Aging: Space Pioneer John Glenn

Grade Level: 8

Time Required: 2 - 4 class periods

Countdown:

Electronic Text
http://www.senate.gov/~glenn/main.html
http://www.senate.gov/~glenn/17.html
http://www.senate.gov/~glenn/discovery.html

Ignition:

The recent revolution in our ideas about aging has been remarkable. Many Americans are enjoying tremendous vitality at a time of life that would have been unimaginable to their grandparents.

In Prevention's March 1998 issue, "Super Immunity" states that scientists have also learned that age is not just measured by the calendar. Rather, it depends more on biology than on chronology. And two things shape biology: our genetic makeup (over which we have no control) and our lifestyle (which we can control).

The overall message that we are currently receiving is that exercise and a healthy diet can empower our old age profoundly. Numerous studies have been conducted during this decade at the USDA Human Nutrition Research Center on Aging (HNRCA) at Tufts University in Boston that validate and emphasize this message.

Liftoff:

A. Discussion

1. Give background information about John Glenn. Tell students that on January 16, 1998, 76 year-old Glenn persuaded NASA of the importance of studying the effects of aging and space. Part of his "argument" was that perhaps space can explain some of the aging processes on the human body because weightlessness often induces similar, if temporary, conditions in younger astronauts. He also emphasized that "the study of aging becomes even more critical as we enter the 21st century. By 2030, the number of Americans over the age of 65 is estimated to exceed 69 million, more than double the current figure. This increase will have a profound effect on our economy, culture, and healthcare". (John Glenn's Flight on STS interview)

2. Talk about Glenn's personal comments about the October 29, 1998, flight. Also, go over the facts about STS, its crew and its mission.
3. Discuss Friendship 7 statistics and Glenn's comments on this 1962 mission.

**Research**

Ask students to contact the National Institute on Aging (NIA) and/or USDA Human Nutrition Research Center on Aging (HNRCA) and request information about specific experiments on aging. Have them list and discuss the findings about the aging process. This research can be done on the computer or letters written.

**B. Mission Update**

Suggest to students that they retrieve current information on the Discovery through the NASA Homepage or NASA's Spacelinks. They may also refer to local newspapers and newsmagazines.

**C. Analysis**

1. Ask students to compare and contrast the two missions.

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2. John Glenn has been referred to as a Space Pioneer. Ask students to explain why he was considered a pioneer on the Friendship 7 flight and why he is considered a pioneer on STS.

D. Research
1. Ask students to research the different types of experiments conducted on past NASA missions.
2. Students define the difference between a Payload Specialist and a Mission Specialist. Which was Glenn categorized as?
   - Have students design and complete an application to NASA to be a payload specialist in a future shuttle mission.
   - Ask students to design an experiment to be conducted in space.

E. Documentary
Explain to students that a documentary is a program that presents facts in an interesting manner. Ask them to determine what viewers would like to know about John Glenn's background, education and training, and experiences as an astronaut. Have them write their ideas in documentary form, and then present the documentary to the class.

F. Tasks
1. Have student's design and complete an application to NASA for the Payload Specialist position opening on a future shuttle mission.
2. Ask students to design an experiment to be conducted in space.

G. Vertical Verse
In his Friendship Seven interview, John Glenn describes the sensations he felt during lift-off and in flight (weightlessness). Ask students to write a poem whose lines begin with the letters liftoff and weightless. Remind them to include vivid descriptive words and onomatopoeia (sound words). They may wish to display their poem in the shape of a spacecraft ready for launch.
Vertical Verse

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