

Grand Challenge Maze

Print at A3 if possible. One per student or pair.

The Challenge

Navigate from **START (A1)** to **EXIT (H8)**.

Rules:

- Move UP, DOWN, LEFT, or RIGHT — one square per turn
- ■ squares are walls — you cannot enter them
- Collect the **KEY** at D4 to unlock the **GATE** at F6
- IF score > 15 at square D6: you may take the shortcut to F7
- ELSE: take the longer route through E7

The Maze

	A	B	C	D	E	F	G	H
1	S					■		
2		■	■			■		
3					■			
4	■			KEY			■	
5			■					
6		■		SCR		GATE		■
7								
8			■		■			X

S = Start (A1) | **X** = Exit (H8) | ■ = Wall | **KEY** = Collect this | **GATE** = Requires KEY | **SCR** = Score check point

Special Squares

Square	Rule
D4 (KEY)	Pick up the key: <code>key = True</code> , <code>score = score + 5</code>

Square	Rule
D6 (SCR)	Score check: IF score > 15: take shortcut (go to F7), ELSE: go to E7
F6 (GATE)	IF key = True: pass through, ELSE: cannot enter – find another route

Starting Values

score = 10, key = False

Suggested Route (for teacher reference — do not share)

One valid solution: A1→B1→C1→D1→D2→D3→D4(KEY)→D5→D6(score check: 15, not >15, go E6)→E6→E7→F7→G7→H7→H8

Another valid route using shortcut: needs score>15 at D6 — not achievable from start score of 10 plus 5 from key = 15, which is NOT >15. Students who notice this shows the shortcut is never available — that is a valid discovery and worth discussing!