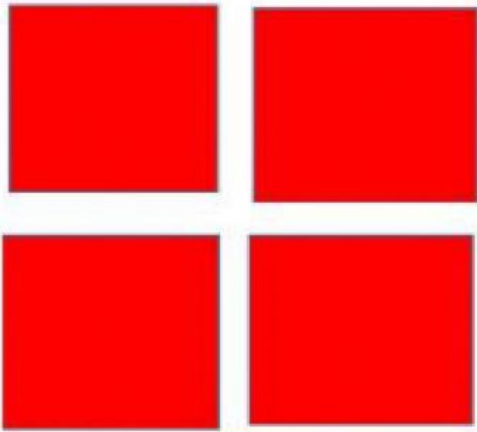


## Force and motion

Identify the force applied in each picture. Is it a push or a pull? Drag your answer to the correct box.

# push












# pull

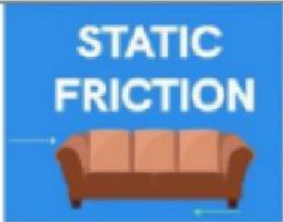





<b>Vocabulary</b>	<b>Meaning</b>
<b>Force</b>	
<b>Interaction</b>	
<b>Acceleration</b>	
<b>Deformation</b>	
<b>Gravity</b>	
<b>Friction</b>	
<b>Static friction</b>	
<b>Sliding friction</b>	
<b>Rolling friction</b>	
<b>Fluid friction</b>	
<b>Tension</b>	

$$\text{Weight (N)} = \text{Mass (kg)} \times \text{Acceleration due to gravity (m/s}^2\text{)}$$

$$W = mg$$

<p>1.) Calculate the weight of this lunchbox if its mass is 1.2 kg.</p>  <input type="text"/>	<p>2.) Jenny experiences an average downward force of 441 N anywhere she goes on Earth. Calculate her mass.</p>  <input type="text"/>	<p>3.) Calculate the acceleration due to gravity on the planet where this 80 kg astronaut weighs only 304 N.</p>  <input type="text"/>
<p>4.) This bird has a mass of 0.8 kg. Calculate the weight of the bird acting downward as it flies.</p>  <input type="text"/>	<p>5.) Joe is carrying a load of building supplies and likely injuring his back by supporting 882 N of weight. Calculate the mass of what he is carrying.</p>  <input type="text"/>	<p>6.) This armed rover weighs 1900 N and has a mass of 340 kg. What is the acceleration due to gravity on its current planet?</p>  <input type="text"/>
<p>7.) This feather experiences 0.075 N of downward force. Assuming it is on earth, what is its mass?</p>  <input type="text"/>	<p>8.) Java the alien has a mass of 50 kg. How much would he weigh on earth?</p>  <input type="text"/>	<p>9.) This 200 kg stag that weighs 1,960 N on earth would only weigh 324 N on the moon. Calculate the moon's acceleration due to gravity.</p>  <input type="text"/>

Examples	Type of Friction	Characteristics	Illustration
<div></div> <div></div> <div></div>	Static	Frictional Force causing object(s) to stay at rest. No Movement	
<div></div> <div></div> <div></div>	Sliding	Frictional Force between two objects causing the object(s) to slide pass each other.	
<div></div> <div></div> <div></div>	Drag Force	Frictional Force between an object and a fluid.	
<div></div> <div></div> <div></div>	Rolling	Frictional Force between two objects causing the object(s) to roll.	

**c**