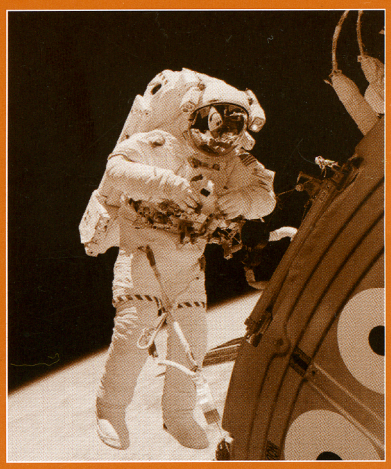
Suited for Spacewalking

http://www.spaceflight.nasa.gov



A spacesuit must have the proper pressure for astronaut survival. However, in an inflated spacesuit, it can be difficult to bend and move arms, legs, and fingers. The space-suit is like an inflated balloon with an astronaut inside. The more pressure in the balloon, the more difficult the balloon is to bend.

NASA engineers had to overcome the problem of a stiff, unbendable spacesuit so astronauts could work in space. Engineers built in joints, like ribs on vacuum cleaner hoses, to make suits more flexible.

Access the Suited for Spacewalking Educator Guide via the Internet at http://spacelink.nasa.gov/products. *Additional information can be found at* http://spaceflight.nasa.gov

National Aeronautics and Space Administration

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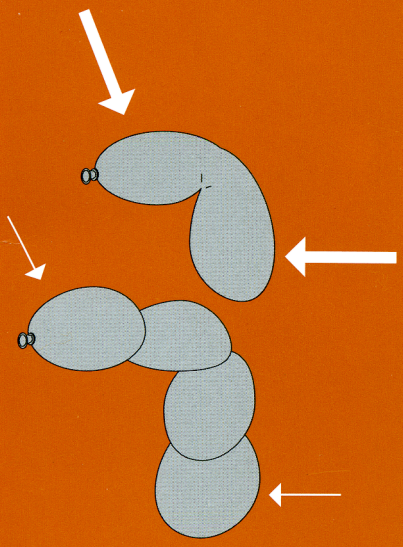
Bending Under Pressure



Be an engineer and devise ways to make joints in some long, inflated balloons.

Materials:
2 long balloons
3 thick rubber bands

Procedure:

1. *Inflate one balloon fully and tie it.*

2. *Inflate the second balloon. While it is inflating, slide the rubber bands over the balloon so that the balloon looks like sausage links. Doubling the rubber bands at each "link" will yield the best results.*

3. *Compare the "bendability" of the two balloons. Can you find other ways to make the inflated balloons more bendable?*

Where would engineers place joints to help astronauts work in space?