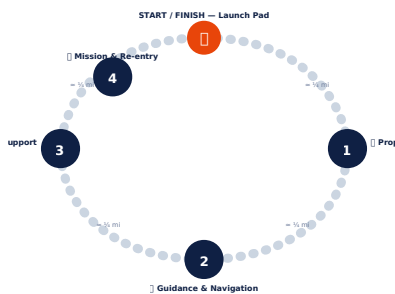


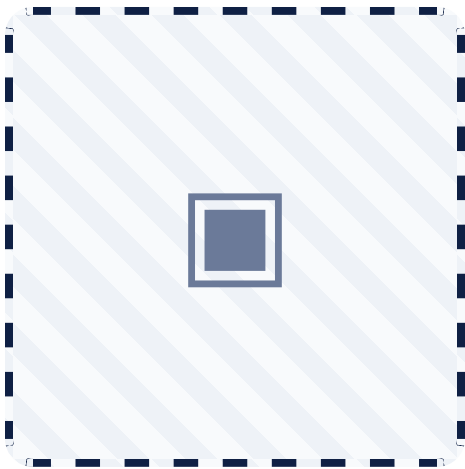
Rocketry Pathway — Route Map

A ~1-mile walkable loop · 4 stations · launch pad to Mars and back



How to space it: Aim for about $\frac{1}{4}$ mile between stations so the full loop \approx 1 mile. One lap of a standard track \approx $\frac{1}{4}$ mile; \sim 400 adult steps \approx $\frac{1}{4}$ mile. **Re-space for your space** — gym or hallway? Run multiple short laps between stations and just tell students the target total distance. The order matters (it tells the launch-to-re-entry story); the exact distances don't.

Propulsion



Scan to open the pathway

Pace: token →

At this stop

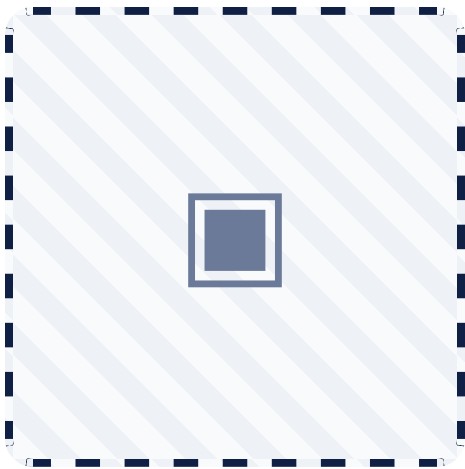
How a rocket lifts off by throwing mass down — Newton's Third Law. **Live It:** Wall push-off + 5 broad jumps to feel thrust.

NEXT CLUE

"I'm carried up by fire but I decide which way the nose points." Walk a quarter mile toward where you'd steer — find Station 2.

≈ ¼ mile to the next stop

Guidance & Navigation



Scan to open the pathway

Pace: token →

At this stop

Fins, gimbaling, and gyroscopes keep a rocket pointed right — and how navigators aim ahead of Mars. **Live It:** Heel-to-toe gyro walk, then spin & recover.

NEXT CLUE

"Out here it's empty and cold, but inside me the crew must breathe." Walk a quarter mile to where life is kept alive — find Station 3.

≈ ¼ mile to the next stop

Life Support



Scan to open the pathway

Pace: token →

At this stop

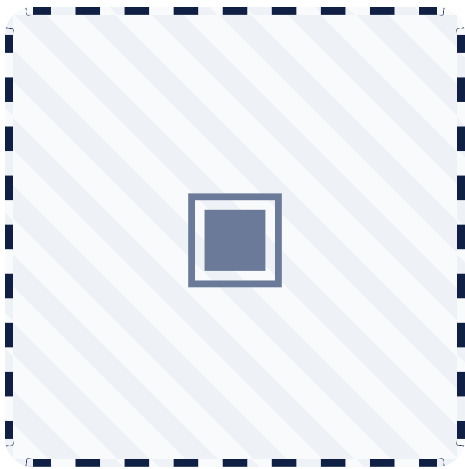
A sealed spacecraft must supply oxygen, scrub CO₂, hold pressure, and recycle water. **Live It:** Count breaths before and after 20 jumping jacks.

NEXT CLUE

"The hardest part is coming home — fast, hot, and aimed at a target." Walk a quarter mile to where the mission ends — find Station 4.

≈ ¼ mile to the next stop

Mission & Re-entry



Scan to open the pathway

Pace: token →

At this stop

Orbit is endless free-fall; re-entry turns speed into heat, and an ablative shield + parachutes bring the crew home.

Live It: Friction hand-rub, then a controlled deceleration stop.

FINAL CLUE

"Mission complete." Return to your launch point to log your loop and claim your Marstronaut wings.

≈ ¼ mile back to start — completing the ~1-mile loop