

# Balanced vs unbalanced forces physics

## classroom answers

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#### **What is the difference between a balanced and unbalanced force answer?**

Balanced forces are forces of equal magnitude but are opposite in direction. Objects acted upon by balanced forces remain at rest or stay in motion at a constant speed. Unbalanced forces, on the other hand, are not equal in magnitude and may or may not be directed in the same direction.

#### **How to explain whether forces on an object are balanced or unbalanced?**

Forces can be balanced or unbalanced. When forces are balanced, the object's motion will not change, meaning if it is stationary it will remain stationary and if it is moving it will continue at the same speed. When the forces are unbalanced, the object's motion will change, making it speed up, accelerate, or slow down, decelerate.

**Which law has to do with balanced and unbalanced forces?** If an object is already moving, unbalanced forces cause its velocity to change. According to Newton's first law, the motion of an object will not change if balanced forces act on it. The tendency of an object to resist a change in its motion is called inertia (inertia).

**How to tell if a force diagram is balanced or unbalanced?** One can determine if the forces are balanced by looking at the arrow size. Equal length arrows in opposite directions mean that the forces are balanced. Such situations are consistent with constant speed. Unequal-length arrows in opposite directions mean the forces are unbalanced and the object will accelerate.

**What are 5 examples of unbalanced forces?**

**What is the difference between balanced and unbalanced forces 5th grade?**

When balanced forces act on an object at rest, the object will not move. If you push against a wall, the wall pushes back with an equal but opposite force. Neither you nor the wall will move. Forces that cause a change in the motion of an object are unbalanced forces.

**What are three things that unbalanced forces can cause an object to do?**

Students understand that unbalanced forces affect motion of objects by causing them to accelerate, decelerate or change direction.

**Which is an example of balanced forces acting on an object?** A soccer ball at rest on the ground is acted upon by the downward gravitational force and the upward normal force. These two forces are balanced, enabling the ball to stay at rest.

**What is the formula for balanced force?** Balanced force calculation The net force acting on the object is then zero, as given by the concept of balanced force. Hence balanced force formula will be given as:  $F_1 - F_2 = 0$ . For example, consider a book with a mass of  $m$  and a weight of  $mg$  on a table, where  $g$  is the acceleration due to gravity.

**What is Newton's first law balanced and unbalanced forces?** Newton's First Law of motion states that a body at rest will remain at rest unless acted upon by an unbalanced force. It also states that a body in motion will maintain that motion, in the same direction and with the same speed, unless acted upon by an unbalanced force.

**Which example best represents balanced forces?** Examples of Balanced Force: A game of tug of war with equally matched teams on either side is an example of balanced force. In this, the rope does not move as equal and opposite force is applied from each side. The weight of the boat is balanced by the upthrust from the water. This is another example of Balanced Force.

**Is Newton's second law balanced or unbalanced?** The presence of an unbalanced force will accelerate an object - changing its speed, its direction, or both its speed and direction. Newton's second law of motion pertains to the behavior of objects for which all existing forces are not balanced.

**How do you know if something is balanced or unbalanced?** If two individual forces are of equal magnitude and opposite direction, then the forces are said to be balanced. An object is said to be acted upon by an unbalanced force only when there is an individual force that is not being balanced by a force of equal magnitude and in the opposite direction.

**How do you tell if a reaction is balanced or unbalanced?** If each side of the equation has the same number of atoms of a given element, that element is balanced.

**What two things do all forces have?** A force is a push or a pull. A force has both strength and direction. Forces cause objects to change their motion.

**Does a car slowing down experience a balanced force?** The reverse logic is also true: if an object has a constant velocity, then the forces are balanced. And if an object is speeding up or slowing down, the forces are unbalanced.

**What state is an object in when all forces are balanced?** When forces acting on an object are balanced, it means that the net force, or the sum of all forces acting on the object, is zero. This state of equilibrium results in the object either remaining stationary or moving at a constant speed in a straight line.

**How do you examine the situation when the forces are balanced?** To determine if the forces acting upon an object are balanced or unbalanced, an analysis must first be conducted to determine what forces are acting upon the object and in what direction. If two individual forces are of equal magnitude and opposite direction, then the forces are said to be balanced.

**What are examples of unbalanced and balanced forces?** Ans: Balanced force examples: A car that continues moving at the same speed, an object floating on water, a person standing still. Unbalanced force examples: A vehicle accelerating, a fruit falling from a tree, a moving train slowing down before stopping.

**What are two differences between balanced and unbalanced equation?** Balanced chemical equations possess the same number of atoms of distinct elements in reactants as well as products. Unbalanced chemical equations possess different numbers of atoms of distinct elements in reactants as well as products.

**Do forces always result in motion?** Forces applied to an object do not always result in motion. Forces like friction act against any forces of motion. Therefore, if a force that is trying to create motion is less than the resistant forces, like friction, the object will not move.

**What are 3 examples of unbalanced forces in your everyday life?** Practically anything that moves is a result of the exertion of unbalanced forces on it. If you kick a football and it moves from one place to another, it means that the unbalanced forces are acting upon it. The ball moves from one place to another after it's kicked. This is an example of an unbalanced force.

**Why does motion change with unbalanced forces but not balanced forces?** Explanation: Unbalanced forces are the opposite of a balanced force. An unbalanced force causes a change in motion, speed, direction, or movements because of unequal force or strength that is applied to one side of an object.

**Is friction an unbalanced force?** Yes, friction can be an unbalanced force in a certain situation. Friction acts in the opposite direction of motion, slowing down or stopping the movement of an object. If the forces acting on an object are not balanced, the object will accelerate in the direction of the unbalanced force. .

**What are the situations that have an unbalanced force?**

**When unbalanced forces act on an object, they?** A force that doesn't have an equal and opposite force acting on the same object is called an unbalanced force. When the forces acting on an object are not balanced then the object's motion will change. For example, in this diagram two dogs are pulling on a toy in opposite directions.

**When an object sits at rest with an unbalanced force?** Basically, an object will "keep doing what it was doing" unless acted on by an unbalanced force. If the object was sitting still, it will remain stationary. If it was moving at a constant velocity, it will keep moving. It takes force to change the motion of an object.

**What is the difference between balanced and unbalanced fault?** A balanced fault is a fault that affects all three phases equally, such as a three-phase short circuit. An unbalanced fault is a fault that affects only one or two phases, such as a

single-phase or a phase-to-phase short circuit.

**What is the difference between a balanced and unbalanced reaction?** Balanced chemical equations possess the same number of atoms of distinct elements in reactants as well as products. Unbalanced chemical equations possess different numbers of atoms of distinct elements in reactants as well as products.

**What is the difference between imbalance and unbalance?** "imbalance" is a noun, being the state of being out of balance; "unbalance" is a verb, being the act of putting something out of balance. You can unbalance something, leaving it in a state of imbalance, but you can't imbalance it, nor can you put it into a state of unbalance.

**What is the difference between balanced and unbalanced load?** Balanced load: In a three-phase system the power factors and the phase current or line currents of the 3-phase are equal then that load is called balanced load. Unbalance load: If the three-phases have different power factors and the phase current then the load is called the unbalance load.

**What is the difference between balanced and unbalanced physics classroom?** If two individual forces are of equal magnitude and opposite direction, then the forces are said to be balanced. An object is said to be acted upon by an unbalanced force only when there is an individual force that is not being balanced by a force of equal magnitude and in the opposite direction.

**What is the main difference between balanced and unbalanced connections?** One of the major differences between these cables is that balanced audio has less risk for unwanted noise, while unbalanced audio can pick up humming or buzzing sounds in certain environments. In general, balanced audio will give you a better, stronger audio signal without any extraneous noises.

**What is the difference between balanced and unbalanced sample?** An ANOVA has a balanced design if the sample sizes are equal across all treatment combinations. Conversely, an ANOVA has an unbalanced design if the sample sizes are not equal across all treatment combinations.

**How do you tell if an equation is balanced or unbalanced?** Balanced chemical equations have the same number and type of each atom on both sides of the

equation. The coefficients in a balanced equation must be the simplest whole number ratio. Mass is always conserved in chemical reactions.

**What is the difference between balanced and unbalanced dipoles?** A balanced antenna has symmetry about the feed point, for example a dipole. A balanced feed system has two conductors carrying equal but opposite voltages. This would be twin-wire ladder-line, window line or similar. An unbalanced feed usually has one conductor grounded.

**What is an example of an unbalanced equation?** In an unbalanced equation, there are unequal numbers of each type of atom on the reactant side compared with the product side. Example: Reaction of hydrogen with oxygen to form water.  $\text{H}_2 (\text{g}) + \text{O}_2 (\text{g}) \rightarrow \text{H}_2\text{O} (\text{l})$  Water.

**What is an example of balanced and unbalanced?** Ans: Balanced force examples: A car that continues moving at the same speed, an object floating on water, a person standing still. Unbalanced force examples: A vehicle accelerating, a fruit falling from a tree, a moving train slowing down before stopping.

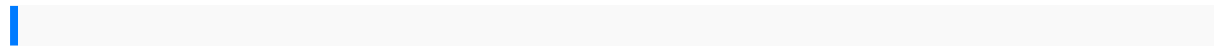
**What happens if three-phase power is unbalanced?** An unbalanced three-phase system can cause three-phase motors and other three-phase loads to experience poor performance or premature failure because of the following: Mechanical stresses in motors due to lower than normal torque output. Higher than normal current in motors and three-phase rectifiers.

**What is an example of imbalance?** An imbalance occurs when you have too much of some things and too little of others. If you put so much pepper in your soup that you can't taste the other spices, then you caused an imbalance in your flavoring. It's easy to remember the meaning of imbalance when you break the word into parts.

**What is the difference between balanced and unbalanced forces 3rd grade?**

**What is the difference between balanced and unbalanced Class 9?** - Balanced forces have equal and opposite forces acting on an object, so the forces cancel out and there is no change in motion. - Unbalanced forces have unequal and opposite forces acting on an object, so the forces do not cancel out and there is a change in motion.

**Why is there no neutral in 3 phase?** A three-phase motor does not require a neutral wire because it operates on three-phase power, which provides three separate alternating currents that are 120 degrees out of phase with each other. This means that at any given moment, one of the three phases is always providing power to the motor.



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