



Train Like an Astronaut: Adapted Physical Activity Strategies

Base Station Walkback

YOUR MISSION

You will perform a walk, progressing to 1600 m (1 mi) to improve lung, heart, and other muscle endurance. You will also record observations about improvements in this walk-back physical endurance experience using your lungs, heart, and other muscles in your Mission Journal.

LINK TO SKILLS AND STANDARDS

APENS: 3.09.08.01 Understand the different types of direct and indirect determinations of muscular strength, endurance, and flexibility tests for individuals with disabilities

Activity Specific Terms/Skills

Endurance, Strength, Orientation, Mobility

SPACE RELEVANCE

When exploring space, astronauts complete many physical tasks. When on a planetary surface, if their vehicle breaks down astronauts must be able to walk a distance of up to 10 km (6.2 mi) back to their base station. To help NASA know crew members are physically prepared to complete their mission tasks or perform a walk-back procedure, astronauts train by running and lifting weights to improve their overall physical fitness.

WARM-UP & PRACTICE

Warm-Up

- ▲ Aerobics or dancing for 2 minutes
- ▲ Jumping in place
- ▲ Moving arms in circles
- ▲ Scooters (in a relay)

Practice

- ▲ Walk around for 2 minutes, increase the pace and/or distance
- ▲ Move your arms for 2 minutes, increase the speed and/or time
- ▲ Practice one task of the entire activity



SUGGESTED ADAPTED EQUIPMENT:

- ▲ TIMER/ STOP WATCH
- ▲ PEDOMETER/ACCELEROMETER
- ▲ MEASURING WHEEL OR TAPE
- ▲ EXTRA-LARGE COLORED COUNTING (CRAFT STICKS)
- ▲ STICKERS





Base Station Walkback

LET'S "TRAIN LIKE AN ASTRONAUT!"

Adjust steps and procedures as appropriate for participants

Instructions for individual play:

- ▲ Measure a course with the following distances:
 - 400 m ($\frac{1}{4}$ mi), 800 m ($\frac{1}{2}$ mi), 1200 m ($\frac{3}{4}$ mi), 1600 m (1 mi)
 - This could be laps around the playground, track, gym, or your neighborhood.
- ▲ At your own pace, walk, jog, or run the measured distance.
- ▲ Start by trying to complete 400 m ($\frac{1}{4}$ mi).
- ▲ Slowly work to increase the distance by 400 m ($\frac{1}{4}$ mi).
- ▲ Over time, your goal should be to complete 1600 m (1 mi).
- ▲ Record observations before and after this physical experience in your Mission Journal.

TRY THIS! *Some ideas for Adapted Activity*

- ▲ Ergometers (upper body)
- ▲ Stationary bike
- ▲ Bicycle motion with legs or arms
- ▲ Modify or accumulate distances
- ▲ Scooters
- ▲ Use Rockport Walk Test
- ▲ Swim
- ▲ Vary distances or areas to walk, jog, run, self-propel
- ▲ Offer incentives (desired objects) for performer to earn to complete distance (stickers, colored counting craft sticks)
- ▲ Use verbal cues/caller, tether rope, or sighted guide
- ▲ Select brightly colored items: cones, markers; or use sound emitting columns for performer to follow; color choice is dependent on performers needs
- ▲ Perform with assistance partner (push in wheelchair or stabilize walker in support via hand over hand assistance)

