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[SCHOOL NAME] CORRUGATED CARDBOARD BOAT RACE
Student Introduction Slide Deck

In partnership with [YOUR COMPANY]

Rewarding jobs. Lifelong careers.
Choose a future in corrugated.

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Goal

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Witness the incredible ingenuity of corrugated cardboard as you construct boats entirely out of corrugated cardboard and race them across the pool. It's a test of creativity, engineering skills, and sheer determination. Prizes will be awarded for speed and creativity!

Whether you sink or make it to the finish line, you're going to have a blast!

And, you'll learn more about the **corrugated packaging industry** and why it might be a good career choice whether you'd like to go to college, pursue trade school, or want to be employed after graduation.

Learn more about working in this industry at **www.careersincorrugated.com**.

Let’s Get Started

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- ➔ Each team may consist of 2-3 members, but only one team member will pilot the boat (kayak paddle will be provided).
- ➔ Construct a boat from corrugated materials – more details to follow!
- ➔ Compete for awards and exciting prizes:

  - ◆ **1st Place** - the fastest boat to cover 25 yards
  - ◆ **2nd Place** - the second-fastest boat to cover 25 yards
  - ◆ **Overall Best in Show**

Components of the Challenge

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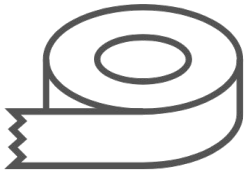
- **Design Challenge:** Your team is tasked with constructing a seaworthy boat. This requires imaginative thinking as you conceptualize a design that not only floats but also performs well in a race. You'll have to consider buoyancy, stability, and functionality while brainstorming unique and efficient designs.
- **Material Limitations**: Providing tools and materials offers a controlled environment for creativity. You will need to strategize and optimize your use of provided resources, pushing you to think innovatively within constraints.
- **Engineering Principles**: Buoyancy, hull design, construction method, etc.
- **Problem-Solving Skills**: You will need to troubleshoot, adapt, and problem-solve as you refine your designs to overcome setbacks.
- **Team Collaboration**: You must communicate effectively, delegate tasks, and combine your individual strengths to create the best possible product.

Boat Construction Rules

The first ingredient in corrugated cardboard boat-building is **creativity**. The second important ingredient is **problem-solving**. Then, there is the **corrugated material.**

Approved Construction Materials:

- ➔ Corrugated Cardboard Sheets (4 x 8) of various flute profiles - provided by [YOUR COMPANY NAME]
- ➔ Safety Knives and Gloves - provided by [YOUR COMPANY NAME]
- ➔ Tape



Get Creative!

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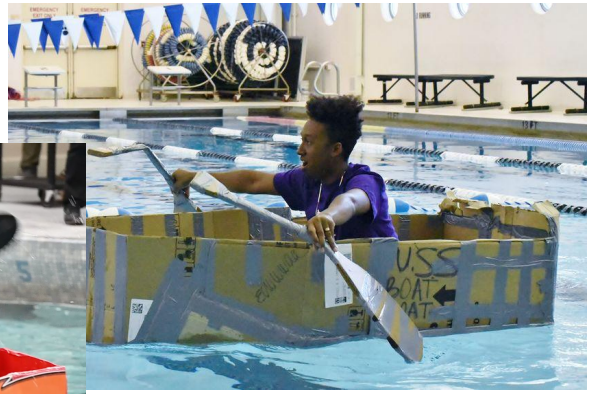
We've heard of cardboard kayaks, barges, freighters, pirate ships, riverboats, rafts, beds, and other floating vessels in the shape of a bratwurst, a giant Tootsie Roll, cars, trucks, airplanes, space shuttles, aircraft carriers, dragons, sea monsters, sharks, dolphins, sea turtles and other marine animals — all made of corrugated, of course.



Before Constructing

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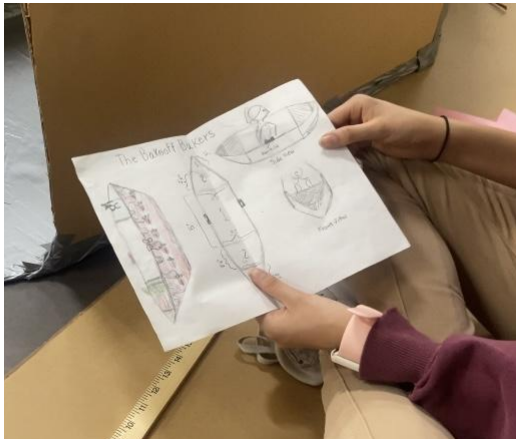
- Envision what you want your corrugated creation to look like and come up with a design idea. **Build a Model** using a manila folder or other heavy paper. That allows you to try out your design idea on a small scale before working on a full-sized creation.

- Use **Engineering and Design Principles**. Consider the science involved. There's a simple principle in physics which says that the total buoyant force is equal to the weight of the water displaced by the object. This buoyant force is distributed evenly across the area of the object. Otherwise, the boat bends in half when you get into it and water pours in. Calculate the displacement of your idea so that you will have some idea about the buoyancy of your design. Here's the basic number: a cubic foot of water weighs about 62 pounds. That means that a 180-pound person will float in a boat that is 1 foot by 1 foot by 3 feet.

- Boat decorations & crew costumes are encouraged- use your imagination.



What is Corrugated?

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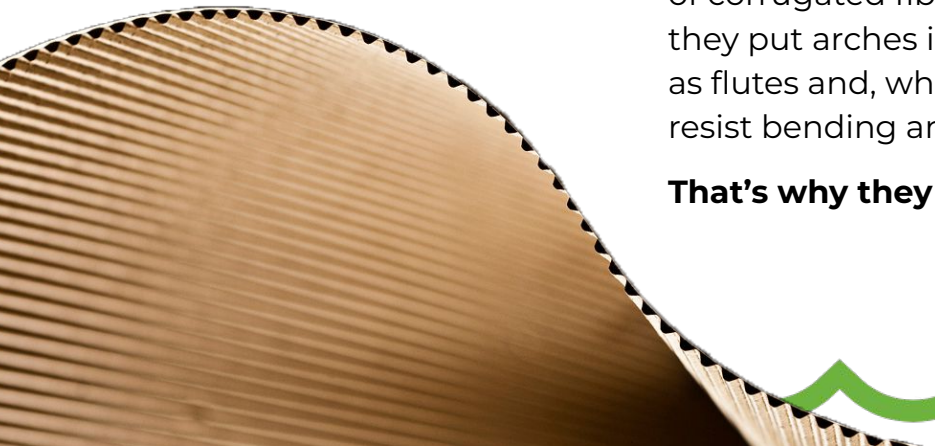
Corrugated fiberboard (what most people call cardboard) has two main components:

LINER & MEDIUM

Both are made of a special kind of heavy paper called containerboard. Linerboard is the flat material that adheres to the medium. Medium is the paper that is formed into arches or flutes and glued between the linerboard facings.



Architects have known for thousands of years that an arch with the proper curve is the strongest way to span a given space. The inventors of corrugated fiberboard applied this same principle to paper when they put arches in the corrugated medium. These arches are known as flutes and, when anchored to the linerboard with an adhesive, they resist bending and pressure from all directions.

That's why they are great for constructing boats!

Design Suggestions

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The fun is in the ***discovery***. So, here are some boat building tips:

1. Use tape to cover and reinforce joints and any “open” ends of the corrugated sheet.
2. Layer corrugated for additional strength. Try layering the corrugated with the flutes going in different directions. This will make for a stronger laminate. You can have strength and still keep your boat light if you place the second layer so that the flutes run at a 90-degree angle to the first layer.
3. To fold corrugated across the flutes, consider scoring the line of the fold with the butt end of your utility knife or other rounded edge of a tool.
4. Try building a model first. Scale down your design and cut its “flat-pattern” shape out of a manila folder. Use stones or small weights to test the buoyancy. Tape together and seal it from the water using scotch tape. This could give you an idea if the boat will float the way you want.
5. Other helpful tips:
    - Rudders help keep you straight.
    - Long boats go fast.
    - Best Width: 18”- 30” (max) for 1 person
    - Kneeling is a “power” position but sitting is more comfortable.
    - Cover edges of corrugated – acts like a siphon.
    - Reinforce the area where you sit, kneel or stand.
    - Joints taped together should be folded together, not cut together.
6. Remember to decorate your boat.

Now go for it! Be creative. If you can dream it, you can do it.

Boat Building and Race Timeline

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Construction Times: [DATES/TIMES]

Boat Race at [SCHOOL NAME]: [DATE/TIME]

Choose a Future in Corrugated

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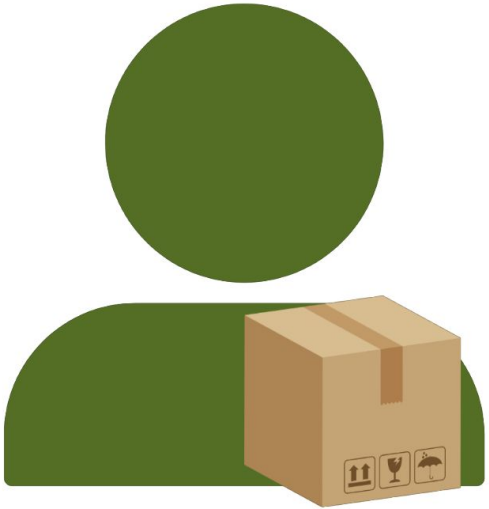
Now that you've seen the greatness of what corrugated cardboard can do, imagine what working for the corrugated industry can do for you! Here's what a **#CareerInCorrugated** can offer **YOU**:

We prioritize ***Sustainability.***

We offer ***Job Security.***



Innovation is at our core.

We provide many ***Growth Opportunities.***

Diversity, Equity & Inclusion matter to us.

We’re Hiring! [YOUR COMPANY NAME]

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This slide deck is also an opportunity to promote the corrugated packaging industry and your plant. ICPF has included an industry career highlight video on the previous slide which can be paired with a plant-specific video.

Don’t have a plant recruitment video? Reach out to ICPF’s Outreach and Marketing Manager Alex LeMoine at alemoine@icpfbox.org. We will work to schedule a plant visit, establish project goals, and begin expanding your recruitment toolbox.

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GOOD LUCK!
LET'S START BUILDING...