Space Nutrition

Volume 1 | Ready, Get Set for Space Research | Issue #5

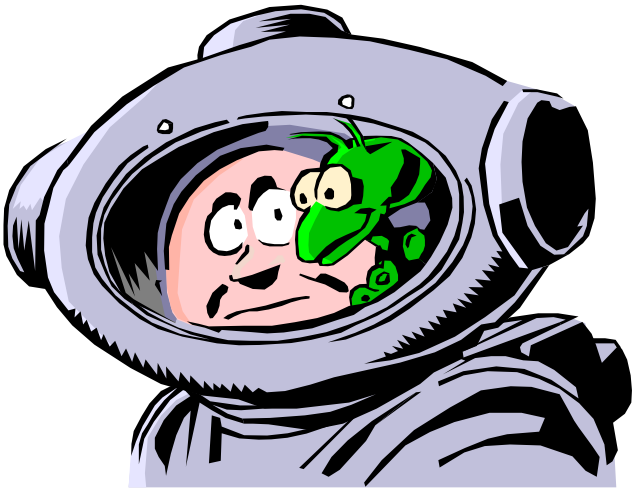
STS-107 Facts

The crew for STS-107 was selected in the summer of 2000, and includes 7 astronauts: Commander Rick Husband, Pilot Willie McCool, Mission Specialist 1 (MS1) Dave Brown, MS2 Kalpana Chawla, MS3 Mike Anderson, MS4 Laurel Clark, and Payload Specialist 1 (PS1) Ilan Ramon. MS1, MS3, MS4, and PS1 will be subjects for E381, although all the astronauts will help in one way or another with this experiment.

Training Facts

The crew of STS-107 began training in August 2000. Crewmembers who will collect blood samples on orbit are called "operators" and those who will participate in the actual study are called "subjects". The crews train for several hours before the mission. Operators receive more than 4 times as much training as the subjects do.

Before E381, "Calcium Kinetics During Space Flight," is ready for liftoff aboard the space shuttle, astronauts must take part in extensive training. The objective of this training is to help the crew become familiar with the goals of the experiments, the scientific procedures for experiments on this flight, and perhaps most importantly, the hardware for these studies.



First, the astronauts use artificial arms to learn how to collect blood. When they have mastered the technique, they continue their training by collecting blood from human volunteers. For E381, they are also trained how to inject isotopes - markers that will allow scientists to trace the movement of calcium through the body. First they inject the artificial arms, and then volunteers.

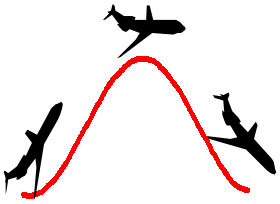
The astronauts also learn to:

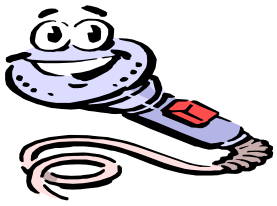
- **analyze blood samples using a portable analyzer**
- **collect urine into the urine collection devices**
- **process blood and urine samples**

Technicians who use these procedures in their work do the training.

Did you know?

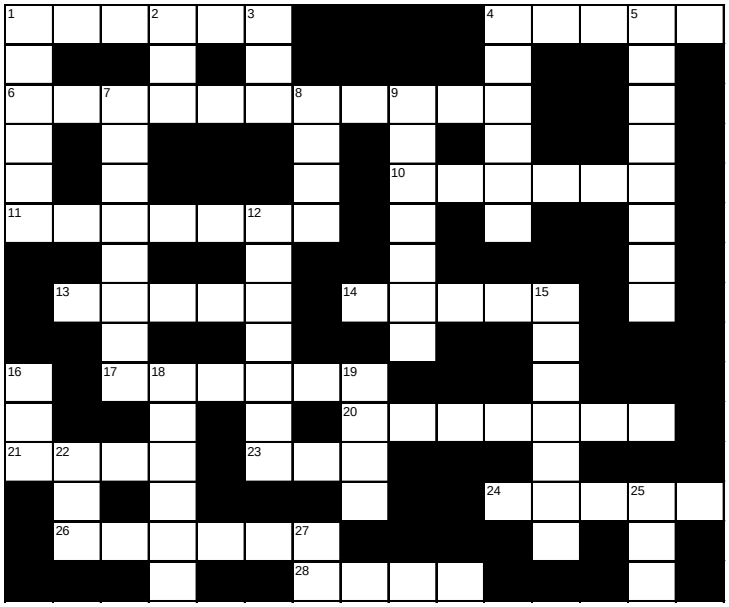
- Each shuttle team designs its own logo.
- Training for space flight experiments may begin more than a year before the experiment flies on the shuttle.
- The crew also performs simulations of busy flight days to practise the techniques that they have learned.
- A parabola is a symetrical bowl-shaped curve. Parabolas occur naturally as the paths of projectiles, and are used by the KC-135 to simulate microgravity.





FUN CORNER

"Space Research" Crossword

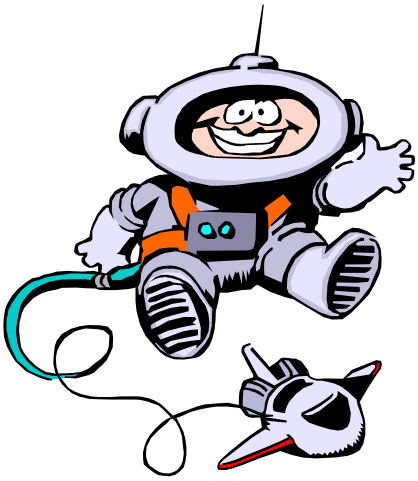


Across

1 Provides power for the spacecraft
4 Outer _____
6 Bone is lost during _____
10 A main chamber of the heart
11 Home of the Marshall Space Flight Center
13 A collection of maps
14 Heavenly bodies
17 Spit (n)
20 Home of Johnson Space Center
21 _____-belts are used on the shuttle to secure the astronauts during takeoff
23 Nutritional Biochemistry Laboratory
24 Red body fluid
26 _____-11 landed on the Moon
28 The total number of astronauts on the Skylab missions

Down

1 International space partner
2 Kennedy Space Center
3 Thermo-electric freezer
4 _____-V rockets powered the Apollo missions
5 Shuttle for STS-107
7 The fourth shuttle to be built
8 Birthplace of Astronaut Carlos Noriega
9 The KC-135 simulates zero _____
12 A flight operation of a spacecraft
15 Orbiter
16 International Space Station
18 Short for astronauts
19 Advanced Human Life Support
22 Extravehicular Activity
25 NASA-speak for "operations"
27 Solid rocket boosters are located ___ either side of the external fuel tank



Word of the Month

Integrated

Can you guess what this word means? Look for the meaning of the "Word of the Month" in the next issue of Space Nutrition.

Check out these cool NASA links for more fun space science facts:

http://virtualastronaut.jsc.nasa.gov
http://lsda.jsc.nasa.gov
http://www.jsc.nasa.gov/bios/

Check out the Nutritional Biochemistry Laboratory's website for more information about nutrition and space.

www.jsc.nasa.gov/sa/sd/facility/nutrition.htm