

Volume

These activities extend the puzzles and the concepts learned in the puzzles throughout the week. The activities might be tasks, word problems, journal writing activities, or hands-on activities designed to deepen student understanding and help students make connections.

Some of the activities listed below work well in a remote environment and can be easily added to your virtual classroom. The activities that can be used remotely are designated as such.

EVERALE Classroom Infanced Student Work Mare: Date: There are 24 cubes in the ground. What are all of the possible loads the helicopters could be carrying so the figure can be filled? For each ball, how many belicopters would you need? How do you know you've figure d at of the possible leads? English your thinking	 Pose the following problem to students, "There are 24 cubes in the ground. What are all of the possible loads the helicopters could be carrying so the figure can be filled? For each load, how many helicopters would you need? How do you know you've found all of the possible loads? Explain your thinking." Have students work with a partner or small groups to solve the problem. Share students' solutions and thinking. (Can be used remotely)
	 Give students whiteboards and dry erase markers. Display the first puzzle in Level 6. Say to students, "Instead a counting unit cubes, I had a student last year who would solve this puzzle by multiplying (say the length of the figure shown) x (say the width of the figure shown) x (say the width of the figure shown) x (say the height of the figure shown). Will this tell us the volume of the figure?" Ask students to work through this idea with a partner and share their findings. Explain to students that volume can be found by counting the total cubes used, or by using the formula L x W x H. Say to students, "Is this always true for rectangular prisms? Let's solve more puzzles in this level to find out." Solve the remaining puzzles in Level 6.
	 Have students find different rectangular prisms in the classroom (e.g., tissue box, board game box, pencil box, etc.) Ask students, "How could we find the volume of these rectangular prisms if we do not have enough unit cubes to fill them?" Remind students of the formula for volume: L x W x H. Put students into small groups. Give each group different rectangular prisms. Have students measure the length, width, and height of the rectangular prisms to the nearest whole number and find the volume. As a whole class, compare the volumes of the rectangular prisms and order them from greatest volume to least.
	 Put students into groups of 2. Give students whiteboards, dry erase markers and unit cubes or centimeter cubes. Without their partner watching, have student #1 create a rectangular prism using the cubes. When finished, student #2 needs to find the volume of the figure by both counting the cubes and then proving their answer using the formula L x W x H. Students then switch roles.
PUZLIL TALK Clear vom Extensions Pre-Work Name: Date: Solve 321 x 45 using two different strategies?	• If you are using Puzzle Talks as part of your remote learning plan, it is important to think about how to maximize the learning in the virtual environment. One strategy might be to do Pre-Work. Pre-Work encourages students to think about the concept prior to the Puzzle Talk.



Name:

Date:

There are 24 cubes in the ground. What are all of the possible loads the helicopters could be carrying so the figure can be filled? For each load, how many helicopters would you need? How do you know you've found all of the possible loads? Explain your thinking



Name:	
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The Super Snowglobe Company packs each snowglobe into a cube for shipping. How could the Super Snowglobe Company figure out what size the box needs to be to ship 20 cubes in each box? Explain.

The formula for finding volume is L x W x H. Could you find the volume by multiplying H x L x W? Why or why not?

Mandy wanted to pack drinks in the cooler for her family picnic. She measured the length of the cooler and found its length was 18 inches and its width was 5 inches. She also measured the height of the cooler. If the volume of the cooler is 450 cubic inches, what is the height of the cooler?