

# Flying Creations

## Best for Ages

4+

## Workspace

Flat indoor surface

## Is electricity required?

Yes

## Description

Flying Creations are made from recyclable materials you can find around your home. Once you have made your flying creation you will see how it flies by using a floor fan or hair dryer.

## Materials

- For the body: egg carton, toilet paper/paper towel rolls, chipboard, fruit baskets, paper or plastic cup
- Fasteners: paper clips, rubber bands, pipe cleaners, tape, brads
- For lift: streamers, newspaper strips, coffee filter, cupcake liners, tissue paper
- For weight: corks, paper scraps, small foam pieces, small plastic toy such as green army man
- Air Source: fan or hair dryer
- Scissors

## What to Do

1. Create a body for your flying creation using any light weight structured material found around your home. In the Tinkering Hub, we like to use egg cartons, toilet paper tubes, or fruit baskets.
2. Now add lift materials to your flying creation body. You may need to use fasteners like rubber bands or tape. If you want your creation to fly high, make sure you add something for lift. Newspaper strips, streamers, or even toilet paper are good for this.
3. If you want to see your flying creation fly low or hover, try adding some weight. We have used corks, binder clips, and sometimes small plastic toys to add a little weight.
4. Now it is time test your flying creation! Set up your floor fan or hair dryer so the air stream is pointing straight up.
5. Put your creation into the air stream and watch your creation fly. Modify your creation to make it fly in different ways.



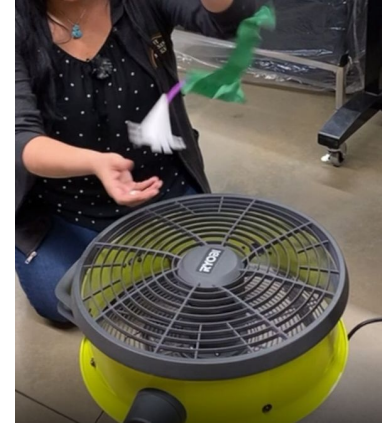
## Concepts Explored

- Upcycling materials
- Designing

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## Troubleshooting Tips

- Test out your flying creation during the making process so you can tweak the design as needed.
- If your creation doesn't fly, it might be too heavy. Try swapping out heavier materials for lighter ones.
- If you are using a box fan, you might need to elevate it off the floor by placing it between two chairs so that air can flow easily.



What happens when you change the fan speed settings on the fan?

What materials worked best for lifting your creation or making it hover?

What fasteners worked best for your flying creation?

## What is Happening?

- **Designing** your creation is the first step of this activity. Throughout this engineering process, you changed your design and learned new ways of creating the movement you want with your materials.
- **Upcycling** materials that you find around your home is a great practice for everyday living. With this activity you can use recycled materials and underused materials to create countless flying creations.

## Taking it Forward

- Look around your house or neighborhood during a walk. What other flying creations can you find that are man made as well as nature made? What do you notice about things that fly high or hover about? Are you inspired with new design ideas for a flying creation?
- **If you like this activity you may also like:**

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