

Name: _____

Engineering Flight

Interactive At-Home Activity

Instructor Copy

Welcome Teachers and Parents!

This is a fun and easy activity to do with kids that will teach them about planes and flight. The activity is easy to set up, simple to understand, fun for all, and serves as an introduction to engineering!

1. Objectives

1.1 To introduce young students to engineering, with specific focus on aviation

1.2 Students will be able to enjoy a physical, hands-on activity to counterbalance the often online aspects of remote learning

2. Materials

(It is important to keep in mind that each student's current living condition is unique- these materials are simply recommendations. If it is safe and it works, it works)

Lightweight Materials

Paper, cardstock, cardboard, or plastic preferred

Cutting Utensils

Scissors, **X-Acto knife, **box-cutter

***With adult supervision*

3. Set up

3.1 Lay out materials, cutting utensils, and student copy. Students can either replicate one of the given designs, or create their own.

3.2 Give ample time for students to complete their designs and manufacturing process, and feel free to help out if needed. Craftmanship has an extremely large impact on the success of the final design

3.3 Award students based on Furthest Distance, Longest Time Spent In Air, Lowest Weight, or Most Creative Design.

Below are some concepts you can verbalize to students before and throughout the activity.

4. Pre-activity Questions

4.1 How are the materials different from each other? Which materials would be best for certain objectives?

4.2 What are the different design choices you can make while building your plane (Distance, Flight Time, etc.) ? Are your design choices consistent?

5. Post-activity Reflection

5.1 What worked well? What didn't?

5.2 What did you notice about the designs of the different planes and how they flew? What impacts Flight Time? Distance? etc.

5.3 What would you do given another opportunity?

5.4 What is something you wished you knew beforehand?

P.S.

Hey! We hope your student(s) enjoyed the activity! During these complex times, we hope this was able to bring some hands-on fun that might have been lost in the transition to online learning.

We appreciate you teachers, and your students do too! Also, we would love to see what your students created- feel free to take photos of students' designs and send them to **ehyang@andrew.cmu.edu**

Thank you, and be safe :)