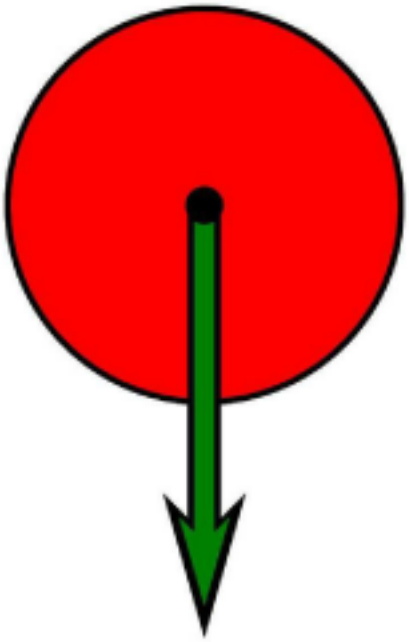


It does not change its motion.

Newton's first law

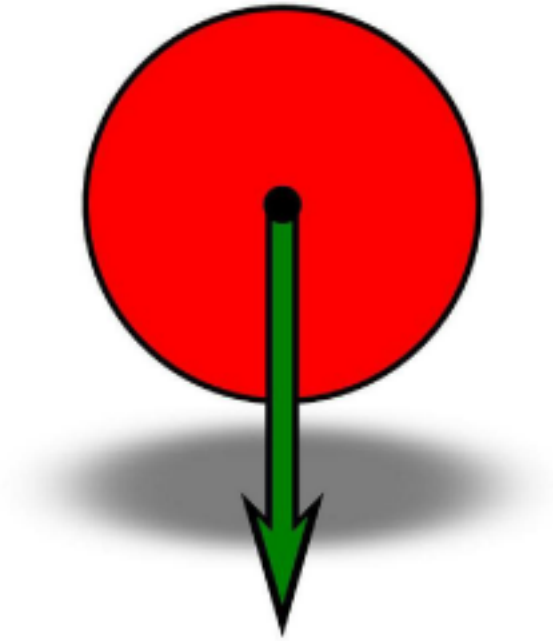


If an object has zero net force, it does not change its motion.

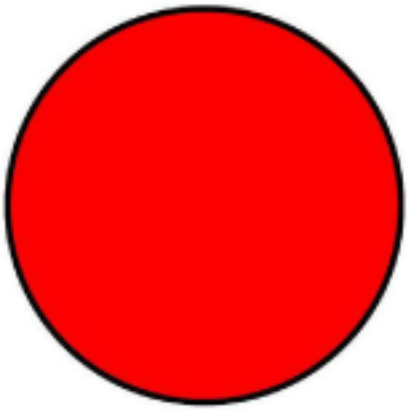


This ball does have a net force.

It does change its motion.

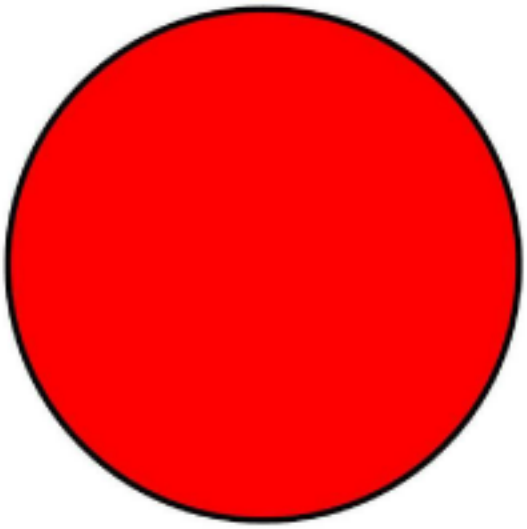


It accelerates.

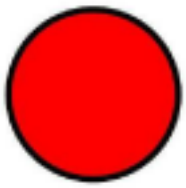


This ball has mass.

More mass.



Less mass.



Newton's second law

2

The net force is equal to mass times acceleration.

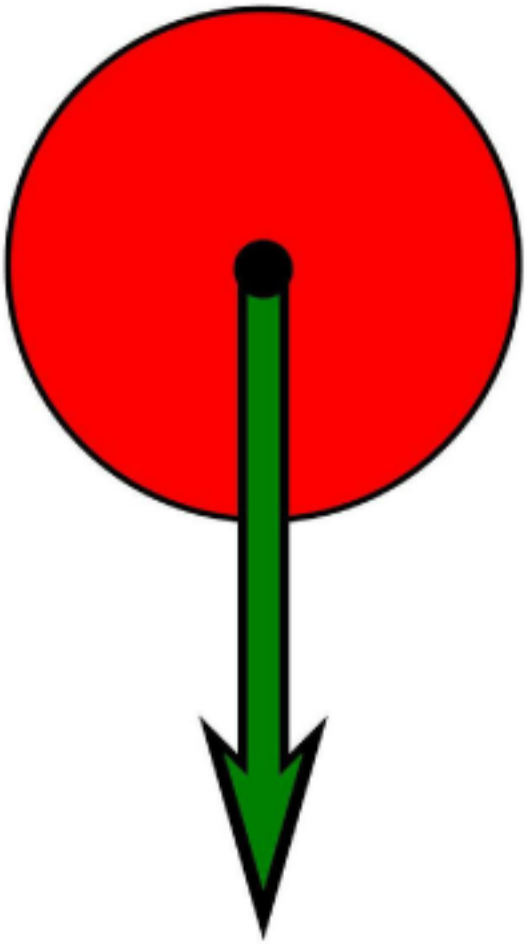
Force

=

mass x acceleration

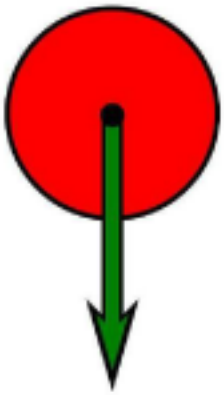
The net force is equal to mass times acceleration.

More mass,



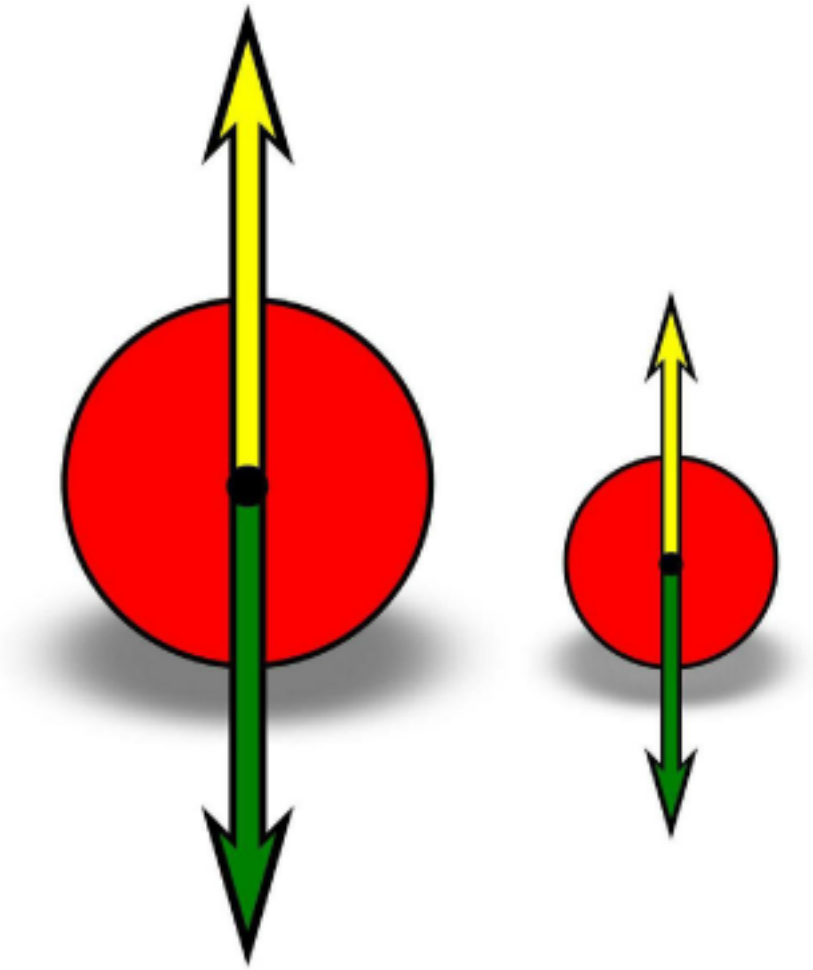
more force.

Less mass,



less force.

- The force of the ground always equals

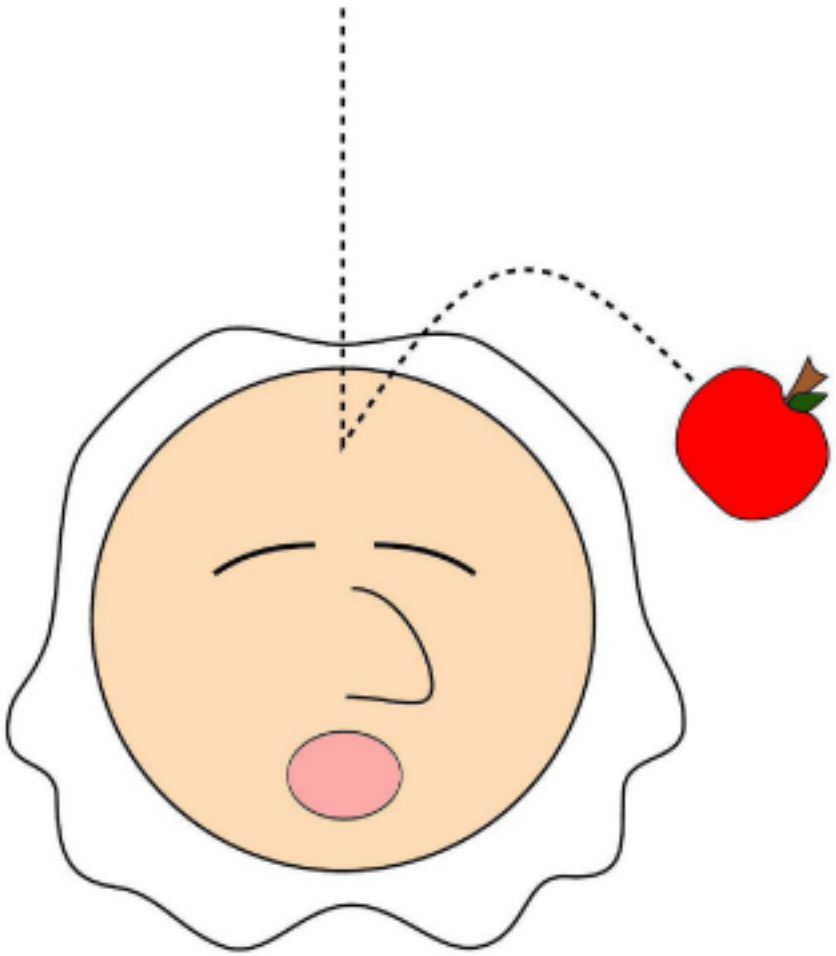


the force of gravity.

Newton's third law

3

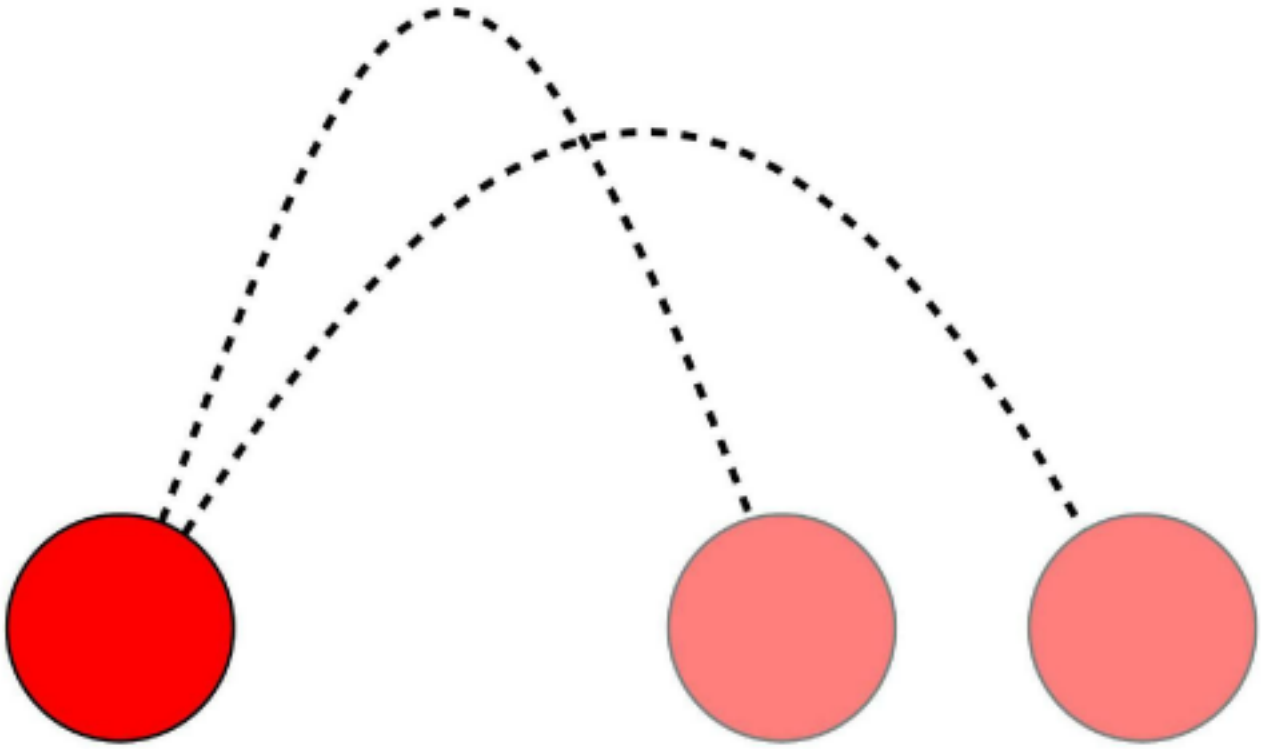
For every force, there is an equal force in the opposite direction.



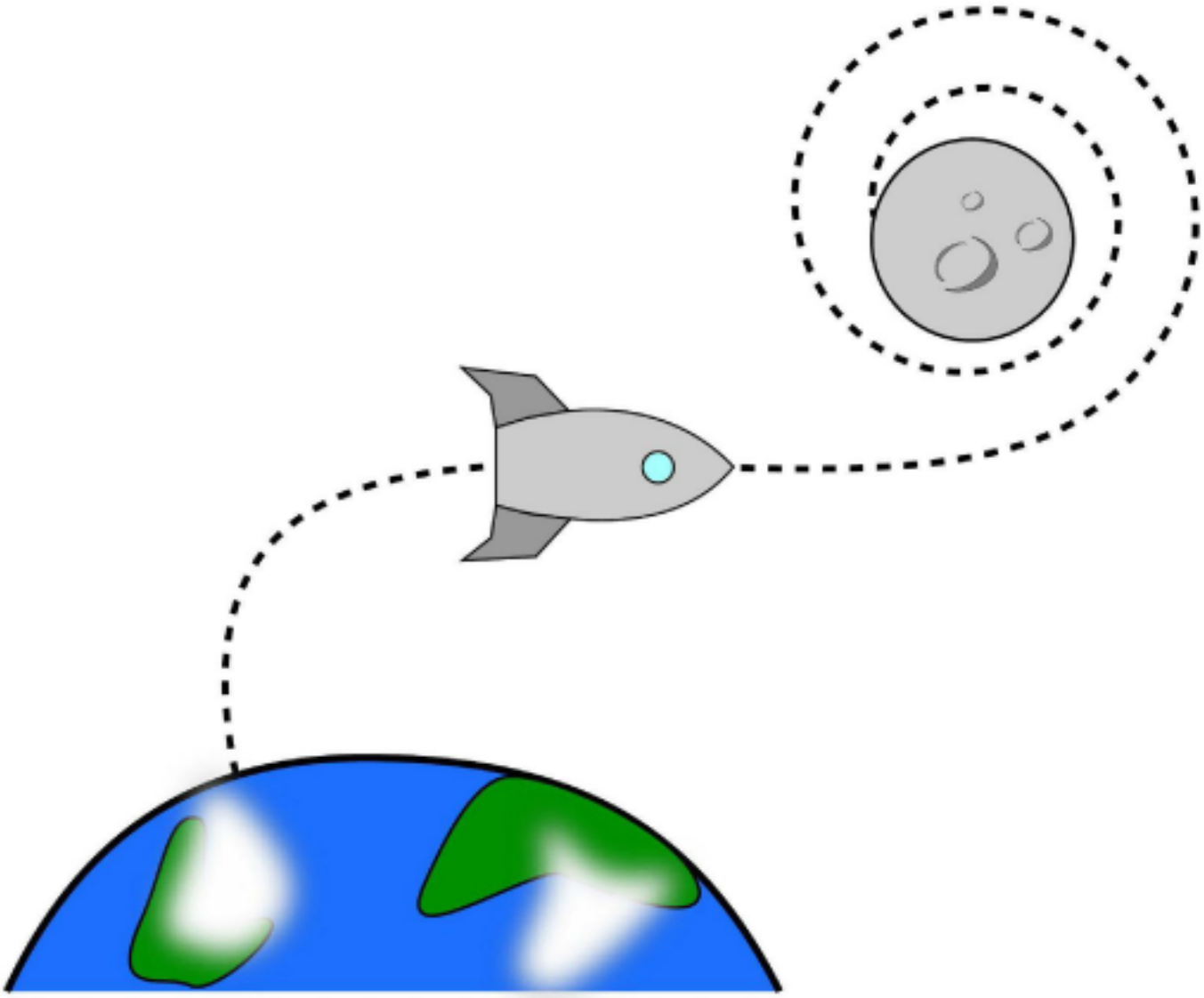
Now you know Newton's laws.

With Newton's three laws,

you can do many cool things!



You can predict where your ball will land.



Or even go to the moon.