TOGO
SCIENCE
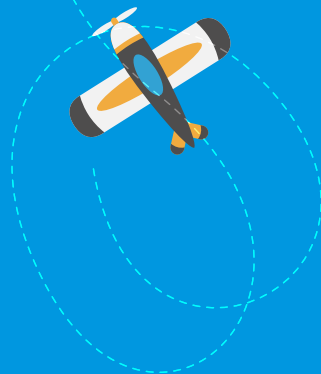
FUN FACTS

Aerobatics is the practice of flying maneuvers and skills not used in normal flight. Pilots execute a series of crossing, **diving and soaring moves overhead.**

PLAY STEAM

LEARNING
BOOKLET
Hula Loop Plane

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AGES **8+**

⚠ WARNING MESSAGE

GENERAL WARNING ⚠

Before you begin, please read through the instructions together with your children. Make sure you understand the safety messages. Please keep the packaging and instructions, as they contain important information.

This kit is designed for children over 8 years of age. This product contains small parts which may pose a choking hazard. It is not suitable for children under 3 years old. Please keep individual parts and the fully-assembled product away from children under 3 years of age.

Always operate the toy away from eyes or face.

Screws and other metal parts may have sharp edges. Children should have adult supervision when assembling the product.

Last but not least, please clean the parts and finished product with a damp cloth. Do not use any soap or cleaning solutions.

Package Contents
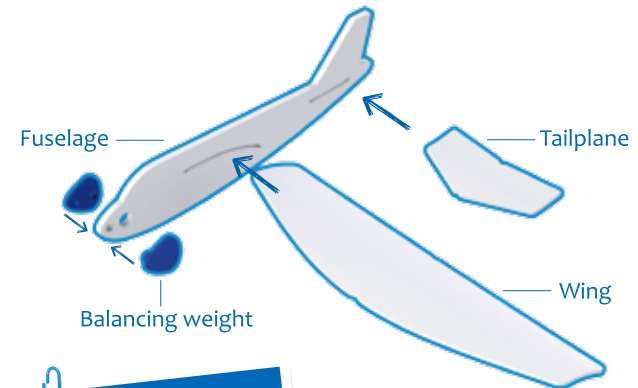
• Sticker   • Fuselage   • Balancing weight   • Wing   • Tailplane

Installation steps

1. Detach the balancing weights from the frame, tightly clip them to both sides of the fuselage. Insert the wing and tail into the fuselage making sure that the arched side is facing upwards.

Fuselage ——

—— Tailplane

Balancing weight

—— Wing

Paste stickers on the plane as you like.

Adjust the position of the wings and the tailplane to balance the center of gravity.
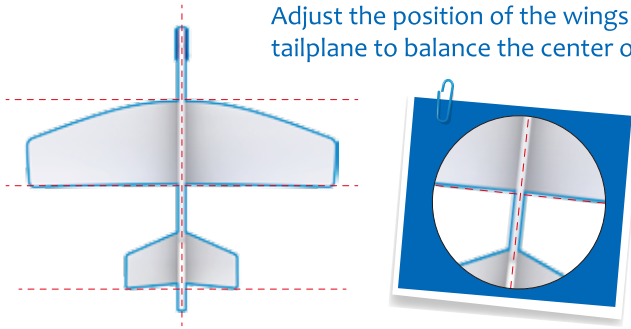
If the wings are not properly adjusted, it might result in odd flying trajectories and the plane might not loop back. One important parameters that impacts on flight trajectory is the symmetry of the wings. Both right and left wing should have the same shape and camber. Look at the plane from front and adjust the wings by slightly bending and twisting to have symmetrical shapes.

✔

✖

2. Correct holding position.
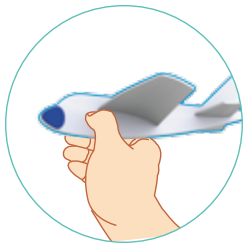
✔ Forward grip
for horizontal loop

✔ Rearward grip
for vertical loop

3. Flight method

Pinch the bottom of the plane (under the balancing weight), throw the plane outward and observe the maneuvering trajectory. Note: do not throw it in a straight line. The plane is designed to follow a circular trajectory with the top of the wings always facing the center of the circle.

2 loop planes at the same time !

Dives back !

Loops at any angle !
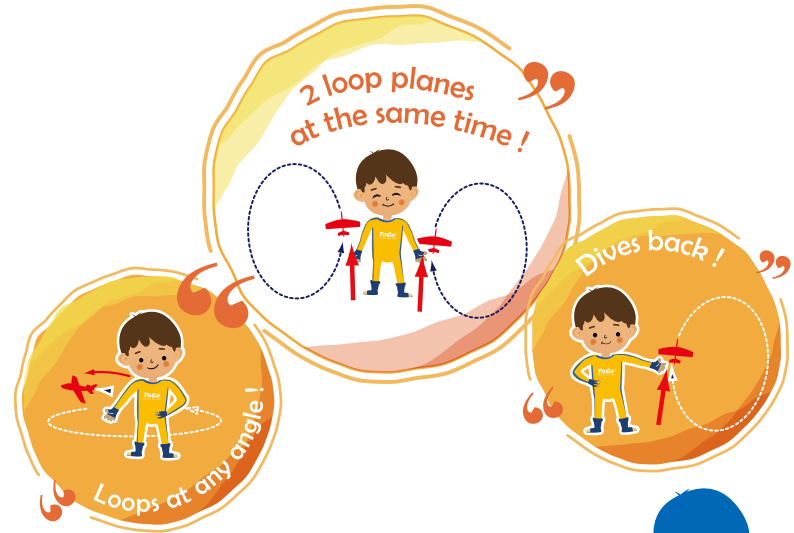
You will soon notice there are two main ways of throwing your plane to make it loop back. First, always keep the bottom of the wings facing you. If you throw it almost horizontally with a slight angle or about 15 to 45 degrees, your plane will loop back horizontally. If you throw it upward, it will dive and loop back vertically. After trying a few times, you will be able to do it whenever you want.

What does it do?

The Hula Loop Plane is designed to fly back to you in a perfect loop.
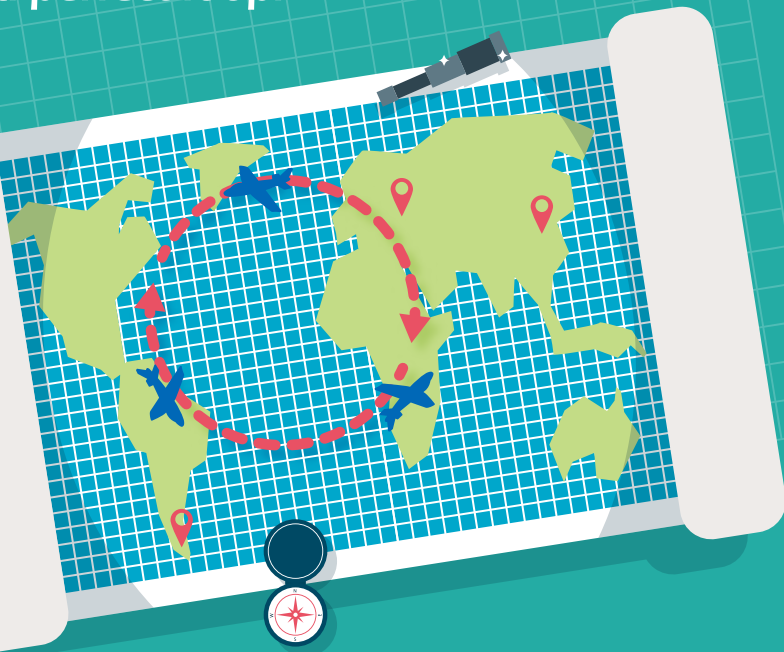
Play with your friends! Throw your plane and let your friend catch it. Let's see who is the best thrower and the best catcher.

Ultimate Challenge!

Try to fly two Hula Loop Planes at the same time in opposite directions and see whether you can catch them both at once.

How does it work?

There are many factors that determine how the plane flies. Its shape and weight distribution determine its flying performances.

The wings and tail will change the direction the plane flies. For modern aircraft powered by engines, the pilot will control and manually shift the wings and tail to instruct the aircraft to fly in designated directions.

Try slightly twisting the Hula Loop Plane's tail to see how the loop changes accordingly in the air. You can always adjust and correct the loop pattern by twisting or straightening the tail back to its default position.

FUN FACTS
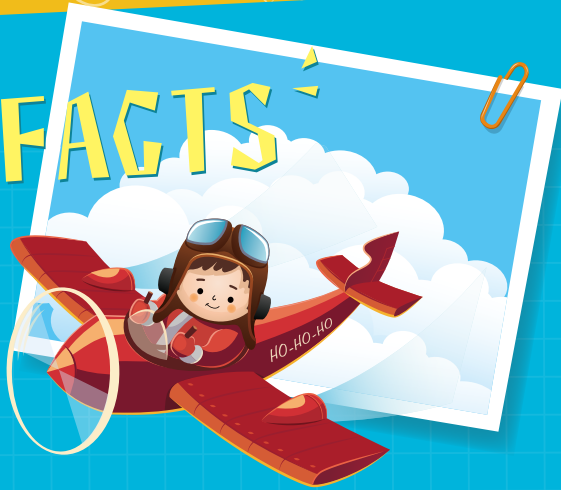
Pilots executing earobatics in the air are submitted to extreme accelerations. A little like when the car accelerates and you are pushed back in your seat but much stronger.

FUN FACTS 01

FUN FACTS 02

Less than **10%** of players can catch both planes back at the same time. Those who can are named Elite Hula Loop Plane Pilots.