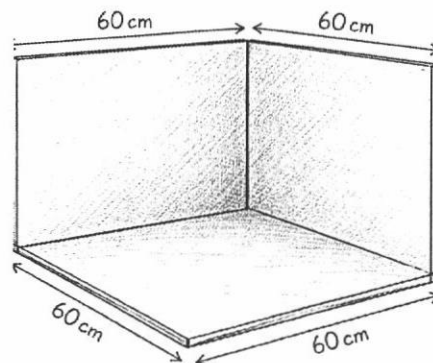


Mission Possible Mini: Raise the Flag

Division: Elementary (Grades 4-5)

Objective: Build a chain-reaction device that starts with one drop, completes chosen actions, and ends by raising a flag — all inside a 60 cm cube.



All device parts must fit inside the interior 60 cm × 60 cm × 60 cm test volume shown.

1) Space & Setup

- Fit inside 60 cm × 60 cm × 60 cm at start.
- 8 min setup; 2 min run.

Runs/Reset: One official run. If stopped, judge may allow one reset + one restart run. Reset score = (restart score) – 10.

Device Stops: no movement/action for 10 seconds and it will not continue on its own.

Judge Reset Authority: Judges decide stoppage and tell teams when they may reset. Do not touch to reset without judge approval.

2) Start Ball (Team-Provided)

Bring one start ball (choose ONE): 16 mm marble or 1/2" steel ball bearing or standard golf ball.

3) Start Action

Start by **dropping** the Start Ball into the device (ball begins at rest; one release). After the drop: **no helping**.

4) Final Action

Raise a flag: flag rises ≥ 15 cm and stays up for 3 seconds.

5) Scorable Actions (Pick Up To 5)

Up to 5 actions may be scored (each counts once):

A) Domino Chain	≥5 dominoes fall.
B) Ramp Roll	Ball travels ≥30 cm.
C) Seesaw Lever	Lever lifts/pushes to trigger.
D) Gate Release	Wedge/stopper removed; releases object.
E) Pulley Lift	Lifts object ≥5 cm.
F) Wheel & Axle Wind	Wheel/spool turns + winds string; causes motion.
G) Cup Tip	Cup collects 3 objects then tips.
H) Pendulum Hit	Pendulum hits trigger.

6) Scoring

- Flag Raise: up to 30 pts
- Chosen Actions: up to 25 pts (5 pts each)
- If reset used: final = (restart score) – 10 pts

Tie-breakers: (1) more actions, (2) higher flag score, (3) faster flag time.

7) Safety & Fair Play

- No flames, sharp projectiles, or anything flying out.
- Keep everything contained in the cube.
- Extra actions allowed, but only Section 5 actions are scored.

8) 60 cm Cube Boundary (Judging Rule)

Boundary: Device must fit entirely within the **inside space** of the 60 cm cube shown (interior is 60 cm on every side). Cube is open at the front and top for viewing.

Top opening: No part of the device may rest on, attach to, or span across the top opening (no bridge pieces). All supports/hanging elements must be self-supported within the 60 cm volume. Judges may check; if any part sticks out, device is oversized.