



### Week Four: May 11<sup>th</sup>-15<sup>th</sup>

Hola! Scientists and Engineers!

Keep sending those texts and emails! I especially love the pictures!!! Last week, I saw lots of great water cycle bowls and rain gauges. This week, both activities have to do with birds. You will create a noisemaker and a paper glider. As you begin the activities, remember to first **watch the video** in the provided link. As you complete these two investigations, **be creative and HAVE FUN!**

As a family you can do the STEM activities or you can **watch the video, reading material, vocabulary, discussion questions and an online quiz** that correlate to the lesson. Please remember, these are simply for **enrichment** and are **not required**. These are great opportunities to learn something new and test your knowledge without worrying about a grade.

You will continue to have other building challenges in the coming weeks. **Keep saving clean, recyclable materials** (pop bottles, toilet paper rolls, cardboard, cereal boxes, grocery bags, old mail, cans, bread ties, etc.), so that when the time comes, you will have materials for the activities. ☺ If you started last week, hopefully you already have a pop bottle for this week's activity.

**I want to hear from you this week!** A few have sent me messages and pictures, but **I WANT MORE!** ;-) Send me a **picture** of you doing STEM work. If you take the quiz, **share your score** with me. Tell me something you learned **from the video or the reading material**. Did you **take the lesson a step further?** Tell me how. I share pictures on my website so you can see all the great things students are doing for STEM.

**If you contact me with any of these things I will send you back a Science Joke!**

**Contact Information:** Class Dojo-STEM Teacher Mrs. Thomas, email [clthomas@carmanainsworth.org](mailto:clthomas@carmanainsworth.org), or text 810-412-8829 or visit my website [dyelementarystem.weebly.com](http://dyelementarystem.weebly.com).


I hope your family is healthy and safe. Have fun with S.T.E.M. this week, and let me know how it goes!

Adios amigos,


Mrs. Thomas

## Activity 1

<https://www.generationgenius.com/?share=EA45A>



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ALWAYS QUESTION. ALWAYS WONDER.



# DIY ACTIVITY

## BIRD CALLER

### SUMMARY

- Make a device to simulate a baby duck calling for its parents.
- Time Required: 15 minutes
- Difficulty: Easy
- Cost: \$0-1

### MATERIALS NEEDED

- Sheet of colored paper
- 3 Colored markers
- Roll of tape
- Pair of scissors
- Pencil

### PROCEDURE

1. Fold a piece of colored paper in half short ways and cut on the fold.
2. Fold the edge of the paper about 1 cm from the edge.
3. Unfold and draw a line along the fold.
4. Draw a 1 cm tab along the fold and cut the rest of the flap.
5. Decorate the center part of the paper.
6. Use a pencil to roll up the paper, keeping the decorated part on the outside.
7. Take the pencil out.
8. Tape the tube and slightly bend up the little tab on the end.
9. Gently breathe in to make the sound of a baby duck.

### WHAT IS GOING ON HERE?

When you breathe in you pull the small paper tab in towards the tube, which causes the paper to vibrate and make a sound. Many baby animals make sounds to let their parents know they need something, like food. When the parents hear their babies, they come over to see what their babies need. Parents help their babies survive!

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**Suggestions for Bird Caller: Send me a picture, video or text, and tell me about your final product.**

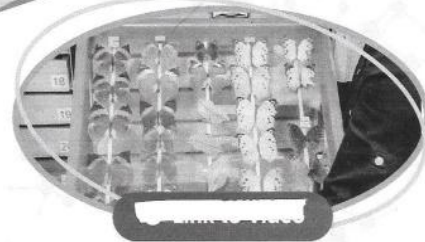
- **Use any paper and any color.**
- **When you finish with your bird caller, engineer another sound device or noise maker. It can make ANY sound!**

## Activity 2

<https://www.generationgenius.com/?share=D1568>



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### DIY ACTIVITY

#### MAKE A PAPER GLIDER INSPIRED BY BIRD STRUCTURES

##### OBJECTIVES

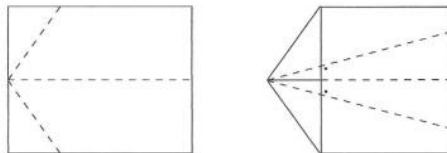
- Use the engineering design process to make a structure and redesign it based on test results.
- Use biomimicry to experiment with structures that accomplish similar functions for birds.

##### MATERIALS NEEDED

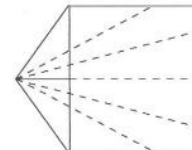
- Wooden skewers
- Scissors
- Tape
- Straws
- A coin
- Sturdy construction paper

##### PROCEDURE

1. Cut the sharp point off of one skewer.
2. Choose a wing shape to mimic, based upon the shape of a bird's wing. To make a wing modeled after an albatross, like Zoe does in the video, follow the folding instructions below.
3. Fold the construction paper in half lengthwise. Then fold two of the corners toward the center fold. Use the coin to press along the folds and create a strong crease. Finally, fold the wings back over the folded corners to create the glider shape.



4. Have an adult help you poke a hole at the edge of the fold under the wing (see video). Then insert the wooden skewer through the hole to create support for the wings. Tape the skewer to the wing.
5. Send your glider on a test flight.
6. Try modifying the structure of your glider to more closely mimic a bird. Replace the skewer with straws which are lighter and hollow, like bird bones. Also, you might try changing the shape of the wings to make them even narrower.



7. Try another test flight.
8. Try adding a tail. Birds use their tails to help them control their flight. Cut a triangular piece of construction paper, insert it into the back of the fold and tape in place.
9. Test the glider again.
10. Try other modifications based on different bird structures.

#### WHAT IS GOING ON HERE?

Using the structures of living things to help inspire engineering designs is called biomimicry. Birds and other living things have structures that serve a specific function. When humans need to solve similar problems they can turn to animals and plants for answers.

#### FURTHER EXPLORATION

The point of this DIY Activity is to experiment with different bird structures and see what works and what doesn't. Research the structure of different bird's bodies and wings, and try designing and testing gliders in different shapes. Keep notes about what worked and what didn't. You are using biomimicry to design and redesign—just like an engineer!

⚠ Skewers and scissors are sharp. Have an adult poke a hole through the construction paper with the scissors.

**Suggestions for Paper Glider: Send me a picture, video or text, and tell me about your final product.**

- **Try different types of paper (old mail, newspaper, magazine pages, notebook paper, etc.).**
- **If you don't have a skewer, use a straw.**
- **Be creative! Try some of the variations mentioned in number 6 under Procedure.**