GRAVITY (aka weight)	
Abbreviation	F_g
Description	Force that planet exerts on all objects near it.
Is contact required?	NO
Direction	Down, towards center of planet.
How do you find it?	$F_g = 9.8 \frac{N}{kg} m$ where m is mass of object. The earth's gravitational field strength is 9.80 N/kg; other planets have different values.
Is it reactive? If so, tell about the maximum value.	No

Tension	
Abbreviation	F_T
Description	A cable or rope is attached to the object and pulled upon.
Is contact required?	yes
Direction	Direction of the cable or rope, away from object.
How do you find it?	No formula. 'Job' is usually to support an object in the air or pull it along a surface. *Given, or Found ΣF statements...*
Is it reactive? If so, tell about the maximum value.	Sort of ; If rope breaks, this force suddenly becomes 0: object falls or slides down ramp... depends what the tension's 'job' was.

Normal Force	
Abbreviation	F_N
Description	Often a support force. Always, a surface prevents an object from passing through.
Is contact required?	yes
Direction	Perpendicular to the surface, towards the object
How do you find it?	No formula. As big as needed to do its **job**: *keeping the object from passing through the surface.* Always found using ΣF statements
Is it reactive? If so, tell about the maximum value.	Yes; If the normal force needed exceeds what is possible, object will break the surface and pass through.

Kinetic Friction	
Abbreviation	F_{kf}
Description	Opposes motion of an object that is sliding on a surface.
Is contact required?	yes
Direction	Opposite the direction of motion, along the interface between the object and the surface it is sliding on.
How do you find it?	$F_{kf} = \mu_k F_N$ μ_k : coefficient of kinetic friction
Is it reactive? If so, tell about the maximum value.	No

Static friction	
Abbreviation	F_{sf}
Description	Prevents an object from sliding across a surface, when other force(s) try to make it slide.
Is contact required?	Yes
Direction	As needed to prevent motion.
How do you find it?	No formula! Size is as needed to do its **job**: *prevent motion. ALWAYS found with ΣF statements...*
Is it reactive? If so, tell about the maximum value.	Yes Max *possible* value is $F_{sf\ max} = \mu_s F_N$ (μ_s is the coefficient of static friction.) If the F_{sf} NEEDED to prevent motion is above $F_{sf\ max}$,. the object slides and F_{kf} takes over

Air Resistance	
Abbreviation	F_{AR}
Description	Friction-like force between an object moving through the air around it.
Is contact required?	Yes (with the air)
Direction	Opposite the direction of motion.
How do you find it?	Super complex formula. Usually so small we ignore this force. It gets big at high speeds and for objects with big surface areas.
Is it reactive? If so, tell about the maximum value.	No

Spring Force	
Abbreviation	F_s
Description	Spring is attached to the object and either stretched or compressed
Is contact required?	Yes
Direction	Along the 'axis' of the spring.
How do you find it?	$F_s = k\,\Delta l$ Here k is spring constant, specific to that spring, Δl is the change in length; (stretch or compression distance).
Is it reactive? If so, tell about the maximum value.	No

Applied Force	
Abbreviation	F_{ap}
Description	Catch-all when force is applied
Is contact required?	Yes
Direction	given
How do you find it?	given
Is it reactive? If so, tell about the maximum value.	No