CARGO CARRIER

Create a boat or raft that can carry a small toy across water

POSSIBLE BUILDING MATERIALS

- Cup/Plastic bottle
- Cardboard
- Paper
- Corks
- Aluminum foil

TOOLS

- Scissors
- Tape
- String

TESTING MATERIALS

To test the cargo carrier:

- Water
- Bucket/Sink/Tub/Bowl
- Small water-safe toy or object

SET UP THE PROBLEM

1. One way that different items (like food or things we use in our homes) get from place to place is by cargo carriers across the ocean.

2. Design a cargo carrier that can move a toy, or any selected object, across water.

Tip: select your water-safe toy or object before you start building so that you can plan for it's size and weight.

ENGINEERING BACKGROUND

Marine engineers design, build, and maintain all types of ships, boats, and submarines.

LEARNING GOAL

Sequencing is the ordering of objects or events. The **Think, Make, Try**® process helps children practice sequencing as they are working through the design and building plan. There are many steps to creating a cargo carrier that can carry a toy across water. At the highest level, children will need to build the cargo carrier, test whether it can hold weight, and test whether the carrier can float on water. Within each of those components there are also a series of steps that facilitate the design process such as, determining what the cargo is (including size and weight), gathering the materials to build the carrier so that it can accommodate the cargo (including holding it and being able to float), and determining where they are going to test the ability to float.

✅ TIPS FOR ADULTS

Before building: Ask children to consider what they want to build to carry their selected object across water "What object/toy needs to get across the water? What are you going to build to get it there?"

Then, prompt them to think about the steps they need to take to build their cargo carrier "What materials do you want to use? What part will you build first? What will come next?"

Once their cargo carrier is built, children will need to decide how to test whether it holds weight and floats "How will you know if your cargo carrier works?" and determine if there are improvements that can be made "What can you change to make your cargo carrier float? Can your cargo carrier hold more weight? Are there other places you want to test out your cargo carrier?"

Bay Area Discovery Museum

THINK, MAKE, TRY

For more ideas visit: BayAreaDiscoveryMuseum.org/ThinkMakeTry