



Volume with Unit Cubes

Math Mission Escape Room

5th
Grade
5.MD.C.3
5.MD.C.4

by
The Great Classroom Escape

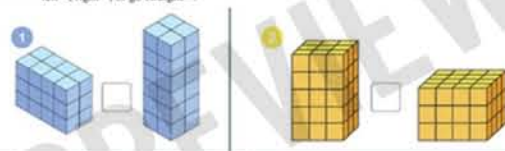
TOP SECRET

Rectangular Prisms & Composite Rectangular Prisms



Task 3: Navigate the Halls

This place is like a maze. Don't make a wrong turn! Compare the volumes to decide whether to turn left <, right >, or go straight =.



Task 8: Find the Trucks!

Three trucks contains illegal cargo. The rest are decoys. Figure out the license plate numbers of the real trucks! The license plate is the same as the volume of cargo that the truck contains. Each truck contains boxes that are each one cubic foot stacked in a rectangular prism. To find the code to the lock to open the trucks, find the sum of all three volumes from the license plates.

Circle the correct plates:



Truck 1: Base layer of ---- cubes by ---- cubes. Height of ---- cubes.

Truck 2: Base layer of ---- cubes by ---- cubes. Height of ---- cubes.

Truck 3: Base layer of ---- cubes by ---- cubes. Height of ---- cubes.

Code to unlock the trucks:

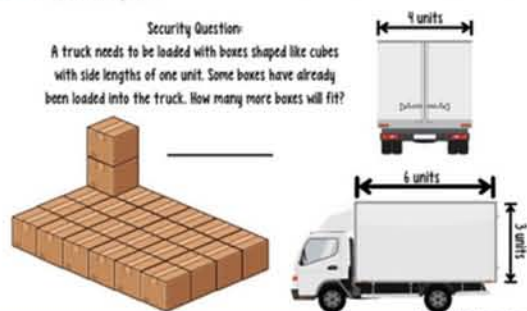


Task 5: Security Question 1

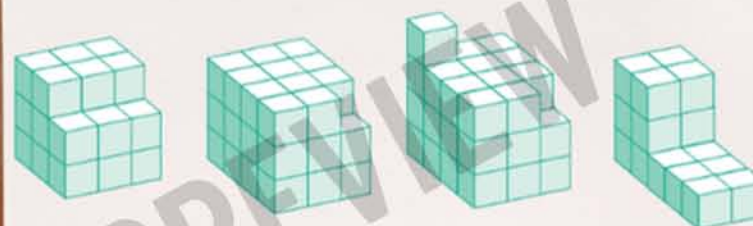
There is often a guard at the entrance to the loading dock. If you encounter the guard, be prepared to answer this question.

Security Question:

A truck needs to be loaded with boxes shaped like cubes with side lengths of one unit. Some boxes have already been loaded into the truck. How many more boxes will fit?



You will probably encounter a second guard patrolling the trucks on the loading dock. If she asks why you are there, tell her this message.

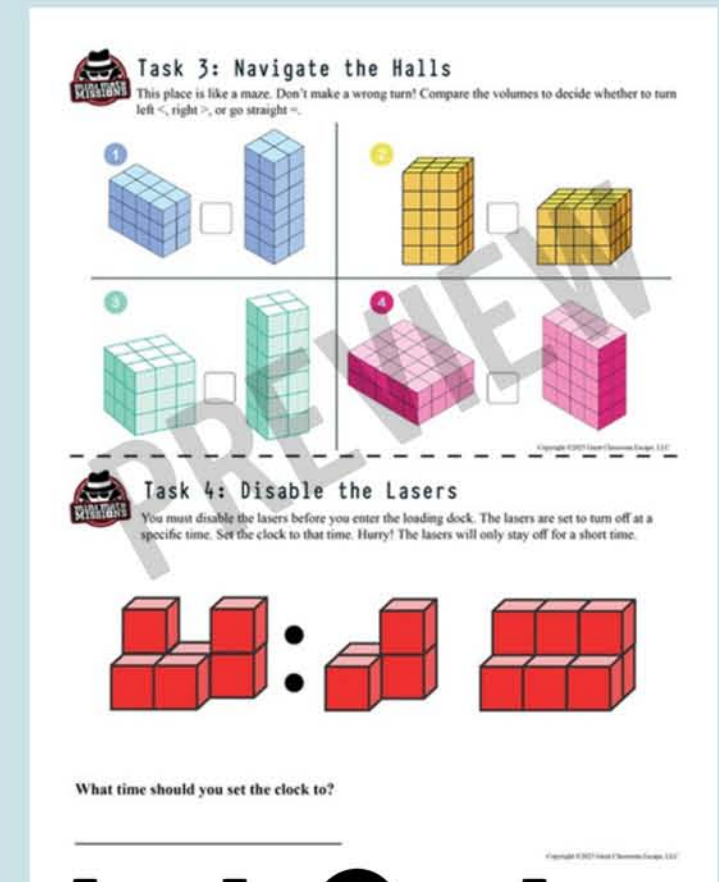
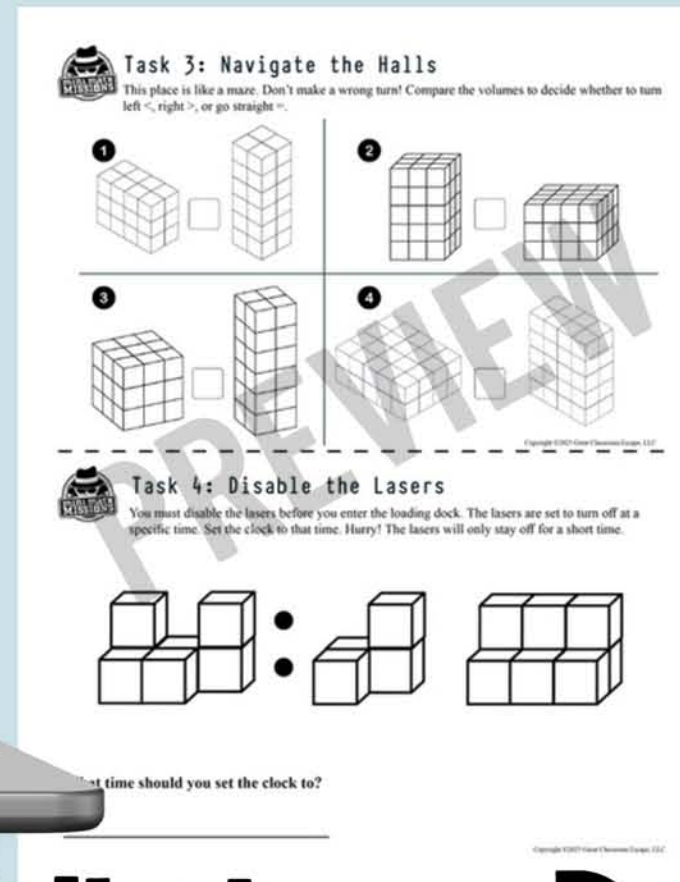


15 units³ Trucks
18 units³ Themselves
21 units³ Others
24 units³ Cubes
25 units³ Can't

27 units³ Loading
30 units³ I'm
32 units³ Some
35 units³ Don't
36 units³ Stack

Secret Mission Themed Escape Room

- Unique, fun, and engaging ways to practice standards-based math
- Seven challenges focus on standards-based math skills in a way that encourages active learning and collaboration.



Color, Black & White + Digital Option

Standards

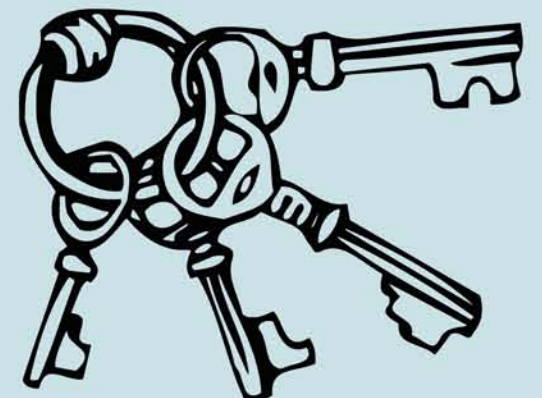
**5.MD.C.3, 5.MD.C.3.a,
5.MD.C.3.b, 5.MD.C.4,
5.MD.C.5**

5th Grade Math Skills

- **Finding volume of rectangular prisms with unit cubes**
- **Solving real world problems involving volume with unit cubes**
- **Recognizing volume as additive**
- **Finding volume of composite rectangular prisms and irregular shapes with unit cubes**

Fast Facts

-  **Low prep printable, no-prep digital**
-  **Allow 30-60 minutes**
-  **Use individually, in pairs, or in small groups**
-  **Digital requires internet connected device**
-  **Answer Key Included**
-  **Virtual or in-person**
-  **8 Engaging Puzzles**



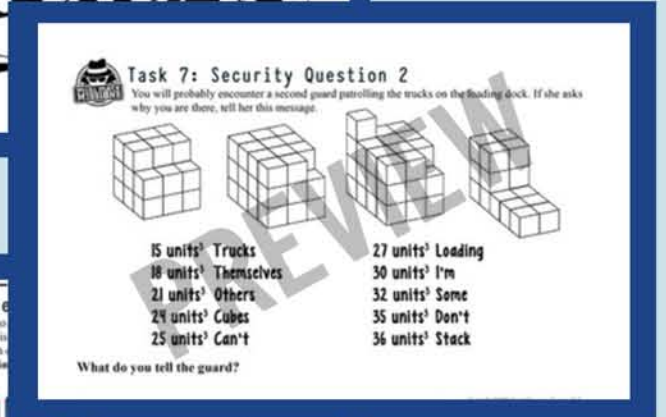
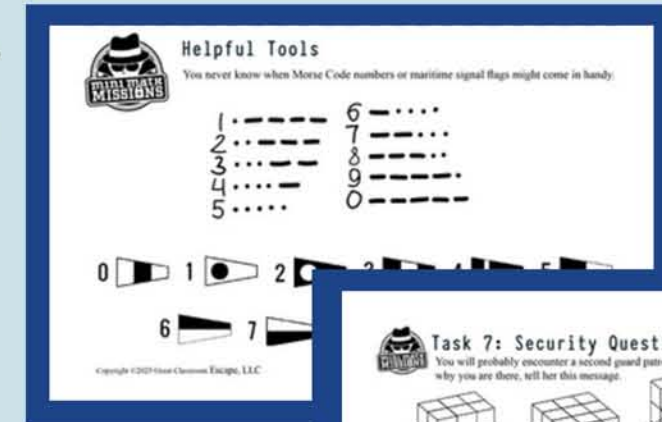
How it Works: Digital

- The escape room is automated by a Google Form™ (Google™ accounts are not required).
- Use the quick start link to click & go, or create a copy of the form to save to your drive (the teacher must have a Google™ account to save a copy).
- Students only progress through the puzzles when correct answers are entered.
- The form provides hints if students enter incorrect answers.
- No prep, easy to manage, & self-checking!



How it Works: Print

- Black & white OR color printable clues
- Print, & cut clues
- Check students answers before providing the next clue.
- Clear directions provided
- Make as immersive/engaging as you'd like, or keep it simple!
- Tip: laminate the clues for future use
- Use all eight puzzles together as an escape room, or use each puzzle individually as a task card or exit ticket



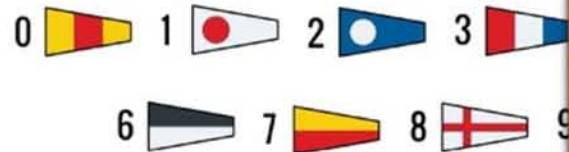
Puzzle Preview



Helpful Tools

You never know when Morse Code numbers or maritime signal flags might come in handy.

1: ---
2: ---
3: ---
4: ---
5: ---
6: ---
7: ---
8: ---
9: ---
0: ---

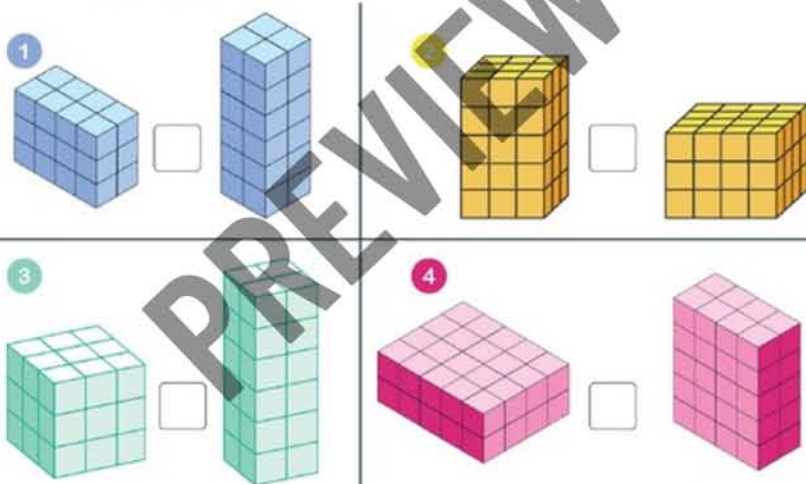


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Task 3: Navigate the Halls

This place is like a maze. Don't make a wrong turn! Compare the volumes to decide whether to turn left <, right >, or go straight =.



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Combination to the lock on the door:

The number of unit cubes it would take to build a rectangular prism that is  units long,  units wide, and  units tall.

The number of unit cubes it would take to build a rectangular prism that is  units long,  units wide, and  units tall.

The number of unit cubes it would take to build a rectangular prism that is  units long,  units wide, and  units tall.

G H I J K L M N O P Q R S T U V W X Y Z 26

Puzzle Preview



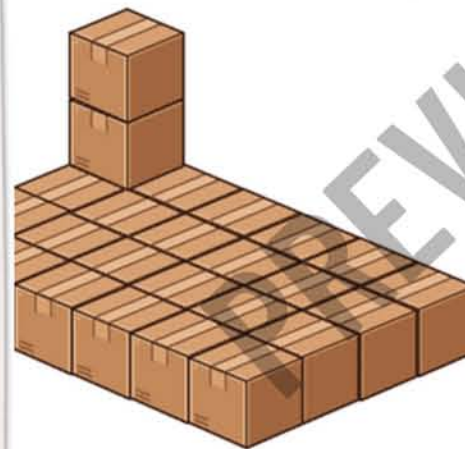
Task 4: Disable the Lasers

You must disable the lasers before you enter the loading dock. The lasers are set to turn off at a specific time. Set the clock to that time. Hurry! The lasers will only stay off for a short time.



Security Question:

A truck needs to be loaded with boxes shaped like cubes with side lengths of one unit. Some boxes have already been loaded into the truck. How many more boxes will fit?



You will probably encounter a second guard patrolling the trucks on the loading dock. If she asks why you are there, tell her this message.



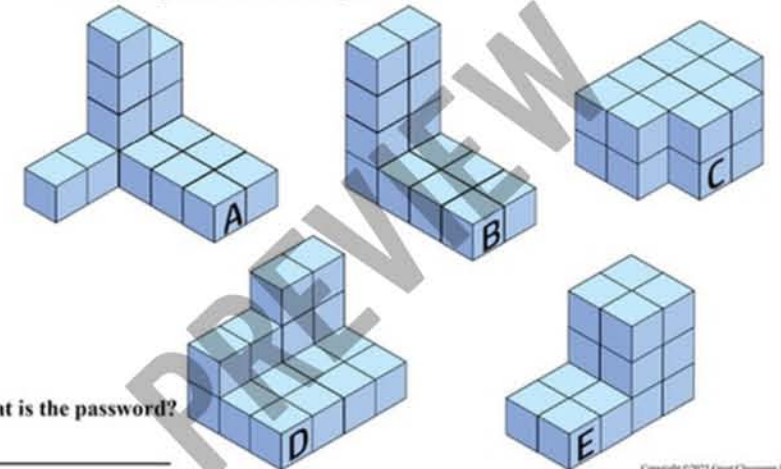
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27 units³ Loading
30 units³ I'm
32 units³ Some
35 units³ Don't
36 units³ Stack



Task 6: Access the Loading Dock

The door to access the loading dock requires a five letter password. Putting the volumes in order from least to greatest will reveal the password.



What is the password?



Task 8: Find the Trucks!

Three trucks contain illegal cargo. The rest are decoys. Figure out the license plate numbers of the real trucks! The license plate is the same as the volume of cargo that the truck contains. Each truck contains boxes that are each one cubic foot stacked in a rectangular prism. To find the code to the lock to open the trucks, find the sum of all three volumes from the license plates.

Circle the correct plates:



Truck 1: Base layer of ---- cubes by ---- cubes. Height of ---- cubes.

Truck 2: Base layer of ---- cubes by ---- cubes. Height of ---- cubes.

Truck 3: Base layer of ---- cubes by ---- cubes. Height of ---- cubes.

Code to unlock the trucks:

*Please check to see if the rigor of the puzzles suits your students.