

WORKSHOP EXTENSION ACTIVITY

Built by The Home Depot Kids Workshop

FIRE PLANE

Ages 5-12

High-Flying Challenge

From flying high to landing safely and everything in between, airplanes help us in many ways. Have you ever thought about all the important jobs that airplanes have? Take a moment to brainstorm and sketch some of the jobs they do in the space below.



Possible Answers: While some airplanes are used for transporting people and/or cargo, others are used for fun (think: skydiving!), weather observation, crop dusting (spraying fertilizer), aerial photography, surveying land, fighting fires, and more.

Fire Planes to the Rescue

The airplane you constructed is a fire plane, and its main job is to extinguish fires and save people and wildlife. In addition to carrying life-saving equipment on board, fire planes work to put out fires that are too difficult for fire trucks to reach or too large for fire trucks to tackle.



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Fire Plane Prep

If a wildfire occurs, your fire plane must be ready to help! But if you take a look at your fire plane now, is it ready to put out a fire? Not quite . . . to actually extinguish a fire, it's going to need water!

To prepare your plane to help with fire emergencies, you'll need:

- Tubing
- Small plastic bags
- String
- Duct tape
- Water!
- Sidewalk chalk

Then follow these steps so your plane is ready to be on stand-by for the next emergency:

1. Gather your supplies and think about how you can use these materials to create a water-spraying system aboard your plane.

To be effective, your water system must:

- Be secured to your airplane
- Hold water
- Release water when needed
- Spray water accurately and in specific directions

Remember: Fire planes are crewed (meaning there is a pilot and firefighters on board), so it's okay if your plane needs a little help from the crew to accomplish all of these steps!



MAKE. CREATE. EXPLORE.



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2. Experiment with the tube, plastic bag, water, duct tape, and string, and think about how they could be used to help your plane store, carry and release water. When you have an idea or two that you think could work, give them a try!

Tip: It may be helpful to experiment with different designs at a sink, in your bathtub, or outside!

3. Once you have a design that seems like it will not only store water but also accurately spray it in different directions, bring your new and improved fire plane outdoors.
4. Use the chalk to draw several different circular targets on the sidewalk or pavement. One could be one-inch wide, one could be one-foot wide, and a few could be somewhere in between.
5. Choose a target on which to focus first, and then prepare your fire plane to spray. Hold your plane at least a couple feet above your target, and see how it performs! If the water reaches the target, experiment to see how accurately it sprays from different heights and directions. If it has some trouble, think about what isn't working and make changes to its design. Refill your water as needed, and try to hit each of the targets!

Fire Plane 2.0

Once you're confident that your fire plane is performing well, think about how you can make it even better at putting out fires. For instance: Could you increase the amount of water it can carry? Or can you improve the amount of water it can spray at one time? Experiment with different ideas, and see how you can optimize your design!

Remember: While model fire planes are fun to create, real fires are not a game.

Learn more about how and why fires start, how to prevent fires, and what to do in the event of a fire by visiting the National Fire Protection Association at [nfpa.org/Public-Education](https://www.nfpa.org/Public-Education).

