Build a Glider
Mini Challenge

Problem Scenario:
Not all aircraft use propulsion to achieve sustained flight. Gliders rely on design and weather to achieve lasting flight. Build your own glider.

Challenge:
Tailor and create a glider from a kit or household items. Test flight path capabilities, modifying rudder, and weight to achieve greatest glide path.

Criteria:
Glider kit (wing, stabilizer assembly, balsa fuselage stick), metric stick, rubber bands, clay, hot glue gun and glue, masking tape
• Be able to document the distance flown
• Be able to modify and document weight of the glider

1. Brainstorm: Use the space below to brainstorm the design and approach to building a glider.

• Discuss the terminology of a glider. Wings, fuselage, stabilizer, rudder  • Discuss glide path and the variables that make gliders work
• Discuss things that can be changed and/or modified
2. Design: (see attached page)
- Where will you place your wings along the fuselage?
- Where will you place your stabilizer assembly along the fuselage?

3. Build: (see attached)
If a kit is not available straws and paper can be substituted.

4. Modify:

Test Flight #1 Modifications:

Test Flight #2 Modifications:

Test Flight #3 Modifications:

5. Evaluate:
Test Flight #1: Load glider on meter stick and launch. • Results: Distance
Test Flight #2: Load glider on meter stick and launch. • Results: Distance
Test Flight #3: Load glider on meter stick and launch. • Results: Distance

What changes need to be made?

6. Share:
Share your creation on Social Media!
Tag us on Facebook, Twitter or Instagram @pastfoundation
Use the hashtag #ThisIsPAST or #DesignThinking
Test:

- Hook launcher rubber band under the launch hook on fuselage
- Hold glider at tail and pull gently back to a maximum of 50 centimeters
- Launch
- Record your flight results
Design/Build:

- Hot glue rudder to stabilizer assembly. Use rubber band to position on fuselage.

- Use clay to modify weight on glider.