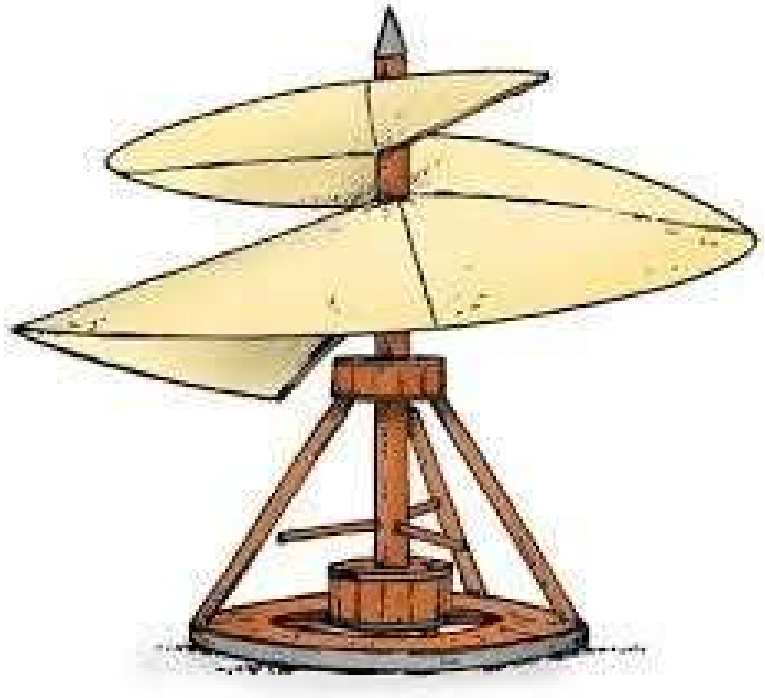
The helicopter

- ✓Science.
- ✓Engineering.
- ✓ Hands-on activity.



Have you ever seen a helicopter?

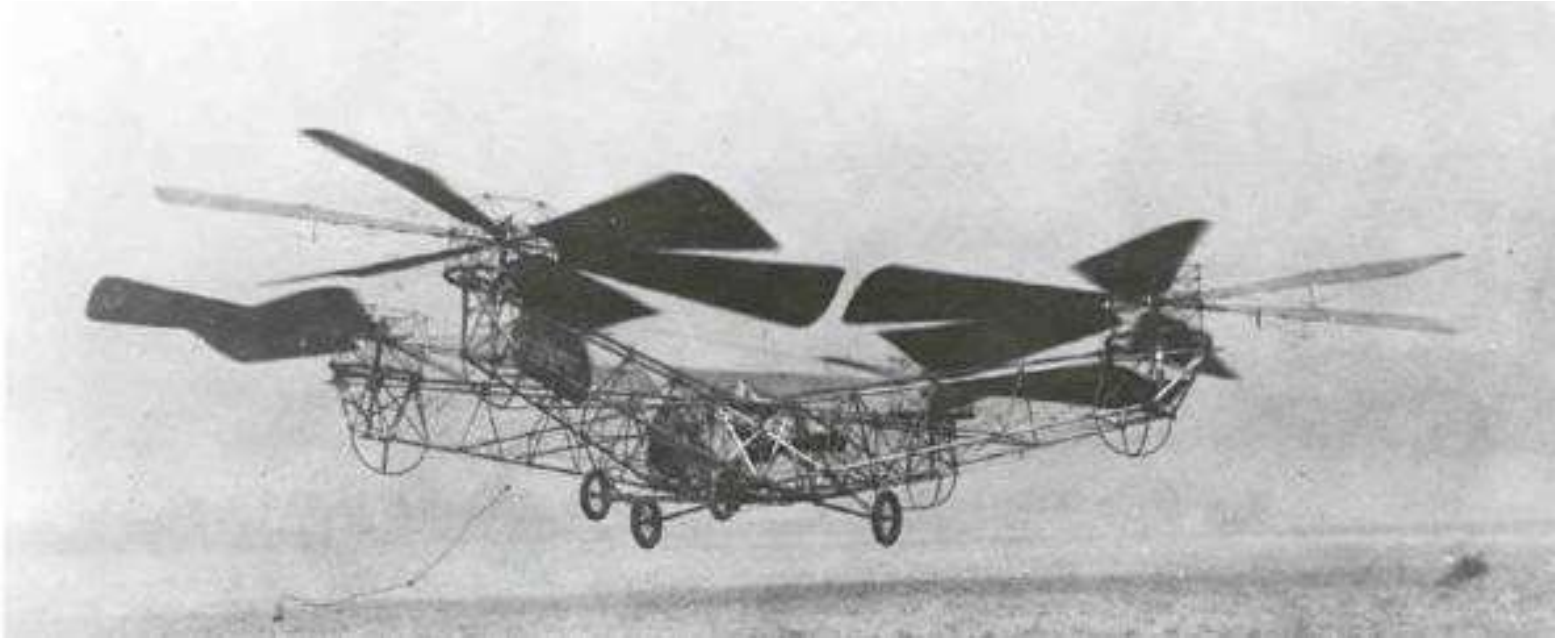
How do you think it flies?

Watch the video and comment:

https://www.youtube.com/watch?v=GwNVrE4EH4E

In the following link you can watch a helicopter flight test in 1922.

https://el.wikipedia.org/wiki/%CE%91%CF%81%CF%87%CE%B5%CE%AF%CE%BF:Bits_%26_Pieces_-_BP374_-_Test_flight_of_Pescara%27s_helicopter_-_1922_-_EYE_FLM7760_-_OB105716.ogv



See those huge "wings" that are spinning?
They're called helices'.

Make your helices and experiment

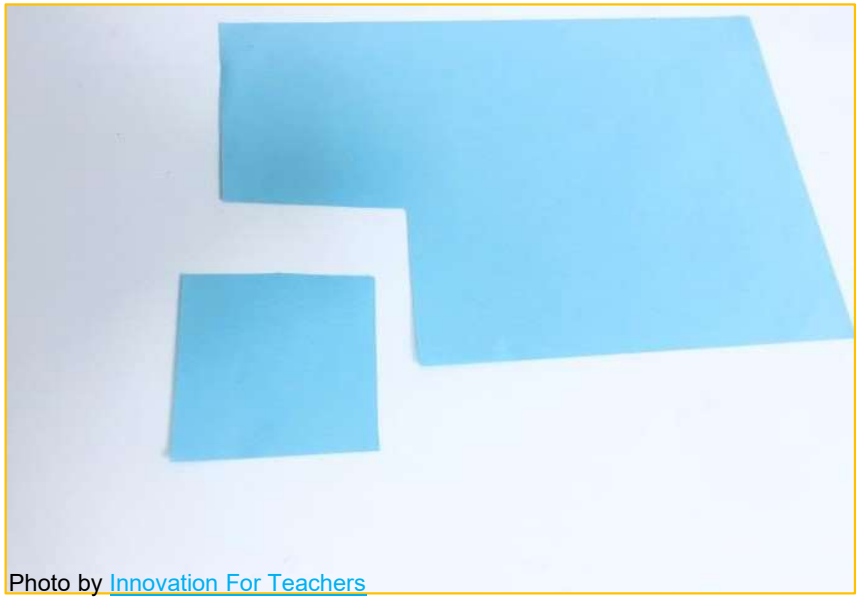


Photo by Innovation For Teachers

Materials

- A square piece of paper (not have all the students the same size)
- Scissors
- 1-3 paper clips per child

Note: Students should create different-sized helices so they can experiment.

Photo by Innovation For Teachers

1. Fold the paper into four.

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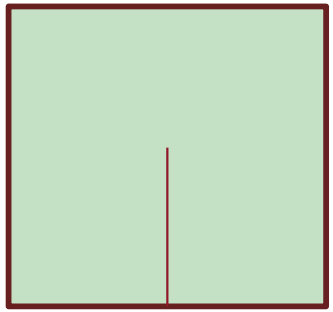
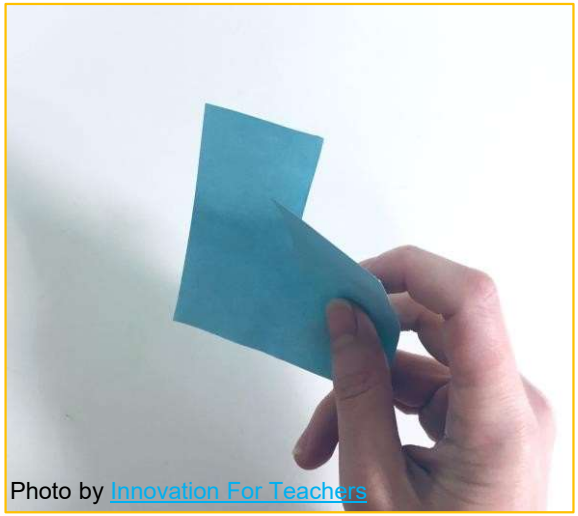
2. Open your paper. You will see that a cross has been created that divides the square into four equal parts.

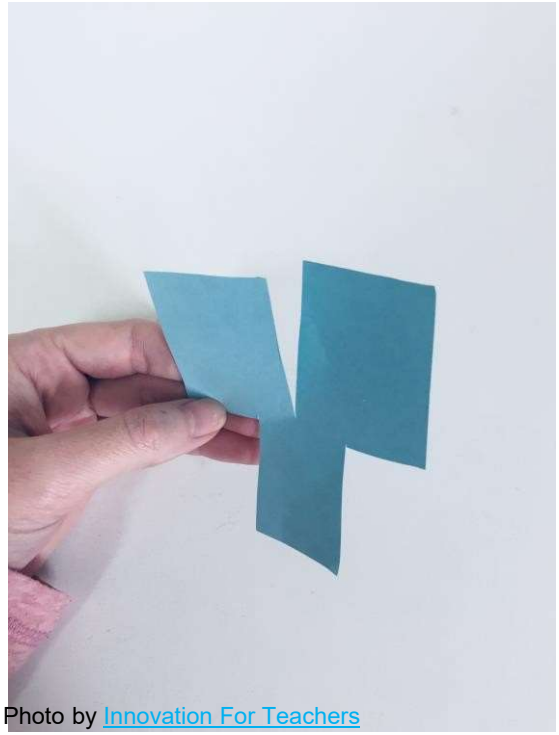
3. On one side, use your scissors to cut the paper in half, up to the shape's centre, as shown in the pictures.





4.On the opposite side, cut as shown in the pictures.
The finished shape looks like a thick T.
5. At the bottom, add one or two paper clips.


Photo by Innovation For Teachers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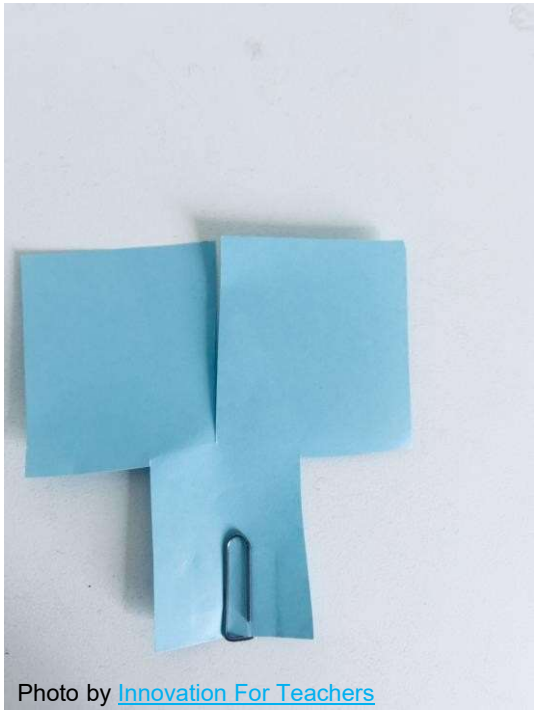
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- Which helices do you think spin the most faster as it falls?
- The smallest or the largest?

Try it and see!

- What do you notice?
- Finally, which helices spin faster, the right or the left?

Photo by Innovation For Teachers

What if…

- What will happen if we add more weight to the bottom of the helices?

Add more paper clips to see.

Experiment with the two variables:

Helices size- helicopter weight (number of paper clips)

On helices of the same size, see what happens if we add different weights.

To the first one, add one paper clip. To the second one, add two.

- Which one spins faster?

Helices with different sizes. Try to make them rotate just as fast by adding and removing clips.

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