

STEAM Tech Teams

Glossary of Terms


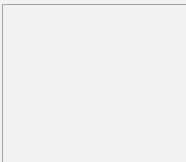
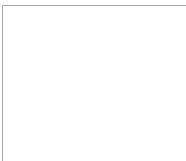
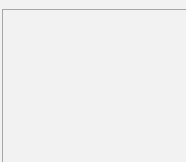
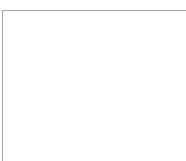
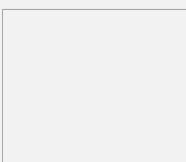
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
1	Drones
	Accelerometer
	A Micro Electro Mechanical System (MEMS) to detect and measure the change in direction of a multi-rotor drone.
	https://en.wikipedia.org/wiki/Accelerometer
43	Drones
	Alternating Current
	n. Electrical current which periodically reverses direction; often referred to as "cycles" (e.g. 60 cycle electricity).
	https://en.wikipedia.org/wiki/Alternating_current
10	Drones
	Altitude
	n. In Aviation: the vertical distance from the ground to an object.
35	Drones
	Angular Momentum
	n. A change in direction while moving.
155	Drones
	Ante Meridian
	n. Also called the "180th meridian." The longitudinal line which is 180 degrees east or west of the Prime Meridian.
	https://en.wikipedia.org/wiki/180th_meridian
18	Drones
	Atom
	n. The smallest unit of ordinary matter that has the properties of a chemical element.
	https://en.wikipedia.org/wiki/Atom

STEAM Tech Teams

Glossary of Terms

www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
41	Drones
	
	Barometer
	n. An instrument used to measure the atmospheric pressure. In drones, a barometer is often used as one method to measure altitude.
	https://en.wikipedia.org/wiki/Barometer
50	Drones
	
	Battery Eliminator Circuit (BEC)
	n. An electronic circuit board which is capable of delivering different amounts of power to various motors from a single battery. Most modern ESC's are "BEC type."
	https://en.wikipedia.org/wiki/Battery_eliminator_circuit
30	Drones
	
	Bernoulli's Principle
	n. Bernoulli's Principle states that an increase in the speed of a fluid occurs simultaneously with a decrease in pressure, or a decrease in the fluid's potential energy.
	https://en.wikipedia.org/wiki/Bernoulli%27s_principle
34	Drones
	
	Capacitance
	n. The ability of an electrical system to store an electric charge at a certain voltage; usually measured in "farads."
	https://en.wikipedia.org/wiki/Capacitance
253	Drones
	
	Capacitance, Measurement of
	n. Capacitance can be used in multi-rotor drone sensors, such as the accelerometer. See how capacitance changes when sensor plates move closer or farther away from one another, the surface area between the plates increases or different materials are located between the capacitor plates.
	https://www.youtube.com/watch?v=f_MZNsEqyQw&t=97s
7	Drones
	
	Center of Gravity
	n. In Aviation: the point over which the aircraft would balance.
	https://en.wikipedia.org/wiki/Center_of_gravity_of_an_aircraft

STEAM Tech Teams

Glossary of Terms


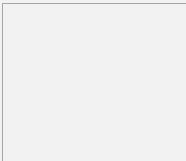
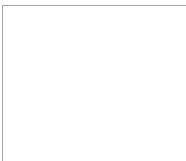
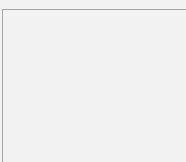
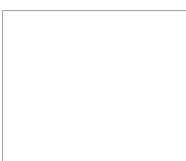
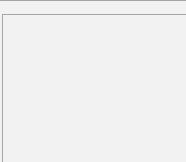
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link		
54	Drones	Commutator	<p>n. The moving part of a rotary electrical switch. A commutator is used in a "brushed" motor to time the switching of the direction of electricity flow in a rotating motor.</p> <p>https://en.wikipedia.org/wiki/Commutator_(electric)</p>
8	Drones	Controller	<p>n. With multi-rotor drones; a controller is the device that sends the multi-rotor drone signals to control it in flight,</p>
38	Drones	Coriolis Force	<p>n. An inertial force that acts on objects that are in motion relative to a rotating frame of reference. Often referred to as the "fictitious force."</p> <p>https://en.wikipedia.org/wiki/Coriolis_force</p>
56	Drones	Cosine Function	<p>n. A trigonometric function of an angle. The cosine of an acute angle of a right triangle is the ratio of the length of the adjacent side to the acute angle to the length of the longest side in the triangle (the hypotenuse).</p> <p>https://en.wikipedia.org/wiki/Trigonometric_functions_-_cosine</p>
2	Drones	Degrees of Freedom	<p>Each of a number of independent variable factors affecting the range of states in which a system may exist. For example, in Physics a direction in which independent motion may occur. In Chemistry, each of a number of independent factors in which a chemical system can be in equilibrium.</p>
42	Drones	Direct Current	<p>n. The unidirectional flow of electrical charge. This compares to "alternating current" where electrical charge moves backward-and-forward along a wire.</p> <p>https://en.wikipedia.org/wiki/Direct_current</p>

STEAM Tech Teams

Glossary of Terms


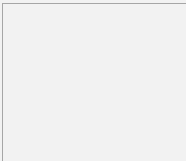
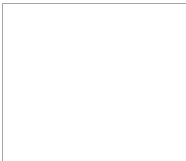
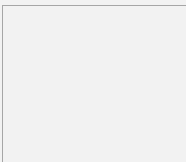
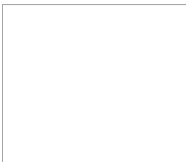
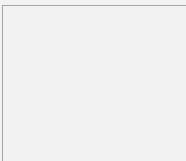
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
13	Drones
	
	Drag
	n. A fluid (like air) flowing past an object exerts a force upon it. Drag is the component of surface force that is parallel to the flow direction.
	https://en.wikipedia.org/wiki/Drag_(physics)
27	Drones
	
	Eastern Hemisphere
	n. that half of the Earth's sphere which is east of the Prime Meridian and west of the 180 degree latitude (Ante Meridian).
167	Drones
	
	Electrical
	adj. The set of physical phenomena that is associated with the presence and flow of an electron-based charge.
	https://en.wikipedia.org/wiki/Electricity
251	Drones
	
	Electrolysis (of water)
	n. Decomposition of the water molecule (H ₂ O) in hydrogen (H ₂) and oxygen (O ₂) due to an electric current being passed through the water.
	https://en.wikipedia.org/wiki/Electrolysis_of_water
249	Drones
	
	Electromotive Force (EMF)
	n. The voltage developed by any source of electrical energy such as a battery or a dynamo. EMF can be denoted as "E" and is measure in volts.
	https://en.wikipedia.org/wiki/Electromotive_force
36	Drones
	
	Electron
	n. A sub-atomic particle bearing negative charge that participates in covalent bonds between atoms. For drones, moving electrons produce electricity and "electromotive force."
	https://en.wikipedia.org/wiki/Electron

STEAM Tech Teams

Glossary of Terms


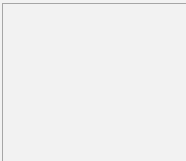
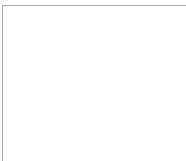
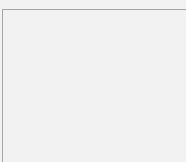
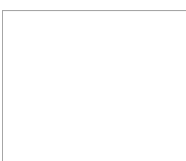
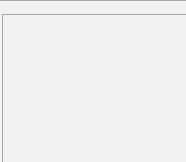
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
37	Drones
	
	Electron Hole
	n. The absence of an electron in a position where it could otherwise exist.
	https://en.wikipedia.org/wiki/Electron_hole
49	Drones
	
	Electronic Speed Controller (ESC)
	n. An electronic circuit (or circuit board) with the purpose of controlling the speed of electric motors. An ESC is used to rapidly alter the direction and rate of the spin of the motors and their propellers of multi-rotor drones.
	https://en.wikipedia.org/wiki/Electronic_speed_control
160	Drones
	
	Enthalpy
	n. Measurement of the energy in a thermodynamic system. Not to be confused with "entropy."
	https://en.wikipedia.org/wiki/Enthalpy
159	Drones
	
	Entropy
	n. The statistical state of the atoms or molecules in a thermodynamic system. Not to be confused with "enthalpy."
	https://en.wikipedia.org/wiki/Entropy_(classical_thermodynamics)_-Definition
29	Drones
	
	Geosynchronous Orbit
	n. The orbit of a satellite with an orbital period which exactly matches the rotation of the Earth. Also referred to as a "GSO."
	https://en.wikipedia.org/wiki/Geosynchronous_orbit
22	Drones
	
	Global Positioning System (GPS)
	n. A global navigation satellite system that provides geolocation and the precise time of its signal to a GPS receiver in all weather conditions. Also know as Navstar GPS, Navstar or GNSS.
	https://en.wikipedia.org/wiki/Global_Positioning_System

STEAM Tech Teams

Glossary of Terms


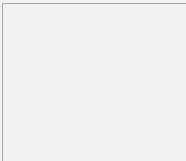
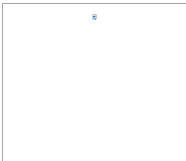
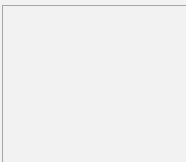
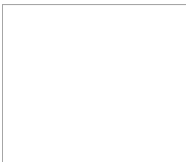
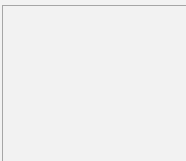
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
39	Drones
	
	Gyroscope
	n. A device used to measure a change in angular momentum.
	https://en.wikipedia.org/wiki/Gyroscope
48	Drones
	
	Hall Effect
	n. Production of a voltage potential difference across an electrical conductor, transverse to an electric current.
	https://en.wikipedia.org/wiki/Hall_effect
23	Drones
	
	Hemisphere
	Half of a sphere. Also, half of the sphere of Earth.
59	Drones
	
	Hover
	v. To maintain a constant altitude.
161	Drones
	
	Inertia
	n. The resistance of any physical object to a change in its state of motion.
	https://en.wikipedia.org/wiki/Inertia
52	Drones
	
	Inrunner
	adj. A type of brushless motor where the magnets are on the inside of the windings. The "inrunner" design is more efficient for rotational speed at the expense of torque.
	https://en.wikipedia.org/wiki/Inrunner

STEAM Tech Teams

Glossary of Terms


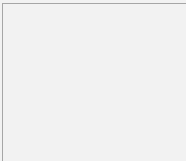
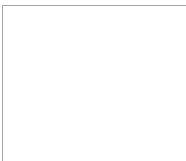
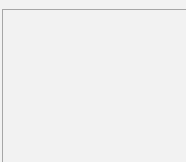
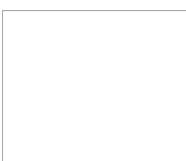
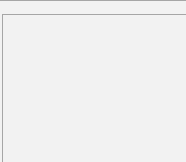
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
53	Drones
	
	KVR
	adj. A rating of a motor which correlates the number of revolutions per minute for each volt of potential difference applied. For example, a KVR of 2,400 means that a motor will spin at 2,400 rpm for every volt applied.
12	Drones
	
	Lift
	n. A fluid (like air) flowing past a body exerts force upon it. Lift is the component of this force which is perpendicular to the oncoming flow direction. This contrasts with "drag."
	https://en.wikipedia.org/wiki/Lift_(force)
17	Drones
	
	LiPO Battery
	n. A "Lithium Polymer Oxide" battery. This battery uses lithium oxide as a source for electrons. In the electron transfer process, a polymer barrier separates the ionic solutions for the two half-reactions in the battery.
250	Drones
	
	Litchi Flight Planning App
	n. An "app" for specifying a particular flight plan for the Phantom 3.
	https://www.youtube.com/watch?v=b9BTmy5HEHw&t=12s
169	Drones
	
	Load, Electrical
	n. An electrical component of portion of a circuit that consumes electric power.
	https://en.wikipedia.org/wiki/Electrical_load
44	Drones
	
	Magnetic Force
	n. The result of electromagnetic fields caused by moving electrons; often referred to as "Lorentz Force."
	https://en.wikipedia.org/wiki/Lorentz_force

STEAM Tech Teams

Glossary of Terms


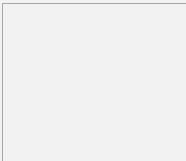
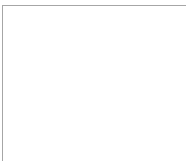
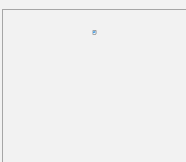
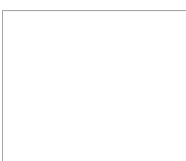
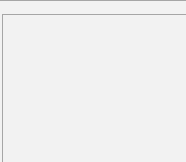
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
40	Drones
	
	Magnetometer
	n. A device used to measure direction of movement relative to a magnetic field; often the Earth's magnetic field.
	https://en.wikipedia.org/wiki/Magnetometer
31	Drones
	
	Micro Electro Mechanical Systems (MEMS)
	n. Very small machines, usually less than 100 micrometers in dimension (about the width of a human hair)
32	Drones
	
	Micrometer
	n. A measure of distance equal to one-millionth of a meter.
19	Drones
	
	Molecule
	n. A group of atoms held together by covalent bonds.
	https://en.wikipedia.org/wiki/Molecule
123	Drones
	
	Nanometer
	n. A measure of distance equal to .000000001 meter, or 10 Angstroms.
	https://en.wikipedia.org/wiki/Nanometre
33	Drones
	
	Nanometer
	n. A measure of distance equal to .000000001 meter or 10 Angstroms.

STEAM Tech Teams

Glossary of Terms


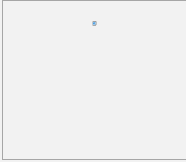
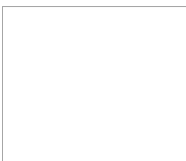
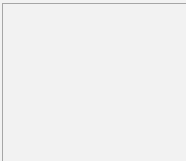
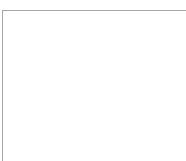
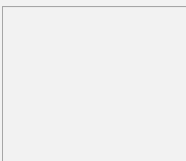
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
21	Drones
	
	Nautical Mile
	n. Exactly 1,852 meters or 6,076 feet. It equals 1 minute of latitude at the equator and at sea level.
	https://en.wikipedia.org/wiki/Nautical_mile
24	Drones
	
	Northern Hemisphere
	n. That hemisphere of the Earth that is north of the Equator.
51	Drones
	
	Outrunner
	adj. A type of brushless motor where the magnets are on the outside motor casing and rotate around and inner stator. An "outrunner" is more efficient at generating torque at the expense of rotary speed.
	https://en.wikipedia.org/wiki/Outrunner
3	Drones
	
	Pitch
	In Aviation: one of the angular degrees of freedom a vehicle can assume. "Pitch Forward" is where the aircraft nose is down. "Pitch backward" is where the aircraft nose is up.
	https://en.wikipedia.org/wiki/Pitch
28	Drones
	
	Prime Meridian
	n. The line of Longitude beginning with the North Pole and extending to the South Pole where the line of Latitude is 0 degrees. The Prime Meridian was arbitrarily established to flow through Greenwich, England.
	https://en.wikipedia.org/wiki/Prime_meridian
11	Drones
	
	Quadcopter
	n. A multi-rotor drone with four (4) propellers (also called "rotors") that produce lift.

STEAM Tech Teams

Glossary of Terms

www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE		Word/Definition/Link
45	Drones	Right-hand Rule
		n. A common method for understanding or remembering orientation conventions for vectors in 3-dimensional space. In the specific case of electromotive force generated by electric motors; if an electron travels in the direction of one's own right-hand thumb, the magnetic force it will generate is the direction of the remaining fingers on the right hand.
		https://en.wikipedia.org/wiki/Right-hand_rule
4	Drones	Roll
		In Aviation: imagine three axes intersecting at the center of gravity of an aircraft. Roll is the rotation around the axis extending from front to back of the aircraft.
		https://en.wikipedia.org/wiki/Flight_dynamics
47	Drones	Rotor
		n. The rotating part of an electric generator or motor.
		https://en.wikipedia.org/wiki/Rotor
55	Drones	Sine Function
		n. A trigonometric function of an angle. The sine of an acute angle of a right triangle is the ratio of the length of the side opposite the acute angle to the length of the longest side in the triangle (the hypotenuse).
		https://en.wikipedia.org/wiki/Sine
25	Drones	Southern Hemisphere
		n. That half of the Earth's hemisphere which is south of the equator.
46	Drones	Stator
		n. The stationary part of a rotary system found in electric generators, electric motors, sirens or biological rotors.
		https://en.wikipedia.org/wiki/Stator

STEAM Tech Teams

Glossary of Terms


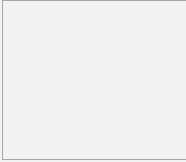
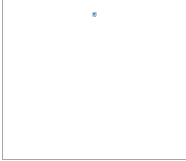
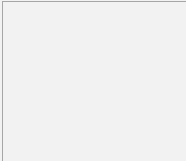

www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE		Word/Definition/Link
206	Drones	<p>Stepper Motor</p> <p>n. A brushless DC motor that divides a full rotation into a number of equal rotational steps.</p> <p>https://en.wikipedia.org/wiki/Stepper_motor</p>
9	Drones	<p>Stick</p> <p>n. In multi-rotor drone controllers; the analog input device used to create signals emitted by the controller to cause the multi-rotor drone to pitch, roll, yaw or change thrust.</p>
14	Drones	<p>Tether</p> <p>v. To tie down with a rope or chain.</p>
60	Drones	<p>Throttle</p> <p>n. The mechanism through which the speed or power of an engine is regulated.</p>
6	Drones	<p>Thrust</p> <p>n. In Aviation: the linear or reactive force exerted by a propeller or the expanding gasses in a jet engine.</p> <p>https://en.wikipedia.org/wiki/Thrust</p>
165	Drones	<p>Torque</p> <p>n. The moment of force to rotate an object.</p> <p>https://en.wikipedia.org/wiki/Torque</p>

STEAM Tech Teams

Glossary of Terms

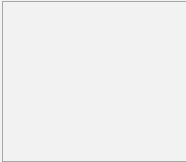
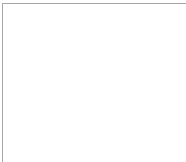
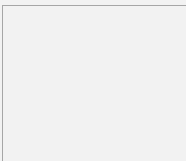
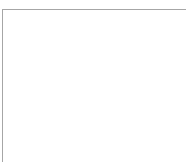
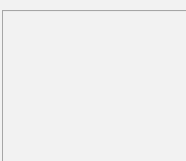
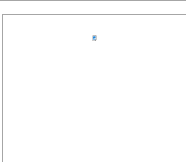
www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE		Word/Definition/Link
164	Drones	Transverse
		n. In geometry, any line that passes through another line in the same plane.
		https://en.wikipedia.org/wiki/Transversal_(geometry)
157	Drones	Triangulation
		n. In Geometry and Trigonometry, Triangulation is the process of determining the location of a point by forming triangles to it from known points.
		https://en.wikipedia.org/wiki/Triangulation
156	Drones	Trilateration
		n. The process of determining absolute or relative locations of points by measurement of distances using the geometry of circles, spheres and triangles. In trilateration, a GPS receiver can calculate its location on the face of the earth as being on a circle with a known radius with receipt of one GPS signal. The position can be further narrowed down be receipt of additional GPS signals from other satellites such that it can be narrowed down to the intersection of the corresponding circles. A location can be fixed closely with 3-4 independent GPS signals.
		https://en.wikipedia.org/wiki/Trilateration
58	Drones	UAS
		n. Unmanned Aerial System
57	Drones	UAV
		n. Unmanned Aerial Vehicle.

STEAM Tech Teams

Glossary of Terms

www.STEAMTechTeams.com/glossary-of-terms.html

ID/Type/OLE	Word/Definition/Link
162	Drones
	
	Vector
	n. Any geometric object that has magnitude (or length) and direction.
	https://en.wikipedia.org/wiki/Inertia
15	Drones
	
	Voltage
	n. An electromotive force, or potential difference. For example, a 9-volt battery has a "potential" of 9 volts to use to turn a motor. One can use a voltage tester to measure the amount of power left in a battery.
16	Drones
	
	Voltage Tester
	n. An electrical device used to measure voltage.
20	Drones
	
	Water Molecule
	n. A molecule consisting of two hydrogen atoms and one oxygen atom held together by chemical bonds.
26	Drones
	
	Western Hemisphere
	n. That part of the Earth sphere which is west of the Prime Meridian and east of the -180 degrees Latitude (Ante Meridian).
5	Drones
	
	Yaw
	In Aviation: Imagine three perpendicular axes intersecting at the "center of gravity" of an aircraft. Yaw is rotation around the vertical axis extending from the top to the bottom of the aircraft.
	https://en.wikipedia.org/wiki/Flight_dynamics