

Aviators



Instructor Required

1. Complete the Airplane Modeling Honor
2. Identify, with real aircraft, the five categories of aircraft and the different classes within each category.
 - a. Airplanes
 - i. single-engine, land
 - ii. multi-engine land
 - iii. single engine sea
 - iv. multi engine sea
 - b. Rotor-craft
 - i. Helicopter
 - ii. gyro plane
 - c. Glider
 - d. Powered lift
 - e. Lighter than air
 - i. Balloon
 - ii. Airship
3. Be involved in an interactive discussion that explores the following:
 - a. Bernoulli's principle and how it applies to airplanes.
 - b. The four forces of flight and how each affects the flight of an airplane.
 - c. Three types of aircraft and their uses in aviation today.
 - d. The three principal axes of an airplane. Demonstrate the type of movement the aircraft does on each axis and what controls that movement.
 - e. Different types of engines, wings, and other gear and their application/usage.
4. Correctly identify on a real plane the following exterior parts of an airplane.
 - a. Cowling or Nacelle
 - b. Propeller
 - c. Landing Gear
 - d. Wing
 - e. Flap
 - f. Right Aileron
 - g. Left Aileron
 - h. Fuselage
 - i. Empennage
 - j. Horizontal Stabilizer
 - k. Vertical Stabilizer
 - l. Elevator
 - m. Rudder
5. Correctly identify on a real plane the following parts of the interior of an airplane.
 - a. Altimeter
 - b. Attitude Indicator
 - c. Airspeed Indicator
 - d. Magnetic Compass
 - e. Heading Indicator
 - f. Turn Coordinator
 - g. Vertical Speed Indicator
 - h. Yoke
 - i. Brakes
 - j. Rudder Pedals
 - k. Throttle control
 - l. Trim Control

6. Choose three historical figures in aviation who have had an impact on aviation history. Detail their role and importance in aviation history. Some possible figures include: Leonardo da Vinci, Daniel Bernoulli, Sir George Cayley, Otto Lillienthal, Gustave Whitehead, Octave Chanute, Orville & Wilbur Wright*, Glen Hammond Curtiss, or Amelia Earhart.
7. Do one of the following:
 - a. PREFERRED: Take an intro flight in an airplane and observe the different movements made by three different control surfaces. Record your observations.
 - b. (If an intro flight is not possible) Demonstrate and explain on the ground the different movements made by three different control surfaces. You may do this demonstration on a real aircraft or in a flight simulator.
8. Do one of the following:
 - a. Interview a mission pilot or missionary who has used airplanes to help tell people about Jesus. As a result of your interview be able to:
 - i. List three ways God uses mission aviation to spread the gospel, based on the great commission of Matthew 28:18-20.
 - ii. List three ways you as a Pathfinder can help our mission pilots.
 - b. Interview a commercial full-time pilot. As a result of your interview be able to:
 - i. List three ways pilots can share Jesus within their workplace, based on the Great Commission of Matthew 28:18-20
 - ii. List three ways you as a Pathfinder can share Jesus within a non-church environment.

*The Wright brothers are one historical character.

Skill Level 2

New in 2015