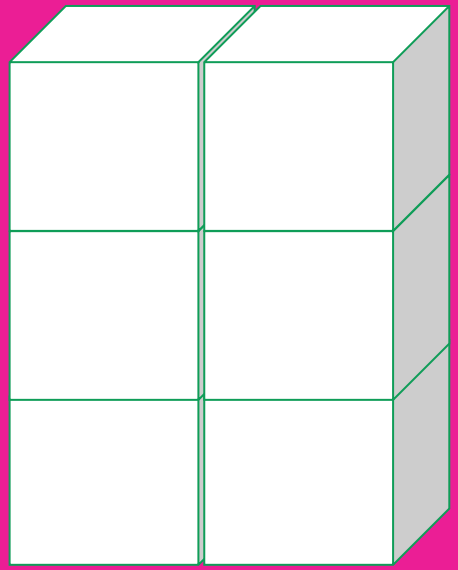
Cubic Units of Measure

Materials needed: pencil, book

Let’s use different size cubic units to measure volume.



Warm-Up Notice and Wonder: Two Prisms

What do you notice? What do you wonder?

Warm-Up Synthesis

The little cube represents a cubic foot.

The big cube represents a cubic yard.

About how many of the big cubes could we fit in our classroom?

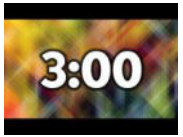
We have been using cubic units to measure volume, but haven't defined the size of the unit. **The choice of the unit depends on the size of the object.**

Activity 1 What are the Units?

object
the volume of a moving truck
the volume of a freezer
the volume of a juice box
the volume of a classroom
the volume of a dumpster
the volume of a lunch box

Take a minute to read this list.

Discuss with a partner the objects you know or have questions about.



Activity 1 What are the Units?

In this activity we are going to consider using different cubic units of measure to find the volume of different sized objects. There is no right or wrong answer in these questions, but be prepared to explain your choice

object	units
the volume of a moving truck	
the volume of a freezer	
the volume of a juice box	
the volume of a classroom	
the volume of a dumpster	
the volume of a lunch box	

Discuss with a partner the units you thought to use the find the volume of each object.

Activity 1 Synthesis

How did you decide which units made sense?

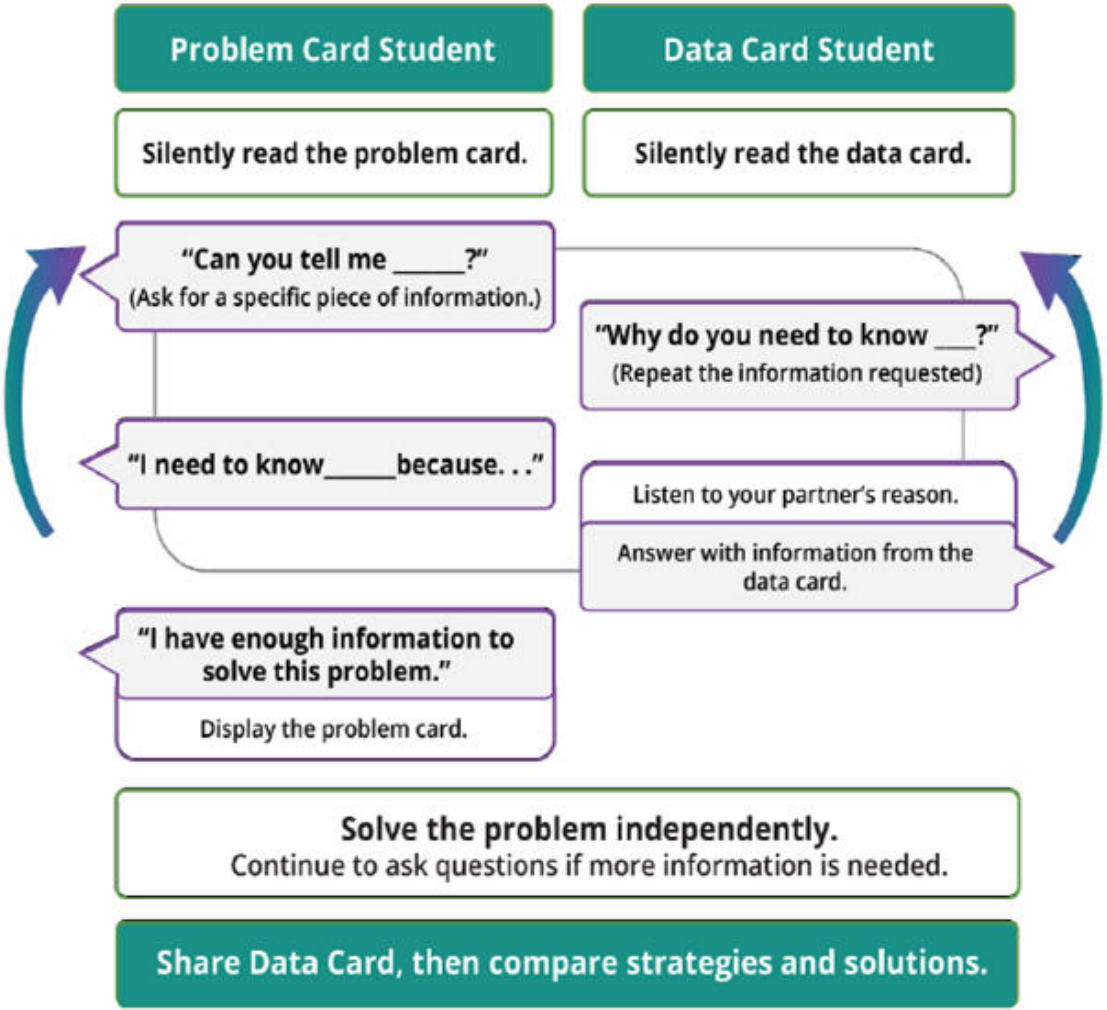
What if I only wrote 24 as the volume for the freezer? What questions would you have?

Info Gap

One partner has a Problem Card.

One partner has a Data Card.

You cannot see your partner's card.



Info Gap

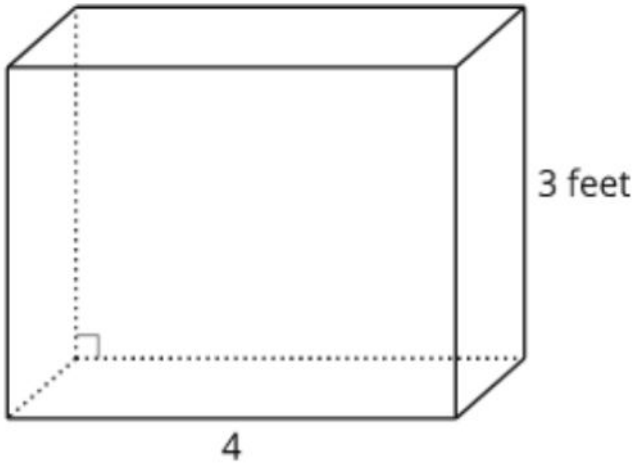
Some of the information you need to solve this problem is missing, and I have it here.

With your partner, decide what information you need to solve the problem, and create a list of questions you can ask to find out.

Problem Card

This is a diagram of a freezer.

What is the volume of the freezer?



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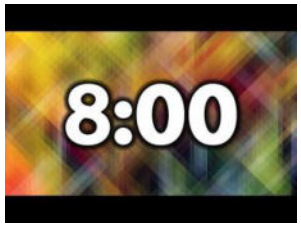
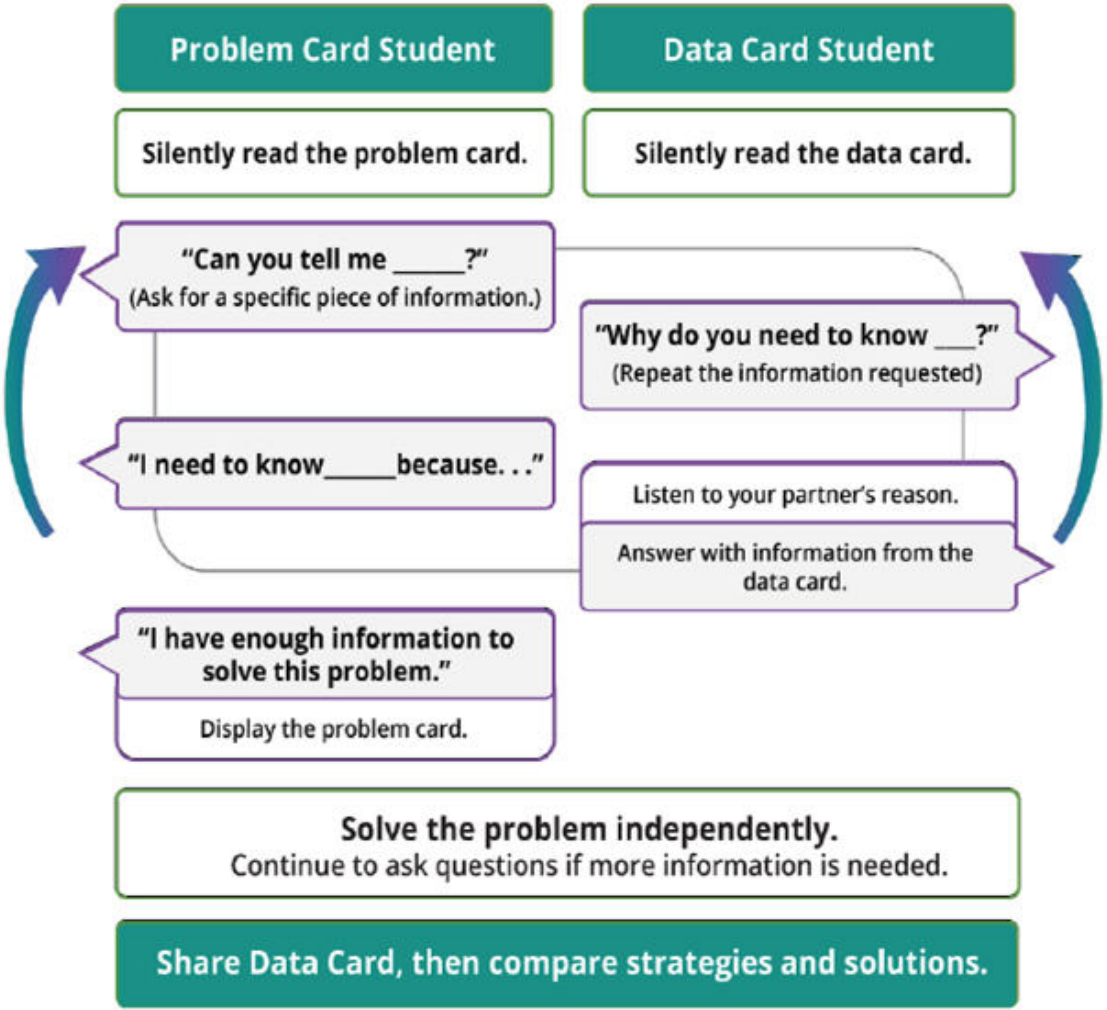




Activity 2 Synthesis

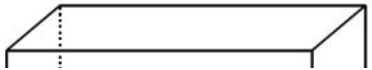
Problem Card 1

Andre wants to measure the volume of the dumpster that is outside a construction site.

What is the volume of the dumpster in cubic feet?

Data Card 1

- The dumpster is 20 feet long.
- The dumpster is 8 feet tall.



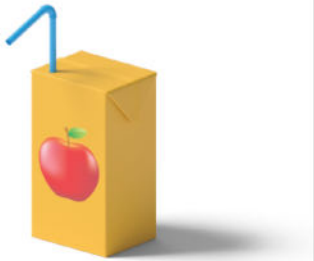
What questions did you ask to help you find the volume?

What units were used for each problem? Did those units make sense?

Problem Card 2

Jada wants to fit 10 juice boxes in her backpack for the field trip.

Can Jada fit all 10 juice boxes in her backpack? Why or why not?

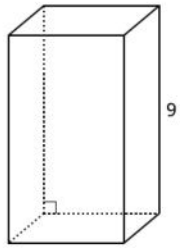


Data Card 2

Each juice box is 4 centimeters wide.

Each juice box is 5 centimeters long.

Jada's backpack has space for up to 1,500 cubic centimeters.

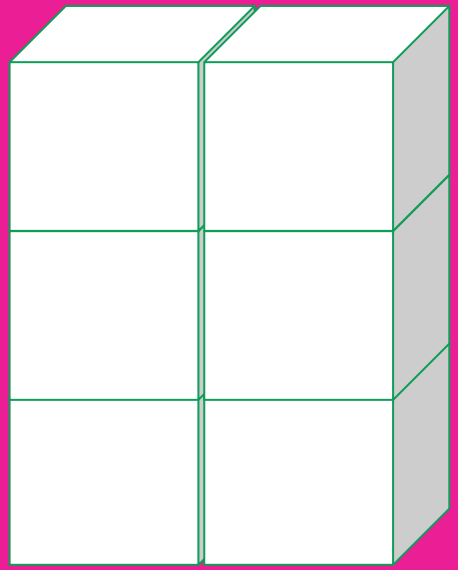


Lesson Synthesis

Today we worked with these different sized cubic units. Turn and talk with your partner and try to think of an object for which you would use each unit of measure to find the volume.

Now, pick one of the things you discussed and explain to your partner how you would find the volume of that object.

Let’s use different size cubic units to measure volume.



Cool-Down

Find the Volume

Complete the cool-down by yourself.