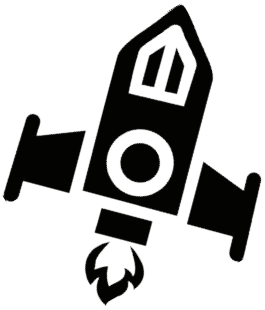
# Activity 3: Paper Aircrafts

**Driving Question:** What are the Actions of Innovation, and how do they link up to Habits of an Innovator to form an innovation journey?

**Learning Objective:** Practice the Actions and Habits through an innovation journey. This activity gives students an opportunity to experience Actions of Innovation as they build paper aircraft. Start by doing a quick review of the Actions diagram, then have students design, build, test and improve a paper aircraft using the following supplies and process.

## Grade-Level Suggestions:

- Elementary School: Focus on the aircraft's flight distance.
- Middle and High School: Focus on the aircraft's flight distance plus the number of passengers it can transport.



## Supplies:

- Two types of paper (for example, printer, notebook or construction) for aircraft
- Two sizes of paper clips (large and small) representing passengers
- Space for testing aircraft

## Process

| Action of Innovation | Task | Guiding Questions |
|---|---|---|
| Uncover | Identify qualities of good paper aircraft. | ■ What makes a good paper aircraft?<br>■ How do you know if you have made a good paper aircraft? |
| Define | Select a criterion by which to judge a paper aircraft.<br><br>Pick materials that would work best according to the criterion. | ■ What do you want your paper aircraft design to focus on? For example, will you build an aircraft that holds as many passengers as possible, or flies a long distance?<br>■ Which type of paper will you use? Which size paper clips? |
| Design | Make and test the aircraft. | ■ What does a paper aircraft usually look like? Can it look different? Are there different ways of making them?<br>■ How will you test the aircraft to determine if it works well? |
| Optimize | Make observations and make improvements (or make a new version). | ■ What worked? What didn't?<br>■ How can you improve your design? |
| Implement | Test the improved aircraft. Look at other people's aircraft designs and learn from each other; give each other feedback. | ■ Did performance improve? Why or why not?<br>■ What did you learn from other people's designs or feedback?<br>■ What might you do differently next time? |

## Follow-Up Discussion

Follow the paper aircraft activity with a discussion to integrate students' knowledge about Actions and Habits.

- Ask students if they practiced any of the Habits while they were doing the paper aircraft activity.
- Show how Habits connect to Actions, using the example provided below. (The example is a visual aid only; it is not based on any actual innovation.) Note that any Action can connect to any Habit, and everyone takes a unique innovation journey. The dotted lines represent variable paths and directions that an innovator might take.
- Help students understand that Model I is a guide to innovation, but there is no single "correct" path to take. For example, when building a paper aircraft, there might be a need to repeat Optimize multiple times, or even return to Uncover, Define or Design to gain more clarity.
- If you have time, have students map out their own paper aircraft innovation journey with pencil and paper, integrating both Actions and Habits.