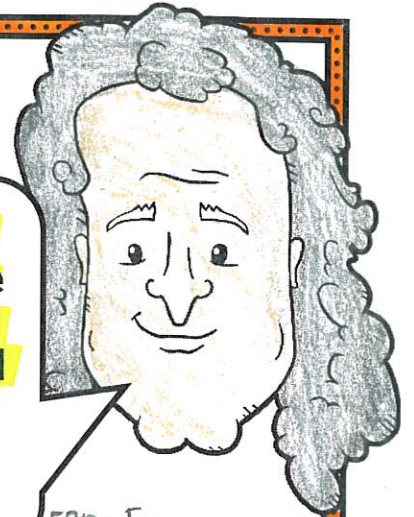
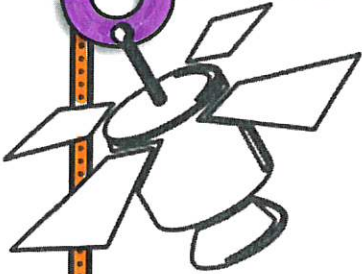


# Newton's 3rd Law



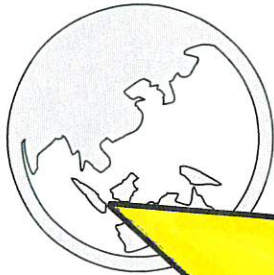
**For every action force there exists an equal and opposite reaction force.**



Identify the action and reaction forces involved when the Earth pulls a satellite towards it.

FBD: Free Body Diagram

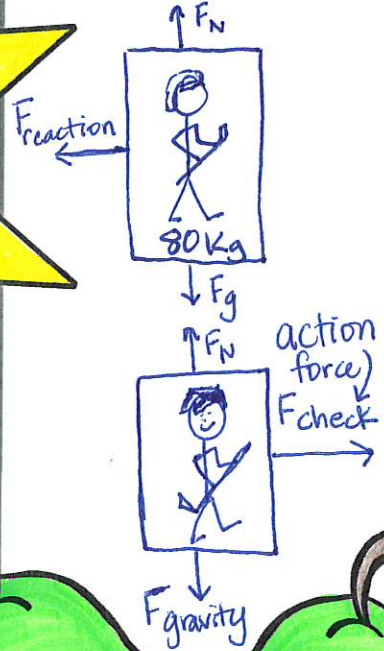
**action:**  
Earth pulls on the satellite



**reaction:**  
The satellite pulls on Earth. \* Earth does not accelerate as much due to its large mass

**Forces ALWAYS come in pairs!**

An 80-kg hockey player checks a 65-kg hockey player on frictionless ice. Draw the FBD for both hockey players.



Use The Law of Force Pairs to explain how a car accelerates.

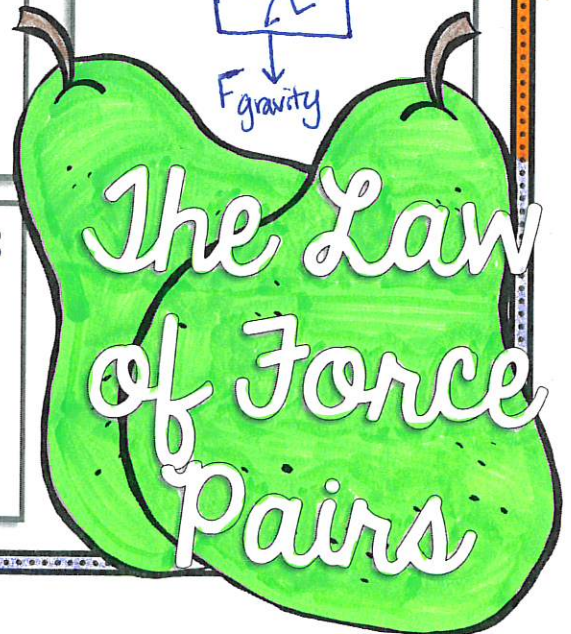
The cars tires grip the road and push the road "backwards". The reaction force moves the car forward; the road pushes the car forward.



## TRUE OR FALSE:

When a bug hits a car's windshield it splats because the force of the car on the bug is greater than the force of the bug hitting the car.

False - the forces are equal but the bug's tiny mass results in a huge deceleration.



Name: \_\_\_\_\_