Lesson Plan

Key Technologies

Book: *Extra Senses*
Series: Engineering the Human Body
Level: Navigator

Objective

To help students practice finding and describing key details in a text.

Supplies

- Four copies of the *Extra Senses* book
- Pencils and paper

Before the Activity

Read *Extra Senses* out loud, or assign it to students to read on their own. Divide the class into four groups. Give each group a copy of the book.

Activity

Each chapter describes at least one extra-sense technology. Each group will take one of the chapters. Groups should choose one extra-sense technology featured in their chapter and summarize how the extra-sense technology works. They should also note whether the technology is currently available or still in development.

Give groups plenty of time to write down their summaries. Then, invite each group to teach the class about the technology they chose to highlight.

Evaluation

Use the following sample answers to evaluate groups' presentations about their chosen technology.

Chapter 1

- A vest can turn sound waves into vibrations. The user can feel the vibrations. The user's brain can learn to interpret the vibrations. The user can "hear" what someone is saying. This vest is currently available.

Chapter 2

- A device can turn visual images into vibrations. The user wears small plates on his or her back. The user carries a camera. The camera takes in visual information. The plates vibrate in response. The user's brain can learn to interpret the vibrations. The user can "see" what the camera sees. This device has been made.
- The BrainPort turns visual images into vibrations. It sits on the user's tongue and is connected to a camera. The camera takes in visual information. The device pricks the user's tongue in response. The user's brain can learn to interpret those pricks. The user can "see" what the camera sees. This device is currently available.

Chapter 3

- Night vision goggles help people see infrared light, a form of light that is made up of heat waves. This technology is currently available.
- Smart skin senses information about the hardness or softness of objects. It sends that information to a computer. The computer changes that information into signals the brain will understand, then sends that information to an implant in the user's upper arm. The implant sends the signals through the user's nerves to the user's brain. The user's brain interprets the signals as touch. This technology is currently available.
- A brain implant could help humans see heat or infrared light. This technology is not currently available for humans.

Chapter 4

- A vest could help users sense weather patterns. The vest would turn weather information into vibrations that the user's brain could learn to interpret. The user could sense whether good weather or bad weather was coming. This technology is not currently available.
- A vest could monitor users' vital signs and give users a better understanding of their health. This technology is not currently available.
- A device could give users 360-degree vision to allow them to see directly behind them. This technology is not currently available.
- Magnets can be implanted into people's fingers to allow them to sense Earth's magnetic field. This technology is currently available.

Standards

This lesson may be used to address the Common Core State Standards' reading standards for informational texts, grade 4 (RI 4.1, 4.2).