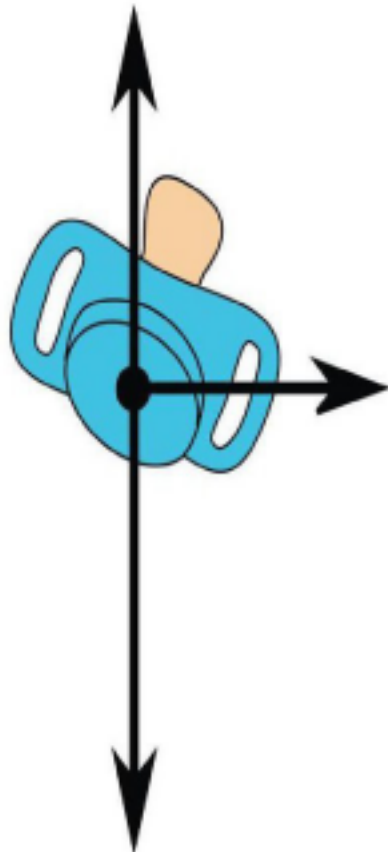


宝宝的 牛顿物理学

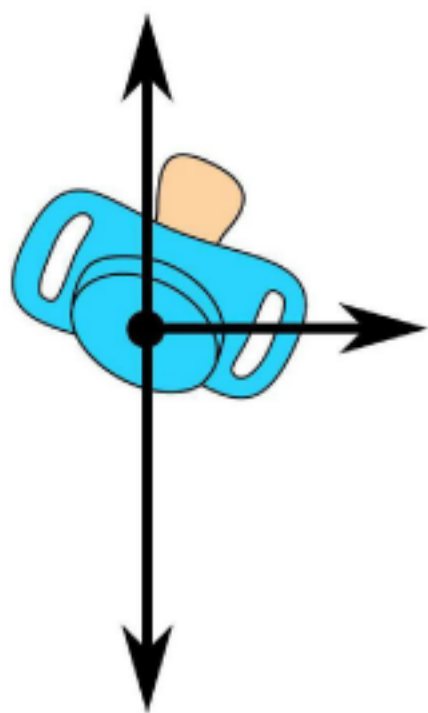
Newtonian Physics for Babies



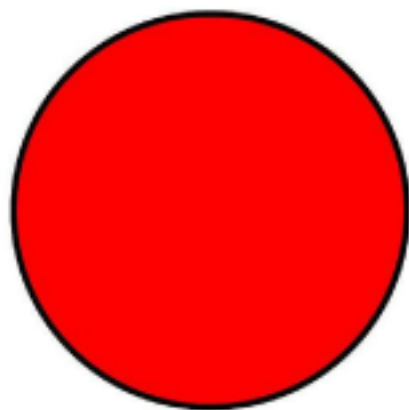
by Chris Ferrie

Edit by AD100

Newtonian Physics for Babies

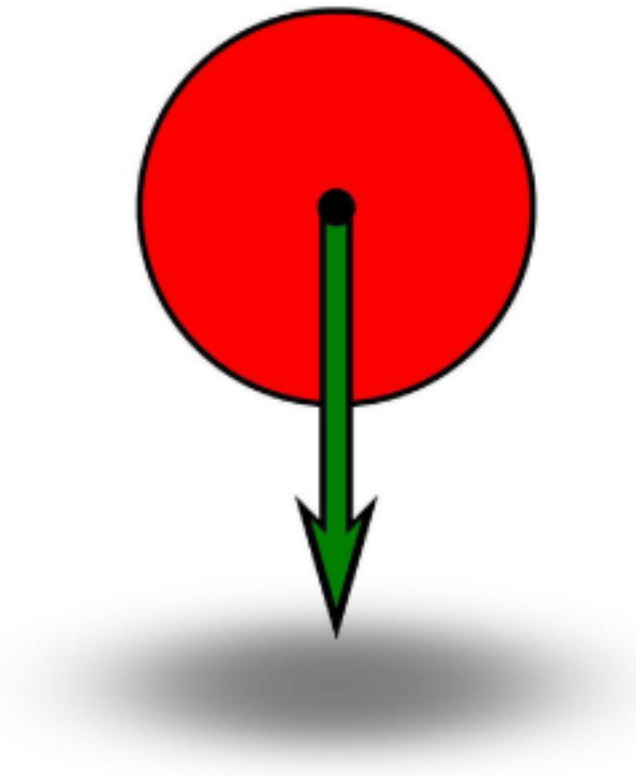


by Chris Ferrie



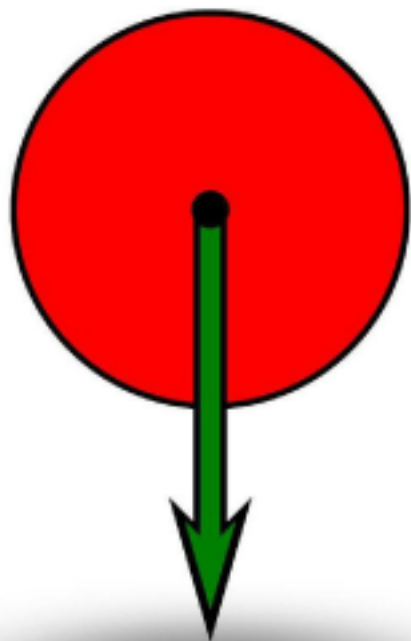
This is a ball.

这是一个球。



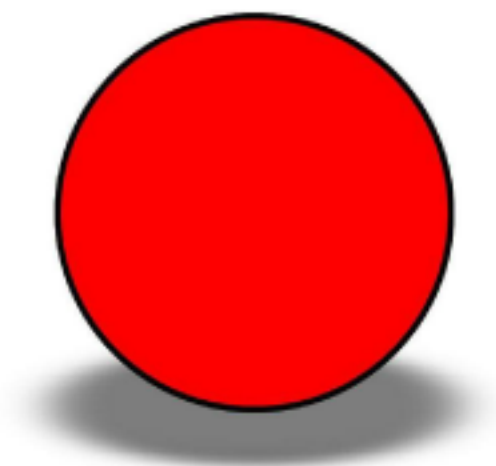
**This ball feels the
force of gravity.**

这个球感受到
地心引力。



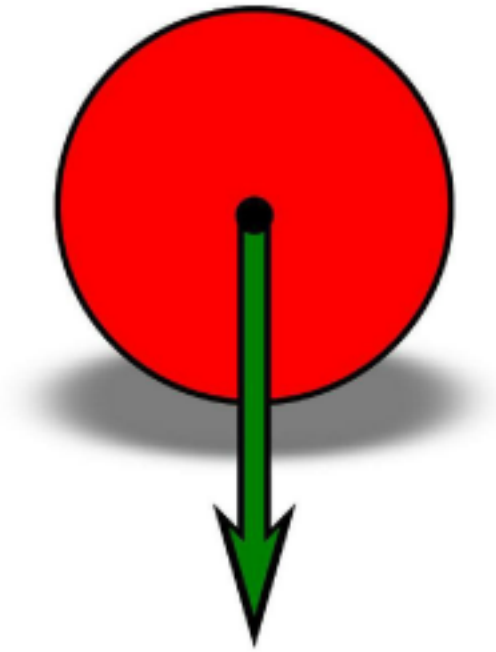
**The force of gravity
pulls the ball down.**

**地心引力
把球往下拉。**



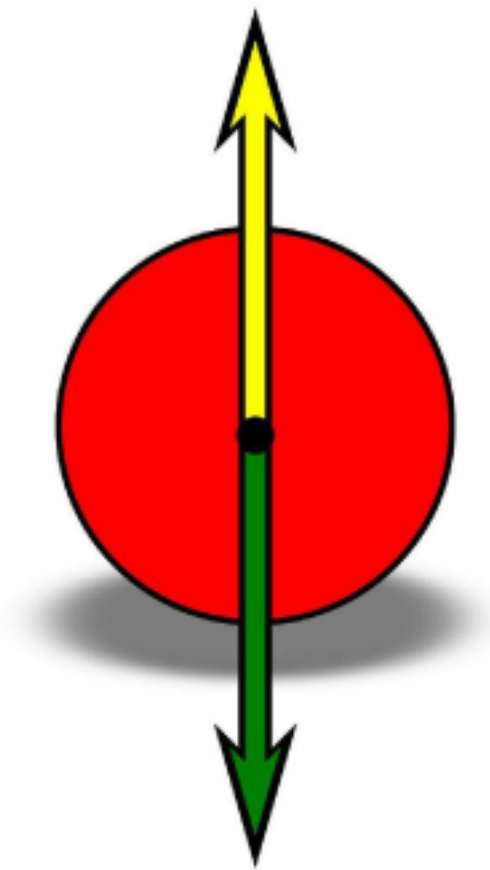
**This ball is on the
ground.**

这个球在
地面上。



**It still feels the
force of gravity.**

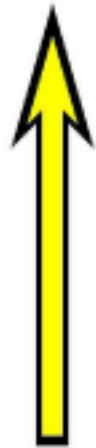
**它仍然感受到
地心引力。**



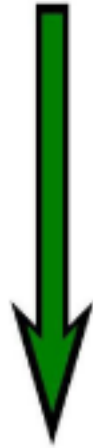
**But it also feels the
force of the ground.**

但它同时感受到
地面支持力。

The force of the ground



equals

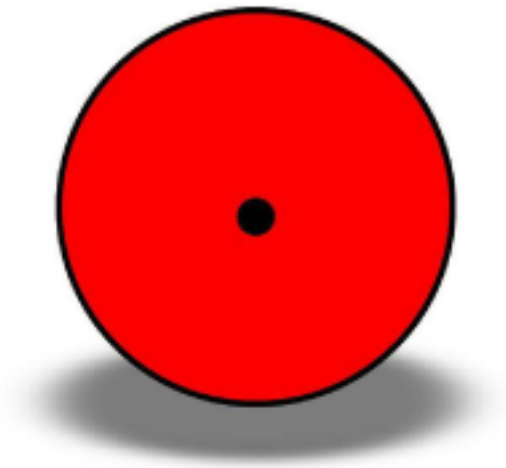


the force of gravity.

地面支持力

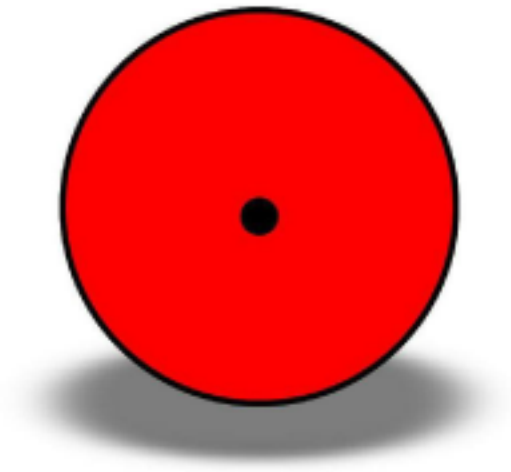
等于

地心引力



**The net force on
the ball is zero.**

在球上的
合力是零。



**It does not change
its motion.**

球没有改变
它的运动。

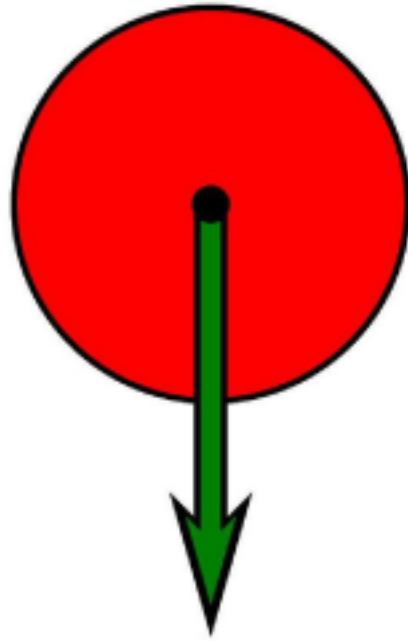
Newton's first law

1

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

牛顿第一定律

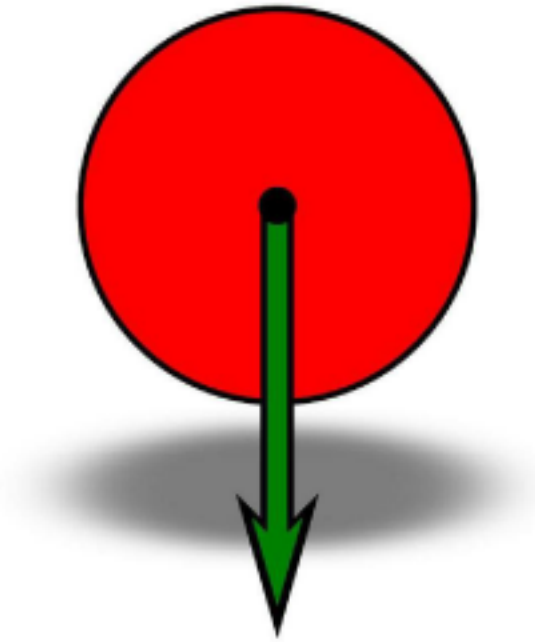
如果一个物体有零合力，
它不会改变它的运动。



**This ball does have
a net force.**

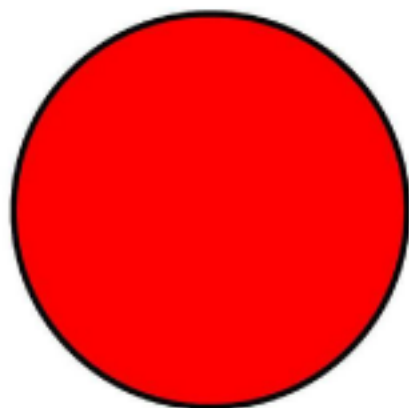
球 受到一个合力

**It does change its
motion.**



It accelerates.

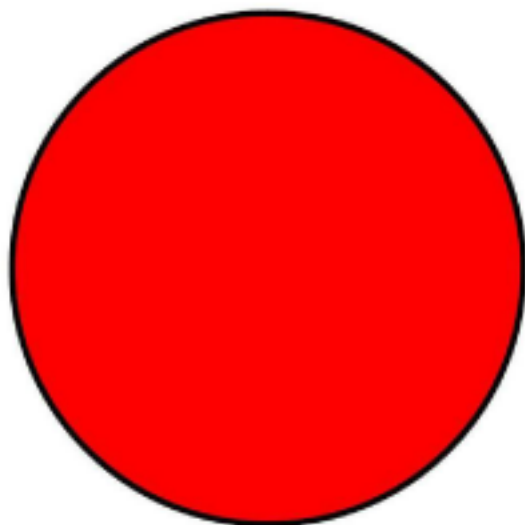
球改变它的运动，
它在加速。



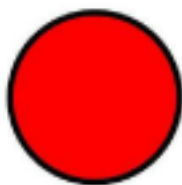
This ball has mass.

这个球有质量。

More mass.



Less mass.



质量更大。

质量更小。

Newton's second law

2

**The net force is equal to
mass times acceleration.**

牛顿第二定律
合力等于
质量乘以加速度。

Force

=

mass X acceleration

The net **force** is equal to
mass times acceleration.

力

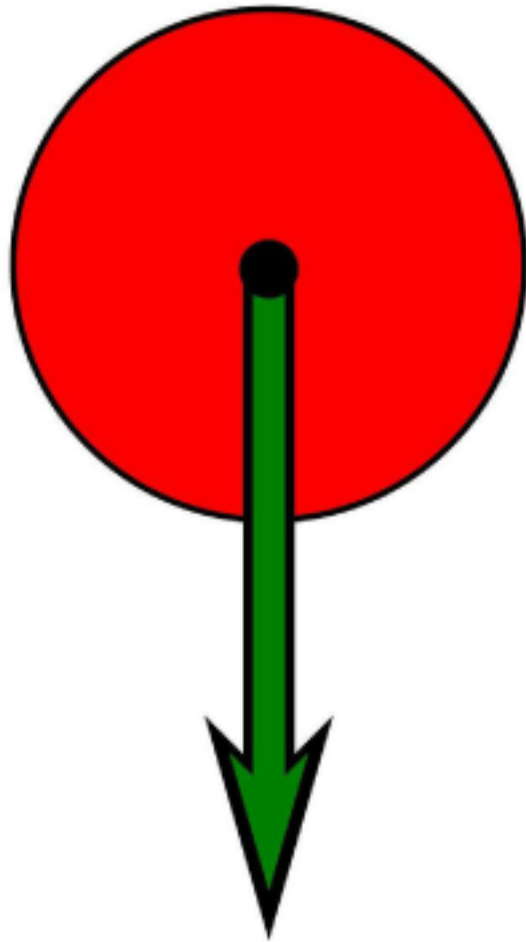
=

质量 X 加速度

合**力**等于

质量乘以加速度。

More mass,

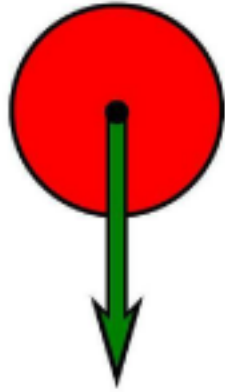


more force.

质量越大，

力越大。

Less mass,

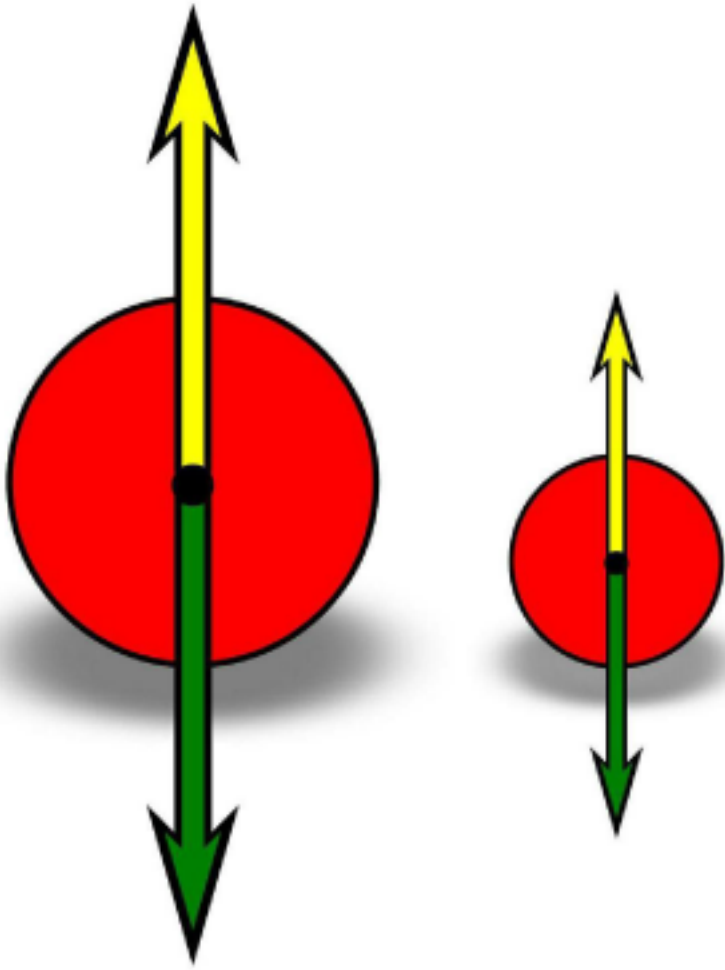


less force.

质量越小，

力越小。

**The force of the
ground
always
equals**



the force of gravity.

地面支持力
始终等于
地心引力

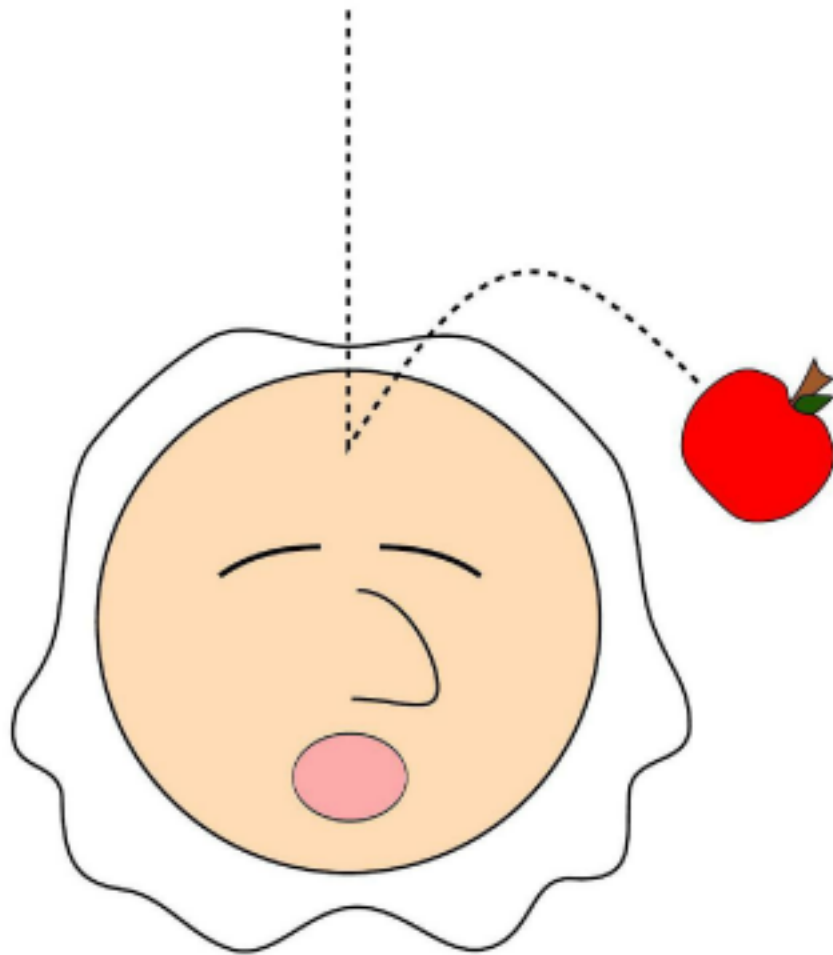
Newton's third law

3

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

牛顿第三定律

对于任何一个力，总存在一个大小相等方向相反的力。



**Now you know
Newton's laws.**

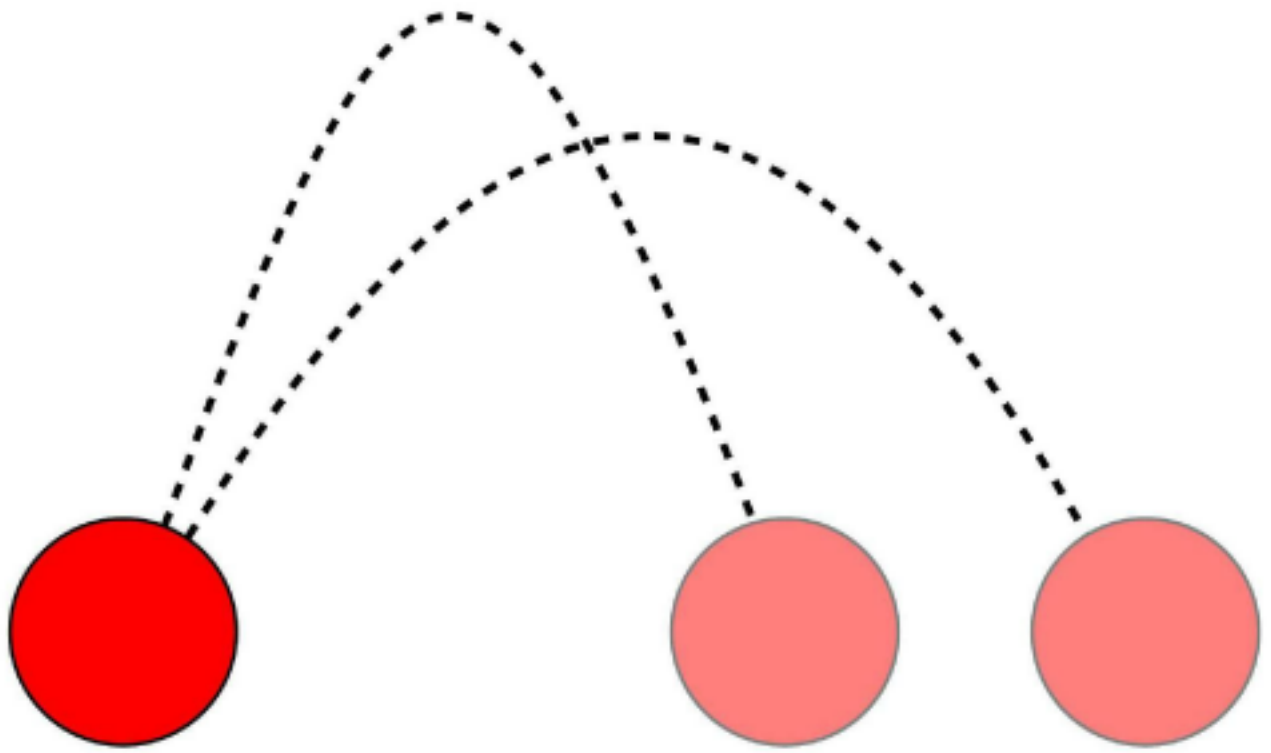
现在你已经知道
牛顿定律。

**With Newton's
three laws,**

1 2 3

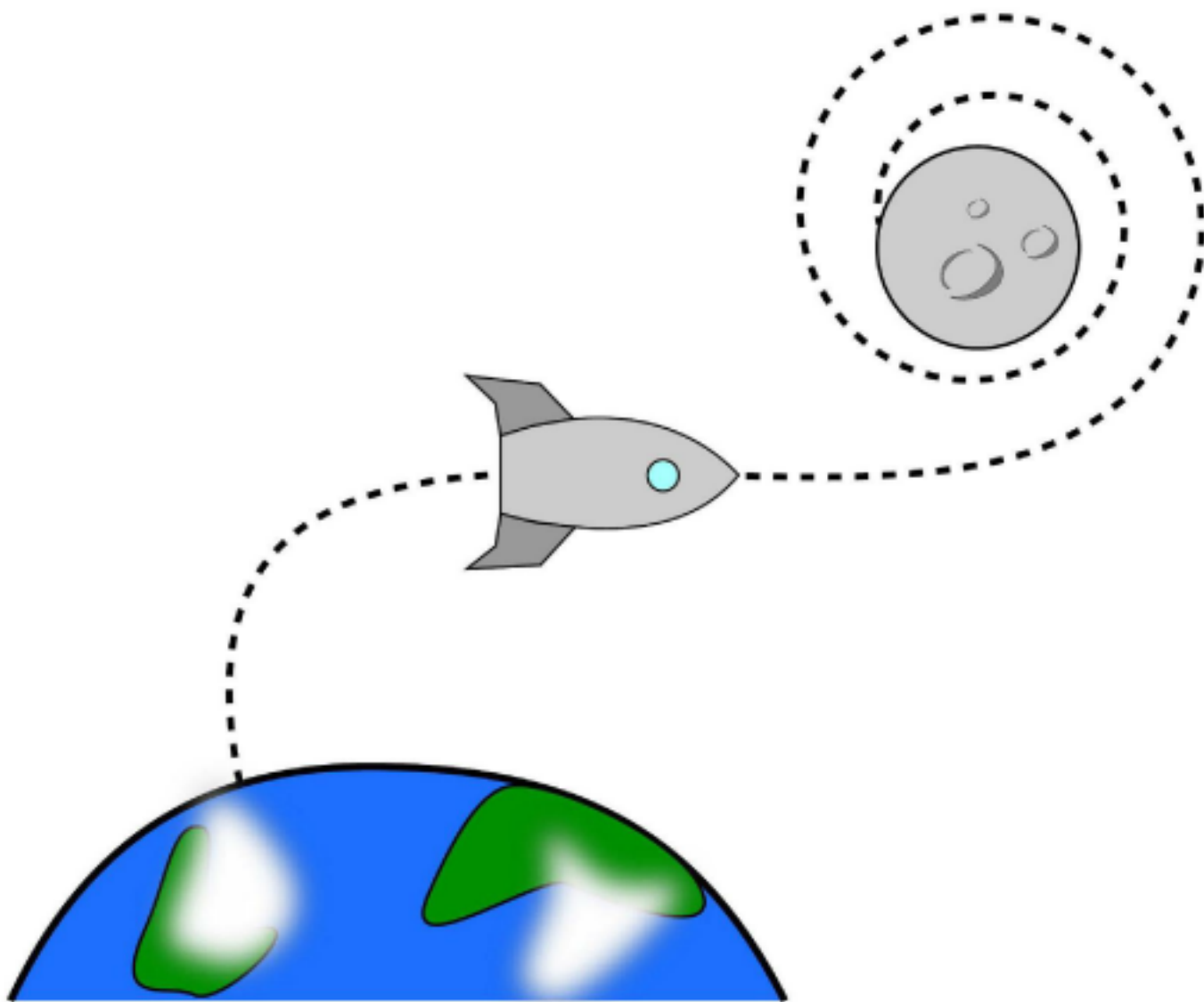
**you can do many
cool things!**

**运用牛顿三大定律，
你能做许多很酷的
事情！**



**You can predict where
your ball will land.**

**你能预测你的球会
在哪里落地。**



**Or even go to
the moon.**

或者甚至能预测
如何去月球。