

IXL Summer Science Exploration

Grades 6–8



STEP 1

Complete the IXL science skills below for the grade you will be in at the start of the school year.

SKILL NAME	6TH GRADE	7TH GRADE	8TH GRADE
Identify parts of the engineering-design process	C.1	C.1	C.1
Explore the engineering-design process: going to the Moon!	C.3	C.3	C.3

STEP 2

Using the steps of the engineering-design process, plan a floating vessel/ship that will successfully transport a weighty object across a body of water.

Process	Brainstorming ideas
<p>1. Problem: An environmentally-friendly shipping company has had several ships sink due to the problematic design of its ships.</p>	
<p>2. Criteria: Your ship must be built from only paper, wood, and plastic and be able to successfully carry a 16 oz. bottle filled with liquid for 3 minutes. You may use tape or glue to construct the ship, but not to waterproof it.</p>	
<p>3. Constraints: You may not purchase any ship-building materials, with the exception of the 16 oz. bottle. Use only items found in your factory (i.e., your home).</p>	

STEP 3

Sketch your ship plan below.

STEP 4

Build your ship prototype. Take a photo of your prototype and paste it below.

STEP 5

Test your prototype by placing a full 16 oz. bottle on top of your vessel and sailing the ship in a sink, tub, pool, or stream. Take a photo of your prototype test and paste it below.

STEP 6

Evaluate your prototype's maiden voyage.

Did your prototype sink? (Circle one.) **Yes** **No**

What features of your design worked well?

Can you think of any ways to improve your design? Explain.