

FOAM PLATE GLIDER

Student Worksheet

Build It!

You will make gliders out of Styrofoam plates and experiment with various wing designs, nose designs, sources of weight, and flight patterns

Materials:

Styrofoam plates. Scissors. Pennies. Paper clips. Tape. Hot glue.

Instructions:

Trace the template provided below onto the foam plate.

Cut out the glider shape.

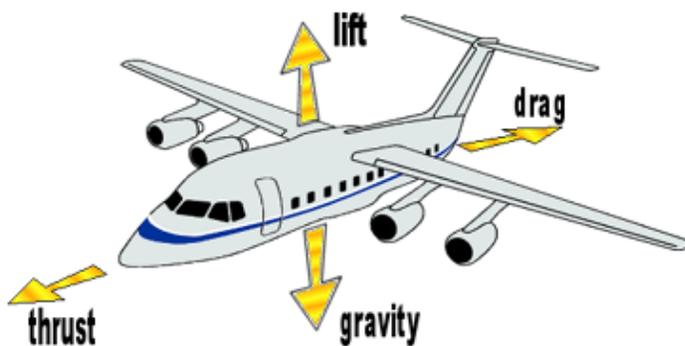
Cut off the tail and slide Slot 1 into Slot 2.

Attach a penny, or another weight to the nose.

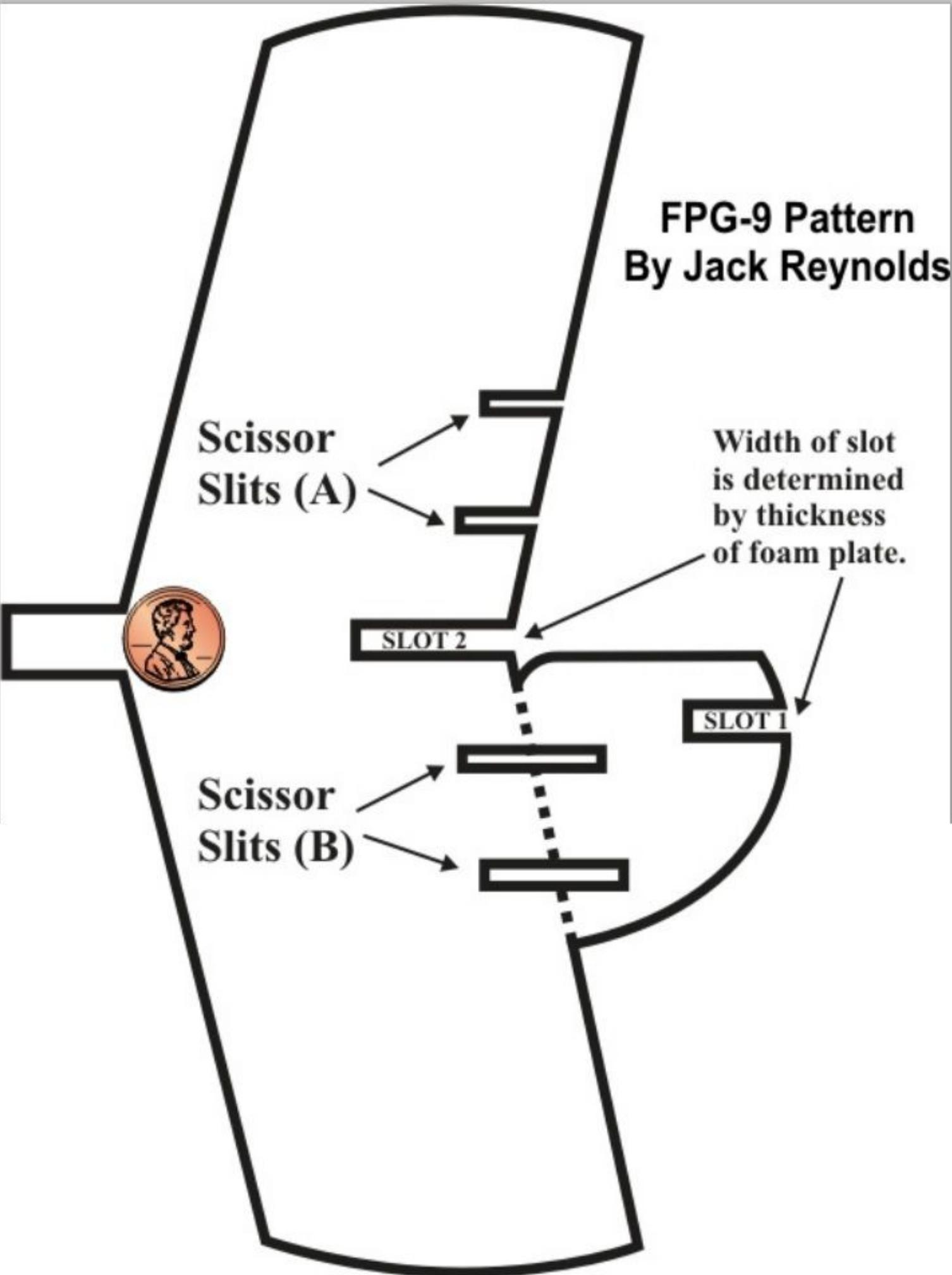
You may bend the nose over the penny, or leave it pointing out.

Think about the 4 Forces of Flight as you build and test your glider - Thrust, Drag, Lift, Gravity.

Test your glider.



FPG-9 Pattern By Jack Reynolds



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Teacher Guide

Building Ingenuity:

Students will make gliders out of Styrofoam plates and experiment with various wing designs, nose designs, sources of weight, and flight patterns

Materials:

Styrofoam plates. Scissors. Pennies. Paper clips. Tape. Hot glue.

Please be sure to share photos or videos of your students completing the activity!

Upload here: <https://www.dropbox.com/request/TvTdwFAJFUvjk1vnC6YT>

Background Information:

Tell students to think about the 4 forces of flight as they build and test their gliders - thrust, drag, lift, gravity

The first successful glider flight was in 1849 based off a glider designed by George Cayley. Soon other glider developers began to build and fly various gliders. The most successful of these inventors was Otto Lilienthal, who made over 2,000 flights with his glider designs. Eventually, the Wright Brothers used gliders to help them develop a powered flying aircraft. Over the decades, gliders have been used for military purposes, recreation,



and recovery, gliders were built by a variety of governmental and private organizations. In World War II, gliders were developed to assist in the landing of troops, and for carrying heavy equipment. NASA even developed a glider to recover the Gemini space capsules after launch. Although powered flying technologies were created at the time, creating a glider is a much cheaper and effective alternative that is still used. Today, however, gliders are mainly used for recreational purposes, typically in the form of a hang glider or paraglider. Modern gliders can move quite quickly, reaching up to 60 km/h in the right weather conditions.