Escape the Vault

A printable math escape room · Grades 5–7 · 5 locks · about 30–40 minutes

Your mission

Your team is locked inside the bank vault! To get out, you must open 5 locks. Each lock has 3 questions. Every answer is a single digit from 0 to 9. Put the 3 answers together, in order, and you have the lock's code. Before you ask your teacher to check a code, use the self-check: the digits of every code add up to the number on the lock card.

Team: _____ Time started: _____

Code sheet

Lock 1
The Laser Grid
☐ ☐ ☐ Teacher check: ☐ open

Lock 2
The Pressure Plate
☐ ☐ ☐ Teacher check: ☐ open

Lock 3
The Retina Scanner
☐ ☐ ☐ Teacher check: ☐ open

Lock 4
The Time Lock
☐ ☐ ☐ Teacher check: ☐ open

Lock 5
The Main Vault Door
☐ ☐ ☐ Teacher check: ☐ open

ESCAPED! Time finished: _____ Total time: _____

Escape the Vault: Lock Cards

Cut out one card per lock, or give each team the whole page. Every answer is one digit.

Lock 1: The Laser Grid

ORDER OF OPERATIONS

Digit 1	3 + 4 × 2 − 9	☐
Digit 2	(18 − 6) ÷ 4 + 5	☐
Digit 3	20 ÷ 5 × 2 − 3	☐

Self-check: the 3 digits of this code add up to 15.

Lock 2: The Pressure Plate

FRACTIONS

Digit 1	3/4 of 8	☐
Digit 2	2/3 + 7/3	☐
Digit 3	1/2 ÷ 1/14	☐

Self-check: the 3 digits of this code add up to 16.

Lock 3: The Retina Scanner

DECIMALS

Digit 1	0.6 × 15	☐
Digit 2	4.5 + 3.5 − 8	☐
Digit 3	2.4 ÷ 0.6	☐

Self-check: the 3 digits of this code add up to 13.

Escape the Vault: Lock Cards

Cut out one card per lock, or give each team the whole page. Every answer is one digit.

Lock 4: The Time Lock

PERCENTS AND RATIOS

Digit 1 25% of 16 ☐

Digit 2 10% of 10 ☐

Digit 3 A recipe uses 2 cups of flour for every 3 cups of milk. How many cups of flour go with 9 cups of milk? ☐

Self-check: the 3 digits of this code add up to 11.

Lock 5: The Main Vault Door

INTEGERS AND EXPONENTS

Digit 1 $-3 + 11$ ☐

Digit 2 $2^3 - 7$ ☐

Digit 3 $(-4) \times (-2) - 5$ ☐

Self-check: the 3 digits of this code add up to 12.

Answer Key and Teacher Notes

Keep this page away from the teams!

Lock	Answers	Code	Digit sum
Lock 1: The Laser Grid	2, 8, 5	**285**	15
Lock 2: The Pressure Plate	6, 3, 7	**637**	16
Lock 3: The Retina Scanner	9, 0, 4	**904**	13
Lock 4: The Time Lock	4, 1, 6	**416**	11
Lock 5: The Main Vault Door	8, 1, 3	**813**	12

How to run it

- Teams of 3–4. Give each team the code sheet and Lock 1 only. Hand out the next lock card when a code is correct.
- Set a timer for 35 minutes (40 for grade 5). Write the time on the board so teams can see it.
- Hint cards: give each team 2 sticky notes. A team can trade one for a hint from you.
- Wrong code? Don't say which digit is wrong. Say "Check your digit sum" and walk away.
- Finish with 5 minutes of debrief: which lock was hardest, and what mistake did your team catch?