Air & Aerodynamics Glossary

* Aerodynamics : The science of moving through air.
* Air : An invisible mixture of gases which make up the Earth's atmosphere - it consists mainly of nitrogen and oxygen.
* Airfoil : A shape designed to provide lift when air flows & surrounds it.
* Air pressure : The force exerted on the surface of objects by the weight of air particles - air pressure acts from all directions and increases with increased concentration of air molecules.
* Air resistance : Resistance or friction that acts to slow down and object as it moves through air.
* Atmosphere : The mass of air which surrounds the earth.
* Barbules : Projections on barbs that link with those above and below them to keep all the barbs connected making a solid feather surface.
* Bernoulli's principle : When the speed of a fluid is low (water or air), the pressure is high. When the speed of a fluid is high the pressure is low. The faster that air moves across a surface, the lower the air pressure.
* Burning : A rapid form of oxidation in which substances combine with oxygen to form one or more oxides and plenty of heat and light, also called combustion.
* Compression : The squeezing of the particles of a gas or porous body into a smaller space.
* Contour feathers : The larger feathers that cover the body-of birds and their wings. Contour feathers include flight feathers.
* Down : Short fluffy feathers that lie underneath contour feathers. These feathers trap air and act as an insulator helping birds stay warm.
* Drag : Resistance or friction that acts to slow down an object as it moves through a gas or liquid.
* Expand : To take up more room.
* Friction : The force that resists motion of one body over or through another.
* [Glider](http://mmem.spschools.org/grade6science/Air/bruceglider2.html) : A aircraft that flies [without an engine](http://mmem.spschools.org/grade6science/Air/bruceglider3.html) - its pilot tries to find updrafts of air to gain [height](http://mmem.spschools.org/grade6science/Air/bruceglider4.html) and extend the flight.
* Gravity : A force of attraction that every mass in the universe exerts on other masses. This force increases with increase in mass of an object.
* Hovercraft : A machine that floats on a cushion a cushion of compressed air.
* Jet engine : An engine that generates a powerful thrust in a chamber where the explosion of the burning fuel pushes on the airplane in a forward direction but escapes out the back.
* Keratin : A tough flexible protein that makes up fingernails and other parts of animals including the shaft of feathers.
* Kinetic energy : Energy of motion. The faster an object moves the more kinetic energy it has.
* Lift : Upward force which acts against the force of gravity - reducing air pressure on the top side of an airfoil produces lift.
* Mass : The amount of matter in an object
* Pectoral muscles : Muscles of the chest.
* Preening : The act of rubbing preen gland oil on the feathers with the beak and zipping up the barbules again.
* Propeller : Curved blade that, when spun around quickly, forces an aircraft forward - a propeller is a twisted airfoil.
* Oxidation : Occurs when a substance combines with oxygen.
* Resistance : Drag or friction that acts to slow down an object as it moves through a gas or liquid.
* Rusting : A slow chemical reaction between iron and oxygen to form rust or iron oxide.
* Streamlining : The shaping of an object so that a gas or liquid will move easily around it.
* Thrust : The force that causes an object to move forward.
* Weight : The force with which gravity pull on an object - technically it should be expressed in Newtons but is often measured in units of mass such as grams or kilograms.