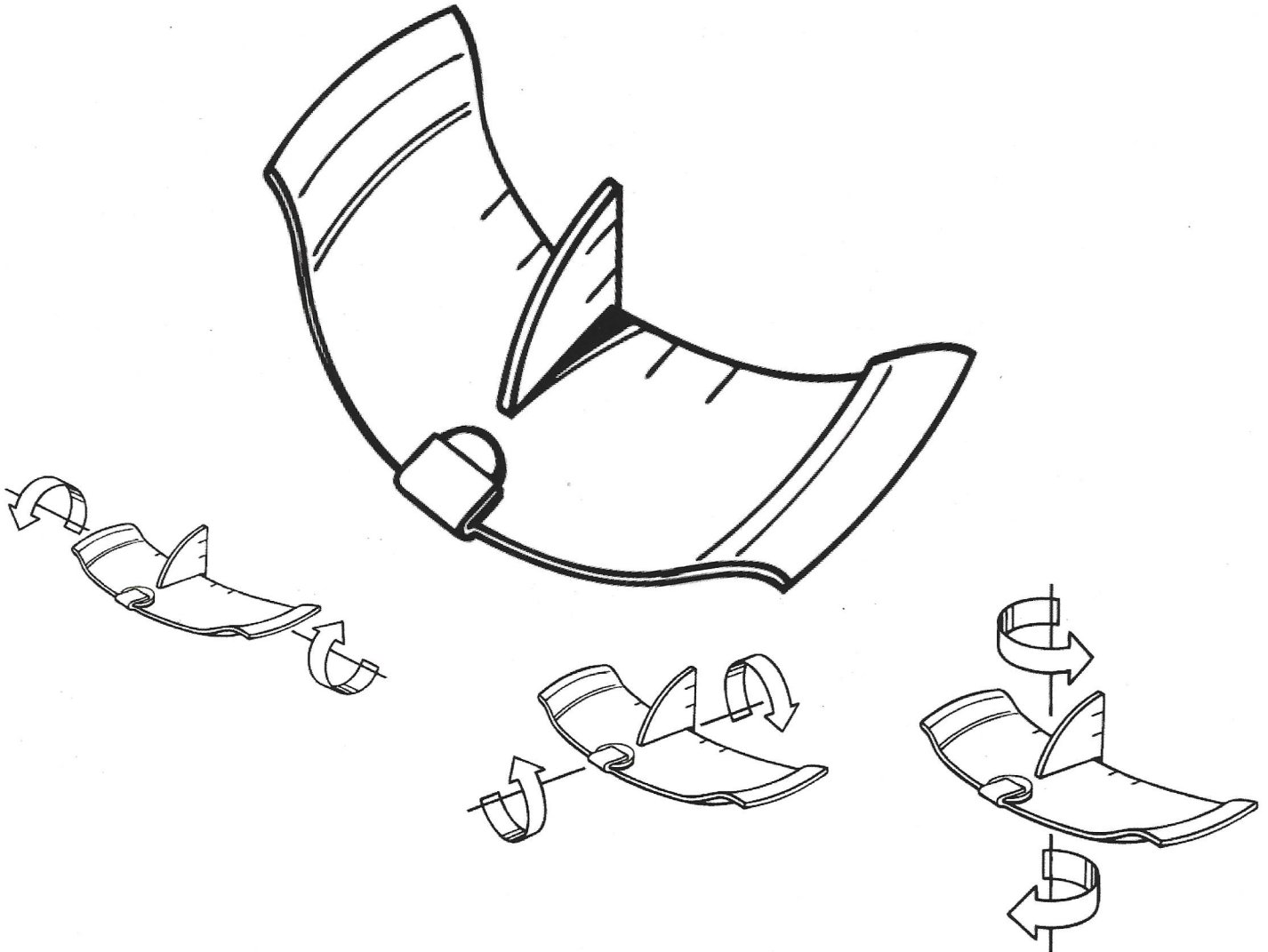


FPG-9

Foam Plate Glider 9-inch

ACTIVITY BOOK



AUTHORIZED AMA
STE(A)M PROGRAM

OFFICIAL CURRICULUM ACADEMY OF MODEL AERONAUTICS

FPG-9 ACTIVITY BOOK

BACKGROUND INFORMATION

Orville and Wilbur Wright first learned about flight when their father brought home a toy helicopter for their amusement. Orville recalled that they played with it for hours, eventually designing and modifying the original many times.

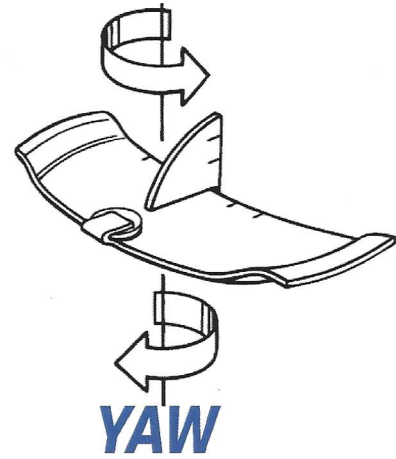
The FPG-9 takes its name from its origins: the foam picnic plate. The Foam Plate Glider is created from a 9-inch diameter plate, available in most grocery and convenience stores. The activity introduces concepts about air pressure, drag and how aircraft use control surfaces to climb, turn and maintain stable flight.

It will take about five minutes to assemble this aircraft. Once the planes are assembled, play and experiment with your new creation for about ten minutes. Have a good time "teaching the plane how to fly." This activity may be used as a launching point to further study the physics of flight, or to discuss the Wright Brothers' contributions to understanding how a flying machine is controlled in the air.

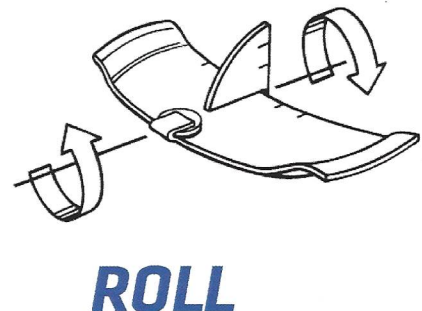
Good luck and have fun!

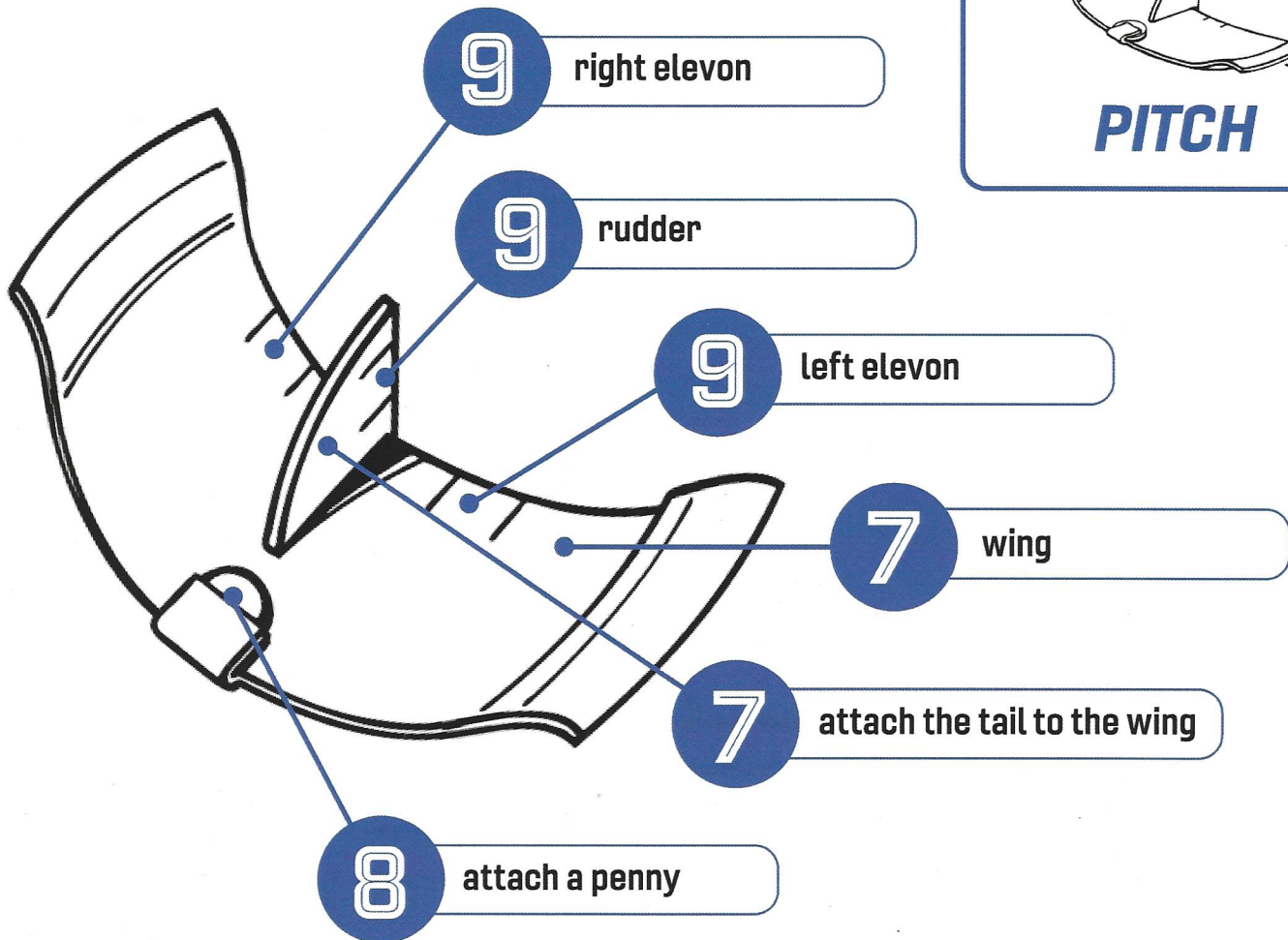
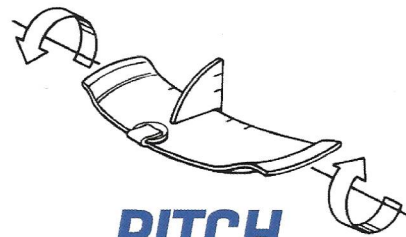
HOW TO BUILD THE FPG-9

- 1 Cut out the paper FPG-9 pattern. Do not cut along the dotted line.
- 2 Place the paper pattern in the center of the foam plate. The ends of the wing should spill over the curved edge of the plate.
- 3 Trace around the pattern with an ink pen. Don't forget to mark where the scissor slits are!
- 4 Cut the foam template out by following the pen lines you just drew.
- 5 Now cut along the dotted line to separate the tail from the wing of the FPG-9. It is best if you make all of your cuts from the outside of the plate towards the center of the plate. Do not try to turn your scissors to cut sharp corners. When cutting out the slots, make them only as wide as the thickness of the foam plate. If the slots are cut too wide the pieces of the plane will not fit together snugly.
- 6 The wing and the tail each have slits drawn on them. Make a cut along each of these lines as drawn.
- 7 To attach the tail to the wing, slide the slots together. Use two small pieces of tape to secure the bottom of the tail to the bottom of the wing. Ensure the tail is perpendicular to the wing before adding the tape.
- 8 In order to make the plane fly successfully, you must attach a penny on top of the glider right behind the square tab. Fold the tab back over the penny and tape it down to secure the coin.
- 9 Bend the elevons (the back tabs) on the wing and the rudder (the vertical stabilizer tab) to control the flight characteristics of the FPG-9.

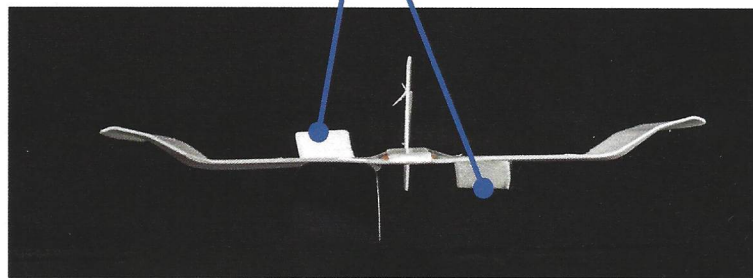
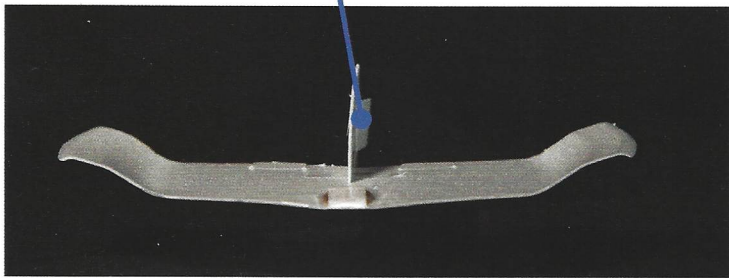


SUPPLIES
FPG-9 pattern
9-inch foam plates
Penny for each FPG-9
Scissors
Pens
Tape





Your FPG-9 is complete and ready to fly! Gently toss the plane directly in front of you. Once it flies reasonably straight ahead and glides well, try throwing it hard with the nose of the glider pointed 30° above the horizon. The FPG-9 should perform a big loop and have enough speed for a glide of 20 – 25 feet after the loop.



FPG-9
PATTERN
BY JACK REYNOLDS

