

Activity

Episode 8
24th March 2015

Bionic Body

Key Learning

Students will investigate how bionic inventions are used to solve problems that directly affect people's lives.

The Australian Curriculum

Science / Science as a Human Endeavour / Use and influence of science

Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives Years 5 & 6 ([ACSHE083](#)) ([ACSHE100](#))



Science / Science Inquiry Skills / Communicating

Communicate ideas, explanations and processes in a variety of ways, including multi-modal texts ([ACSIS093](#)) ([ACSIS110](#))



Communicate ideas, findings and solutions to problems using scientific language and representations using digital technologies as appropriate ([ACSIS133](#)) ([ACSIS148](#))



Discussion Questions

1. Discuss the main issues raised in the *Bionic Body* story with another student. Record the main points of your discussion.
2. Why did Alex receive a bionic arm?
3. What are bionic body parts?
4. Why do some people need bionic body parts?
5. The bionic ear is also known as the _____.
6. Where and when was it invented?
7. What other bionic body parts are being developed?
8. Some scientists think that about _____% of the human body could be replaced with bionic body parts.
9. Why are some people concerned about the idea of bionic body parts?
10. What do you think is the future of bionic body parts? Explain your answer.

Activities

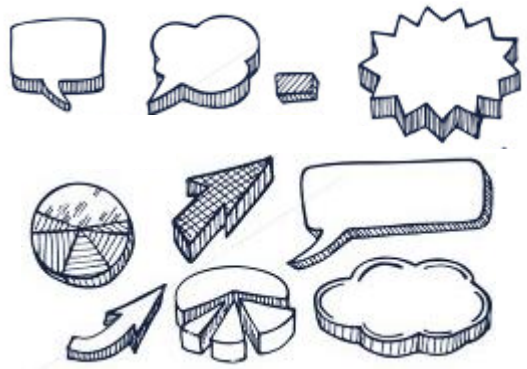
Class discussion

Mind map

Before watching the BtN *Bionic Body* story, ask students to think of words they associate with the word bionics. Record student's ideas on a mind map with the word BIONICS in the middle.

Here are some suggested words related to bionics:

- science
- discovery
- research
- cochlear implant
- bionic
- human body
- technology
- robotics
- scientist
- engineer
- body parts
- bionic eye
- 3D printing
- invention



Ask students to present the words in the mind map in an interesting way, for example:

- *Wordle* word cloud <http://www.wordle.net/>
- A poster
- Use the words to form your own sentences

Science inventions

Research: cochlear implant

Students will conduct research and develop a profile on the inventor of the cochlear implant to gain a deeper understanding of bionics and how technology directly affects people's lives.

Encourage students to gather information from a variety of primary and secondary sources. Negotiate with students how they are going to present their profile. For example, students can present their research findings as an oral presentation or using the Cube Creator publishing tool. Go to http://www.readwritethink.org/files/resources/interactives/cube_creator/ then click on create-your-own cube.

- Who invented the cochlear implant?
- When was it invented?
- Who was the cochlear implant invented for?
- What does the cochlear implant do?
- How does it work? Include a detailed illustration.
- What sort of testing was involved?
- How has this invention directly affected people's lives?

Research – http://www.powerhousemuseum.com/hsc/cochlear/the_cochlear.htm

What other Australians have made scientific discoveries or inventions that directly affect people's lives? Students will choose one and write a profile. Make a book of Aussie science inventors!

Related Research Links

ABC News – Bionic heart breakthrough: Scientists transplant device into sheep, hope for clinical trials

<http://www.abc.net.au/news/2015-03-07/bionic-heart-breakthrough-scientists-transplant-device-in-sheep/6288126>

Behind the News – Bionic Eye

<http://www.abc.net.au/btn/story/s3779423.htm>

Behind the News – Bionic Eye

<http://www.abc.net.au/btn/story/s2316649.htm>

ABC Splash – Could cyborgs really exist?

<http://splash.abc.net.au/home#!/media/1443687/>

BBC News – Bionic Bodies

<http://www.bbc.com/news/health-17153052>