Extension Aviation
Learning for ES

Make a model plane

Lone Star Flight Museum Aviation Learning Center is dedicated to inspiring student’s thorough aviation. The purpose of the activities we have accumulated in this program is to inspire curious minds to ask questions, establish experiences, and introduce the community to become involved with aviation while honoring our past.

Through the use of imagination and creative play our programs will guide the children to design their solutions when presented with challenges. The information is presented to students using various project based activities which include the simple fun of coloring and can advance up to exciting lessons with goals and objectives written for each elementary grade level. The children participate by using artistic expression, critical thinking, becoming characters, or acting out parts facilitators give them.
**The Big Idea:**
Children will learn what makes a plane fly and the parts that are used to navigate it.

**Goal:**
Students will understand what the parts of a plane are and what they do.

**Objective:**
Students will understand the importance of accuracy and attention to detail.

Students should be able to answer the following questions.

What are the main parts of a plane?
How can you control the plane?

**Materials:**
- Plane Template
- Colors
- Scissors
- Glue/Double sided tape
- Foam Tray
- Pencil
- Penny or paper clip

**Setup:**
Supply each student with a pair of scissors, foams plate (from a local grocery store), template and colors. Use either glue or double sided tape for template and foam tray. Allow for plenty of space for students to throw planes and experiment with the differences in aileron positions. Add a penny or large paper clip for ballast (weight) to the front of the nose.
Introduction:
Begin a conversation about airplanes. Ask students what they know about them and to give testimonies of personal experiences with a visit to the airport and/or an airplane ride. Request that students name some of the parts of an airplane they know. Place the diagram of the plane on the board. Using the vocabulary listed, inform students of the function each major part has and how they work.

Procedure:
Distribute students a foam try and paper plane template. Ask each them to write their name on the plane and color it. Affix the template to the foam tray. If glued allow time to dry. Cut the plane out. Make slits along the line for wings and elevator. Assemble the plane and make two final cuts along both sides of the ailerons. Give an allotted time for each person to fly their plane. Let students observe the distance and time of flight then, suggest adjustments be made to the ailerons one at a time for a difference. Ask the following questions:
**Vocabulary**

**Airplane** – transportation devices which are designed to move people and cargo from one place to another.

**Propeller** – the front part of the plane that causes thrust.

**Wings** – generate most of the lift to hold the plane in the air.

**Fuselage** – body of the airplane, holds all the pieces together.

**Rudder** – causes the plane to yaw left and right.

**Aileron** – The outboard hinged part of the wing used to roll the wings from side to side.

**Landing gear** – the wheels that let the plane roll down the runway

**Elevator** – pitches the nose of the plane up and down.

**Vertical stabilizer**– The vertical stabilizer keeps the nose of the plane from swinging from side to side, which is called yaw.

**Horizontal stabilizer** – The horizontal stabilizer prevents up–and–down, or pitching, motion of the aircraft nose.
How well did your plane fly?

How long did the plane stay in the air?

Did you need to change anything to make it fly straight?

What happened when you raised the left aileron and lowered the right?

What happened when you raised both elevators? Or lowered both elevators?