# The Final Vault

**Mission:** the thief built his toughest vault yet, and no team can crack it alone. Break three locks (a cipher, a logic puzzle, a math chain), each hides one piece of the code, then combine the pieces into the full password, open the box, free the mascot. Character trait today: **Relationship Skills**. Full password: **TEAMWORK12**.

## 1 · The Cipher Lock (5–16 min) — shift + number decodes to part one

**Board** U F · 1 – 13. Letters shift back 1 (U→T, F→E = TE); numbers are A1Z26 (1→A, 13→M = AM).

**Answer** **Part 1 = TEAM.**

**Diff** TK–2: numbers only, 20–5–1–13 with the A1Z26 key shown, coach counts it out to TEAM. 3–8: double-step (write O C G V, reverse to V G C O, shift back 2 = TEAM), head-to-head race, 30-sec freeze on a wrong guess, winners build their own cipher for a rival.

## 2 · The Logic Lock (16–31 min) — four letters, four clues, part two

**Setup** Cards K, O, R, W into slots 1–4. Clues: (1) starts with W, (2) K is last, (3) O before R, (4) R not in slot 2.

**Answer** W-O-R-K. **Part 2 = WORK.** Only one order fits all four clues.

**Diff** TK–2: coach pre-places W and K, kids place O and R with "O before R." 3–8: add decoy card X plus clue "X is used in no slot," 90-sec shot clock, then the winning team designs its own single-answer logic lock and referees a rival solving it.

## 3 · The Math Lock + Crack the Vault (31–45 min) — chain to part three, then assemble

**Chain** 8 + 7 = 15, then 15 – 9 = 6, then 6 × 2 = 12. **Part 3 = 12.**

**Assemble** TEAM + WORK + 12 = **FULL PASSWORD TEAMWORK12.** First team to whisper the whole code opens the box.

**Diff** TK–2: one step (6 + 6 = 12), coach helps drop 12 on the blanks T E A M W O R K __ __. 3–8: harder chain (15 – 3) × 2 = 24, then 24 ÷ 2 = 12; sudden-death race (first wrong full password is out), winners verify every step at the board.

## 4 · Finale + Wristband (45–60 min)

**Open** Winning team announces **TEAMWORK12** to the room, coach turns the key, mascot lifts out, big cheer. Name it out loud: one team cracked the cipher, one the logic, one the math, and it took all of them together. Optional "thief's note" inside: "You cracked my toughest vault, together. I surrender!"

**Award** the **Relationship Skills** trait wristband to detectives who listened to teammates, shared a clue, and brought the group together ("I listened to my team", "we figured it out together").

**3–8** For older kids and the two middle schools, run the whole hour competitive: fixed teams, score every lock on the whiteboard, visible timer each round, crown a champion here. Games bank adds **Detective Mafia** (2–3 Culprits + a Detective, 5–7 min rounds) — the one middle schoolers ask to replay.

*Detective's Oath (say together, magnifiers up): I am a detective. / My brain is my best tool. / I don't guess, I reason. / I follow the clues to the truth.*