



**SYNERGISTIC
SYSTEMS**

A DIVISION OF PITSCO, INC.

PARENT BRIEFING

Module

Flight Technology

- Comprehend the basic principles of aerodynamics.
- Design and construct an airfoil.
- Observe and understand the Bernoulli principle by using a Synergistic wing testing device to produce and measure lift on an airfoil.
- Explore basic aerodynamic principles by operating a flight simulator.

Session Focus

- 1 Basic Aerodynamics, FoilSim
- 2 Wing Construction
- 3 Making Your Wing
- 4 Wing Testing
- 5 Flight Simulator
- 6 Basic Flying Maneuvers
- 7 Navigation

Dear Parent,

As parents and teachers, we realize it can be hard to get a child to discuss what he or she is learning in school. We hope the information provided on this page will assist you in communicating with your child about what he or she is learning.

For the next few days, your child will be learning about airplanes and how they fly by designing a wing and flight simulation while completing the Flight Technology module. As your child's best teacher, your participation in the learning process is extremely important.

Words students will learn in this module include:

- airfoil
- aileron
- bearing
- drag
- equilibrium
- heading
- longitude
- latitude
- Mach 2
- rudder
- wind shear

Questions for discussion

During the course of this module, your child will be assessed on key concepts and activities. You might want to discuss these concepts with your child.

He or she will be asked to:

- Identify forces acting on an airplane during flight. (*Lift is the upward force created by the effective airflow as air passes around the wing. Weight is the force that opposes lift and is caused by the pull of gravity. Thrust propels the airplane forward through the air. Drag opposes thrust.*)
- Explain why a wing rises when a fan is turned on. (*The Bernoulli principle states that as the speed of a fluid or gas increases, its internal pressure decreases. The increase of speed as the air travels over a wing causes the pressure to decrease which produces lift.*)



Instructor: _____