TRAIN LIKE AN ASTRONAUT MISSION HANDOUT

YOUR MISSION: Agility Astro-Course

You will complete an agility course as quickly and as accurately as possible to improve agility, coordination and speed. After you have completed the Astro-Course and recorded your times, you will comment on your agility during this physical experience on your Mission Journal.

Agility requires quickness, strength, and good balance and coordination. Walking up and down stairs, hiking outdoors and playing tag are some daily activities that require agility.

Mission Question: How can you perform a physical activity that will improve your agility, coordination, and speed?

MISSION ASSIGNMENT: Agility Training

Follow the directions listed below to complete the Agility Astro-Course. A warm-up/stretching and cool-down period is always recommended.

- ◯ Lie face-down on the ground at the starting point.
- ◯ When time starts, jump to your feet and run the course to the finish following these criteria.
  - Complete the course as quickly as possible.
  - Do not touch or knock over any cones.
  - Touching or knocking over a cone is a 2 second penalty added to your completed time for each cone infraction.
- ◯ Record your final time on your Mission Journal.
- ◯ Record any penalties that occurred on your Mission Journal.
- ◯ Rest at least one minute.
- ◯ Return to the line, repeat the Astro-Course at least three times, following the same directions as the first time. Continue to practice improving your movements, accuracy and time.

- ◯ Record observations about this activity before and after this physical experience in your Mission Journal.

Follow these instructions to train like an astronaut.

Improving agility makes it easier for you to move around objects quickly and safely. By improving your movements and time on the Agility Astro-Course, you may find it is easier to change directions while moving or running and keep your balance instead of falling over or bumping into other people or objects.

It's a NASA Fact:

Astronauts practice strength and agility through training exercises designed by NASA Astronaut Strength, Conditioning & Rehabilitation Specialists (ASCR). These fitness specialists conduct an annual fitness test, design individual exercise programs, and provide one-on-one pre-flight and post-flight conditioning activities for the astronauts. The agility we use every day on Earth is different from the agility used in space. Being in space over a period of time can affect astronaut's agility. This is observed once the astronauts return to Earth. Due to the astronauts living in microgravity environment and not using their muscles as they do on Earth, their muscles weaken. After they return from a long duration mission, astronauts work with ASCRs to restore and maintain agility as before their spaceflight mission.

Fitness Acceleration

- Using the same set up as the Agility Astro-Course, move the cones to make the agility course larger. One may also add more cones to increase the agility factor. One may also reduce the area of the Agility Astro-Course by using less cones. Is this course more difficult to complete?
- Immediately before engaging in the Agility Astro-Course, do jumping jacks for 30 seconds. Compare this time to the times for the first three trials. Did your time increase or decrease? Explain.
- Change the environment in which the Agility Astro-Course is performed (i.e. inside to outside).
- Decrease the rest time between trials.

Think Safety!

Researchers and ASCRs working with the astronauts must make sure they have a safe environment in which to practice so the astronauts are not injured.

- A warm-up and cool-down period is always recommended.
- Avoid obstacles, hazards, and uneven surfaces.
- Wear appropriate clothes and shoes that allow you to move freely and comfortably.
- Drink plenty of water before, during, and after physical activities.

Agility:
The ability to quickly and easily move your body.

Coordination:
Using your muscles together to move your body.

Mission Explorations:

- Stand on one leg. Wave your arms and other leg about and still try to keep your balance.
- Participate in a field sport such as soccer or a racket sport such as tennis.
- Take part in a relay race with other pairs of students.
  - Stand beside your partner.
  - Using a scarf or bandana, tie you and your partner's legs that are nearest to each other together at the ankle.
  - Race a measured distant to the finish line.
- Participate in sack races.
  - Step into a sack made of burlap, pulling it over your feet and up around your waist.
  - Hold the sack in place, and race against other students by hopping to the finish line.

Status Check: Have you updated your Mission Journal?