

U.S. REPRESENTATIVE
CHRISSY HOULAHAN

ECO HEROES CHALLENGE

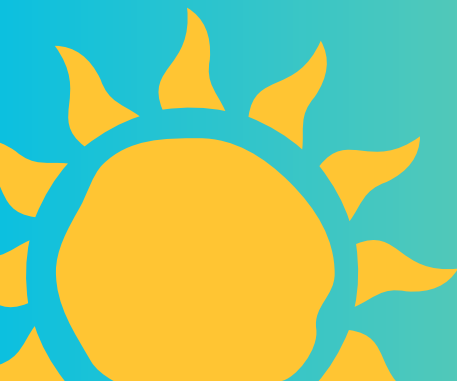
FOR KIDS IN KINDERGARTEN - 8TH GRADE IN PA-06

THE CHALLENGE IS OPEN TO STUDENTS FROM

July 15 - 29

**Kids will be able to participate in an
activity with Chrissy upon project
completion**

**For more information, visit us at
houlahan.house.gov**



Welcome!

- We are so excited for the first group of Eco Heroes in PA-06!
- **Challenge Guidelines:** Below you will find a checklist based on your age level that you must complete and submit by July 29th @ 11:59 p.m.
 - Send completed checklists to pa06.info@mail.house.gov
- Please send pictures/videos of completed projects to pa06.info@mail.house.gov with parent permission.
- We have provided a list of parks to give ideas on where to be active outside, but feel free to visit your favorite local park and send us a picture!
- After successful completion, you will be an Eco Hero! We will send you an invitation to meet with Chrissy in August.
- We hope you have lots of fun and learn more about the environment in PA-06 in the process!
- Good luck, Eco Heroes!

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CHRISSY
HOULAHAN



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CHRISSEY HOULAHAN

Dear Eco Heroes,

Thank you for joining me during our first year of the Eco Heroes Challenge in PA-06! I hope that through the activities list and challenges, you get to explore the world around you and learn more about how you can contribute to caring for our community and environment through your individual efforts.

There is a lot of work to be done in improving the health of our environment. As an engineer, I have spent my life problem-solving and looking at ways to provide a better planet for us all. Additionally, I was a chemistry teacher who had the opportunity to work with amazing students like yourself, and teach them about the building blocks of our world. Now, as our community's federal representative, I have founded the Women in STEM Caucus and co-chair the Bipartisan Climate Solutions Caucus to bring together other representatives to work on climate solutions.

Recently, Congress has taken action to slow climate change, but we need help from everyone in our communities, too. As Eco Heroes, your challenges and activities will show you how everyday items and actions can improve our overall environment. No effort is too small!

I have created a checklist that allows you to explore our outdoor environment and get creative with everyday household items and learn about science in the process. I look forward to seeing all of your amazing creations, and hope that you enjoy your adventure as one of the first Eco Heroes!






Have fun on your explorations, Eco Heroes!



ECO HEROES CHALLENGE

K - GRADE 2 CHECKLIST

July 15 - July 29

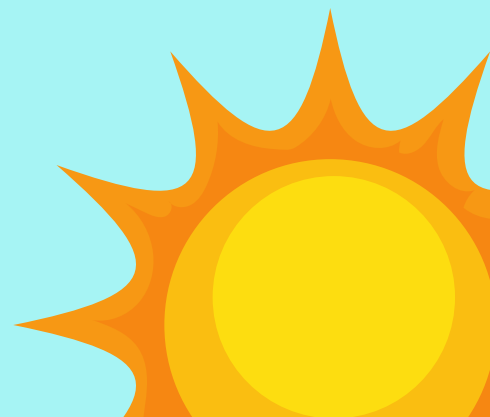
-  **Recycle 10 items**
-  **Read a book about animals or nature**
-  **Repurpose a household object**
-  **Create a video or piece of art about why the environment matters to you**
-  **Complete both STEM experiments**

Confirmation of Completion: _____
(Parent/Guardian Signature)

Send completed checklists and photos of projects to
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ECO HEROES CHALLENGE

GRADES 3 - 5 CHECKLIST

July 15 - July 29

- Recycle 15 items
- Research an endangered species and write a paragraph about what you've learned
- Repurpose a household object
- Create a video or piece of art about why the environment matters to you
- Complete both STEM experiments

Confirmation of Completion: _____
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ECO HEROES

CHALLENGE

GRADES 6 - 8 CHECKLIST

July 15 - July 29

-  **Collect 5 bags of litter**
-  **Identify an example of climate change in our community**
-  **Write a short essay about heat islands, soil erosion, or storm water management**
-  **Research and model different types of renewable energy or send in examples from PA-06**
-  **Complete both STEM experiments**

Confirmation of Completion: _____
(Parent/Guardian Signature)

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**Want to learn more?
Take a Nature Walk!**

Public Parks in PA-06

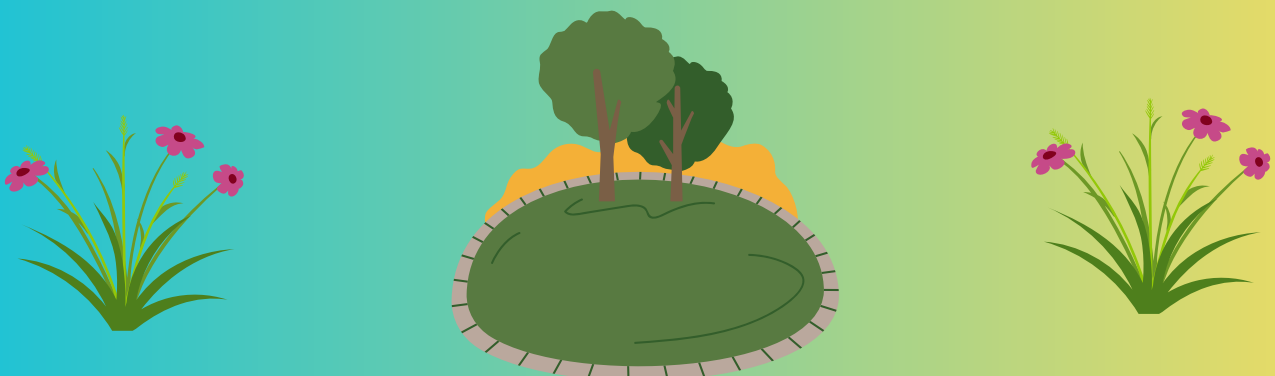
Berks County:

- **Hopewell Furnace
National Historic Site
(Elverson)**
- **Schuylkill River Trail
(Birdsboro)**
- **City Park
(Reading)**
- **Gring's Mill Recreation
Area (Reading)**
- **Wyomissing Park
System (Wyomissing)**

Chester County:

- **French Creek State Park
(Elverson)**
- **Valley Forge National
Park
(Schuylkill Township)**
- **Ash Park
(Coatesville)**
- **Goddard Park
(West Grove)**
- **Everhart Park
(West Chester)**

And so many more!





*Ask a
grown-up
for help!*

ECO HEROES CHALLENGE

K - 2:

NOT YOUR AVERAGE SLIME

Materials:

- 1 cup of water
- 1 to 2 cups of cornstarch
- 1 Mixing bowl
- Food Coloring

Instructions

- 1. Add one cup of cornstarch into a mixing bowl.**
- 2. Pour your water in, mixing it in slowly. Keep adding more water until it becomes thicker.**
- 3. Add more cornstarch if it becomes too runny, and more water if it gets too thick.**
- 4. Add a few drops of food coloring of your choice.**
- 5. Put your hands in your creation and have fun! Notice how the substance is hard when you hit it, but runny when you hold it!**

**Send pics of your creation with parent permission
to: pa06.info@mail.house.gov**

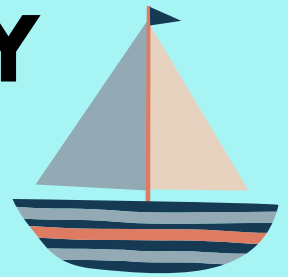
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ECO HEROES CHALLENGE

K - 2 :

PENNY BOAT ACTIVITY



Materials:

- Large bowl of water
- Food coloring
- Aluminum Foil
- 30 pennies (or any object that is about a penny's weight) per boat

Instructions

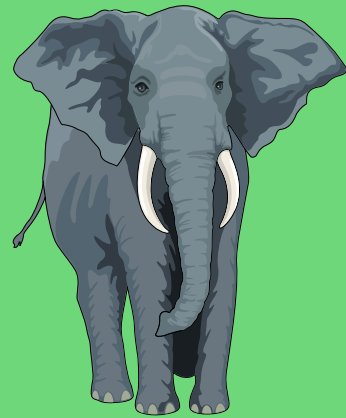
1. Add a couple of drops of food coloring to your bowl and fill it $\frac{3}{4}$ full with water.
2. Cut two 8" squares of Aluminum foil for each boat.
3. Form a small boat in any shape that you would like.
4. Place your completed boat(s) in the water and see if it floats.
5. Add a penny/object of your choice to the boat. Keep adding one at a time to see how many objects can fit in the boat until it sinks!
6. You can make this an even harder challenge by building a bigger boat and seeing how many objects your new boat can hold.

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ECO HEROES CHALLENGE

GRADES 3 - 5 :

ELEPHANT TOOTHPASTE



Materials:

- 1 Empty plastic bottle
- Dry yeast
- Warm water
- Liquid dish soap
- Food coloring.
- 3% hydrogen peroxide
- Measuring cups and spoons
- Safety glasses
- Large tub or tray to catch the foam

Instructions

1. Pour $\frac{1}{2}$ cup of hydrogen peroxide into an empty bottle. (Make sure your bottle is on the tray before starting and that your safety glasses are on!)
2. Add a big squeeze of dish soap into the bottle and swirl gently to mix.
3. Add your food coloring.
4. In a measuring cup, mix together 1 tablespoon of yeast and 3 tablespoons of warm water. Stir for about 30 seconds.
5. Pour the yeast mixture into the bottle, then quickly step back to watch the reaction!

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ECO HEROES CHALLENGE

GRADES 3 - 5:

ICE CREAM IN A BAG

*Ask a
grown-up
for help!*

Materials:

- Half and Half or $\frac{1}{2}$ whole milk and $\frac{1}{2}$ cream
- Salt
- Ice
- Artificial Vanilla
- Sugar
- Resealable bags (1 small, 1 large)
- Measuring cups and spoons
- Oven mitts/gloves
- Toppings (optional)

Instructions

1. Pour 1 cup of half and half into a small resealable bag.
2. Add $\frac{1}{2}$ teaspoon of artificial vanilla and 1 tablespoon of sugar into the bag.
3. Seal the bag firmly and let out any excess air.
4. Fill the large resealable plastic bag about $\frac{1}{2}$ ways with ice. Add $\frac{1}{4}$ cup of salt to the big bag with ice.
5. Place the sealed small bag into the large bag, continue to fill the large bag with ice, and then seal the large bag.
6. Put on gloves for shaking (it gets really cold) and shake for about 6 minutes.
7. Take the small bag out of the large bag and rinse the outside of the small bag with cold water. Make sure to rinse out the top part of the bag above the seal to remove any excess salt.
8. Once done rinsing, open the small bag carefully to not get any remaining salt inside.
9. The ice cream will look a little icy to start. Use a spoon to mix it around and soften it up a bit. Scoop out and enjoy!

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ECO HEROES CHALLENGE

GRADES 6 - 8:

STRAWBERRY DNA

Materials

- A resealable plastic bag
- 2 strawberries (fresh or frozen, but remove the green leaves)
- 2 teaspoon dish detergent
- 1 teaspoon of salt
- ½ cup of water
- 2 plastic cups
- 1 coffee filter
- ½ cup of cold rubbing alcohol
- 1 coffee stirrer

*Ask
for help!*

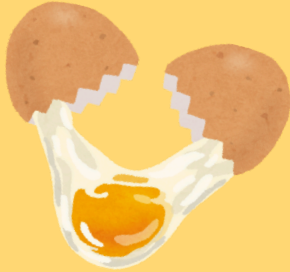
Instructions

1. Place strawberries in a plastic bag. After closing the bag, smash the strawberries for about 2 minutes until they are very smashed!
2. Make a DNA extraction solution by adding the following to the first plastic cup:
 - a. 2 teaspoons of dish detergent
 - b. 1 teaspoon of salt
 - c. ½ cup of water
3. Mix the extraction solution until the salt is dissolved and pour it into the bag of smashed strawberries.
4. Reseal the bag and gently massage/mix the mixture for a minute. Try to avoid making too many soap bubbles.
5. Place the coffee filter over the opening of the second plastic cup. Open the plastic bag and pour the liquid onto the coffee filter. Then wait for the liquid to drip into the cup, leaving the strawberry bits on the coffee filter.
6. Pour an equal amount of cold rubbing alcohol into the liquid in the second plastic cup.
7. Gently move the cup around in circles and watch the whitish material form in the upper layer of liquid---this is the Strawberry DNA!
8. Use the coffee stirrer to pick up strawberry DNA out of the liquid.

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GRADES 6 - 8: EGG DROP



**Ask
for
help!**

Materials:

- Raw egg
- Container. (Cardboard tube, cup, box, etc.)
- External protection materials. (Balloons, rubber bands, craft sticks, straws, etc.)
- Internal padding. (Fabric, packing materials, paper, etc.)
- Pen or pencil
- Paper
- Tape
- Scissors

The goal is for your raw egg to survive an 8 to 10 foot fall! Brainstorm and create a contraption that will protect your egg and prevent it from cracking!

Instructions

- 1. Collect your materials. There are many ways to build a successful landing craft, so grab what you think will work best.**
- 2. Draw your design ideas on paper.**
- 3. Build your landing device and put your egg inside. Test it out by dropping your device from about 8-10 feet.**
- 4. If your egg does not crack, your design is successful! If it does, try changing the design of your craft.**

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