Name_____

International Space Station

Even before man first walked on the moon in 1969, people have long been fascinated with the idea of living in space. Some might argue that we have finally achieved that dream. The International Space Station has been orbiting Earth for more than a decade and has had over two hundred visitors. This orbiting laboratory conducts ongoing experiments and observations. It also serves as a spaceport for space shuttle launches. Astronauts conduct spacewalks from the station as well.

As an international laboratory, the space station helps foster goodwill and facilitates the sharing of information between countries. Since its launch in 1998, many countries have participated in the space station's mission. The United States, Russia, Canada, and Japan have all participated. Other countries from the European Space Agency have also been involved.

There have been several expeditions to the space station, with crew members staying in space for various lengths of time. Experiments and observations lead to the development of new technology and applications. For example, cell-phone cameras, water filtration and purification, and medical imaging are all related to space exploration. Crew members have had the opportunity to research principles of gravity that lead to advancements in the medical field, as well as making future space travel easier.

The current expedition is gathering data related to how long-term space missions affect the human body. They are undergoing vision, cardiac testing, and exercise in the gym. Experiments are also being conducted to help develop methods to use radiation in Earth's atmosphere to supplement the space station's power supply. Crew members inventory and investigate gear from the station and incoming shuttles.

Text Questions

1. According to the passage, which country is <u>not</u> involved in the space station's mission?
   a. United States
   b. Russia
   c. Egypt
   d. Japan

2. What is the purpose of the first paragraph?
   a. It describes the work of the current expedition.
   b. It explains the purpose of the space station.
   c. It describes the international scope of the space station.
   d. It explains how the space station contributes to our study of asteroids.

3. Which of the following space station research has benefitted people on Earth?
   a. using radiation from Earth's atmosphere as a power supply
   b. the development of cell-phone cameras, water filtration and purification, and medical imaging
   c. researching principles of gravity to simplify future space travel
   d. serving as a spaceport for space shuttle launches

4. What does the word *facilitates* mean as it is used in the text?
   a. makes it easier
   b. requires no effort
   c. discourages
   d. makes it faster

5. Do you think the benefits of space exploration outweigh the risks and costs? Give evidence to support your answer.

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LIVEWORKSHEETS

Name_____

Geothermal Energy

As we continue to rely on oil and natural gas for energy, our supply of these precious resources is constantly decreasing. Now, more than ever, it is critical that we find and utilize new and existing forms of alternate energy. Geothermal energy is one such alternative.

Geothermal energy is heat stored in Earth below the surface. It is both sustainable and clean, generating no pollution. It uses no fossil fuels.

Natural hot water at or just below Earth's surface has been used for thousands of years. Geothermal heat has been used to directly heat buildings for more than one hundred years. Water is pumped through pipes underground, and the heat is then pumped through a building.

In this country, most geothermal hot-water reservoirs are in the western states, Alaska, and Hawaii.

The earth is very hot beneath the surface. Deep inside Earth's core, it is hot enough to melt rock. Some magma rises towards the surface of the earth and heats large pots of water, also under the surface.

There are different ways to use geothermal energy. In direct thermal energy, hot water very near Earth's surface is piped directly into buildings providing heat. That same water is then pumped back down and reheated. A geothermal heat pump uses cooler water even closer to Earth's surface. Geothermal power plants use water or steam from deep under the ground. The heat source is brought to the surface, and water vapor is used to turn turbines to generate electricity.

As with most forms of alternative energy, the initial costs are very high. But once in place, it is very efficient to sustain. In fact, a geothermal heat pump in a house will pay for itself within ten years. Given the intensity of the heat within the earth, geothermal energy offers a largely untapped energy source.

Text Questions

1. What does the word *intensity* mean as it is used in the last paragraph?
   a. that there is more heat than the earth can hold
   b. extreme temperatures
   c. amount of energy within the earth
   d. the amount of force exerted

2. Which of the following is <u>not</u> a method of using geothermal energy?
   a. direct thermal energy
   b. geothermal heat pumps
   c. hydroelectric power plants
   d. geothermal power plants

3. Which statement best explains why geothermal energy is currently of interest?
   a. Our supply of precious resources is constantly decreasing.
   b. Geothermal energy is heat stored in the earth below the surface.
   c. Some of the magma rises towards the surface of Earth and heats water also under the surface forming large pools.
   d. The initial costs of geothermal energy are very high.

4. According to the text, how do geothermal sources provide us with energy?
   a. Water turns turbines, which generate electricity.
   b. Hot water or steam from under the surface of the earth provides water vapor, which turns turbines that generate electricity.
   c. Boiling water is kept in reservoirs to provide heat.
   d. Heat is used to start a fire, which sparks an engine to provide power.

5. Based on what you read, what are some reasons for and against further development of this alternate energy source?

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LIVEWORKSHEETS

Name_____

Football for Kids

Should children be allowed to play football, or is it just too dangerous? Recent studies and polls suggest a surprising shift in attitude. According to a recent online poll conducted by Robert Morris University, nearly half (40 percent) of the one thousand respondents believed tackle football should be banned below the high-school level. Additionally, a recent news report stated that Pop Warner football participation had declined by almost 10 percent over a two-year period.

The main issue for banning football relates to head injuries, specifically concussions. A concussion is a brain injury that usually has immediate symptoms. Often a player sits out a game until the concussion has healed. However, medical reports document that some concussions occur without any symptoms and thus go untreated. If left untreated, a concussion can lead to even more health issues. Research also suggests that players who sustain too many concussions are more likely to acquire permanent brain injuries. Not all football players suffer from concussions, but some would argue that even one is too many.

Instead of a ban on football, many argue that better helmet technology could reduce the number of concussions. Routine physicals and better detection of concussions could further ward off long-term problems.

Another solution to combat concussions is to alter the way players can tackle. New rules redefine the ways a player can be tackled, by either pushing a ball carrier out of bounds without fully extending the arms, or by fully wrapping the player with both arms before bringing him or her to the ground.

Football is an American game that has been played for more than one hundred years. It has millions of fans and is played throughout the United States across nearly all age levels. Should it be banned?

Text Questions

1. What percentage of those polled believed football should be banned?
   a. 50 percent
   b. 40 percent
   c. 45 percent
   d. 51 percent

2. What is one reason the author gives for not banning football?
   a. Football is a new sport in the United States.
   b. Students do not know how to tackle correctly.
   c. Players could use flags instead of tackling.
   d. Better helmet technology could prevent head injuries.

3. Which is a synonym for the word *combat* as it is used in the text?
   a. fight
   b. agreement
   c. war
   d. oppose

4. Which of the following is the main issue leading people to suggest a ban on football for younger grades?
   a. Younger students don't understand the game.
   b. Fewer children are playing Pop Warner football now.
   c. There is concern that too many players receive head injuries.
   d. Players may get injured more than once.

5. How would you answer the question at the end of the article? Give reasons and evidence to support your answer.

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LIVEWORKSHEETS