

1/26/15

- 53** A meteorologist recorded high temperatures for five days at three locations on land. The data are shown in the table below.

High Temperatures

Date	Temperature at the Beach (°C)	Temperature 25 km West of Beach (°C)	Temperature 50 km West of Beach (°C)
June 1	29.4	18.8	36.1
June 2	27.2	26.6	27.2
June 3	27.7	27.7	28.8
June 4	27.7	28.8	26.6
June 5	26.6	22.7	25.0

Which is the best conclusion based on these data?

- A** Areas at the beach have the coolest temperatures.
- B** Areas farther from the beach always have the warmest temperatures.
- C** Areas at the beach have the most stable temperatures.
- D** Areas farther from the beach always have the same weather as areas at the beach.

You must explain why your answer is correct.

Please write the page number in your book that supports your explanation.

Use the index of your book to help you.

Adaptive and Assistive Bioengineering

Differentiate between adaptive and
assistive engineered products.

07.07.TE 4

Foldable

- Take your paper and fold it in half.
- On one side, label it Adaptive.
- On the other, label it Assistive.

What Mastery Looks Like

Performance Indicator: 0707.TE.4 Differentiate between adaptive and assistive engineered products.

4 A scientist is unable to speak or move most of the muscles in his body. This scientist uses his cheek to push buttons on a type of keyboard that translates the words into a computerized voice. Which of these best describes the scientist's device?

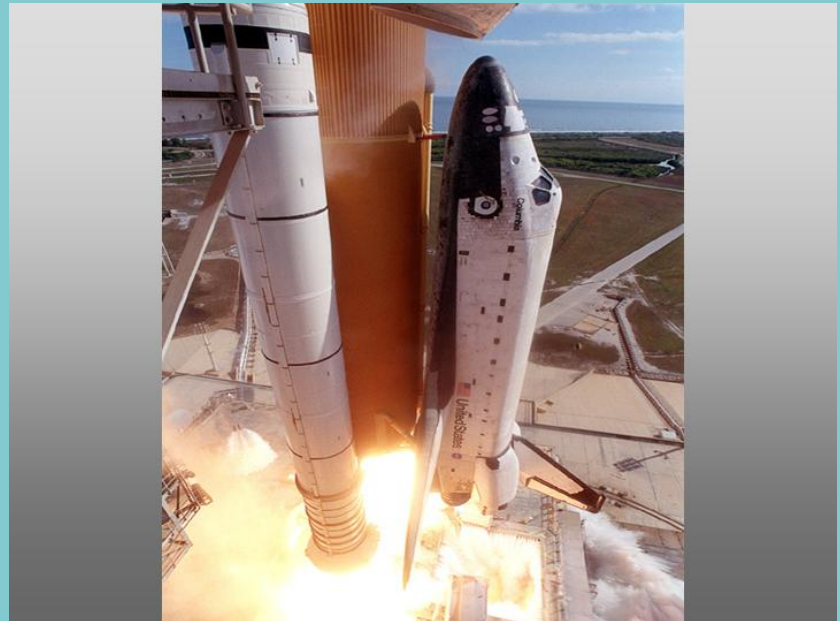
- F** assistive, because the device makes the scientist famous
- G** assistive, because the device enables the scientist to communicate
- H** adaptive, because the scientist can use the device for other tasks
- J** adaptive, because the scientist can still move some parts of his body

Essential Question(s):

- What is technology?
- How does technology aid people who need assistance in everyday life?

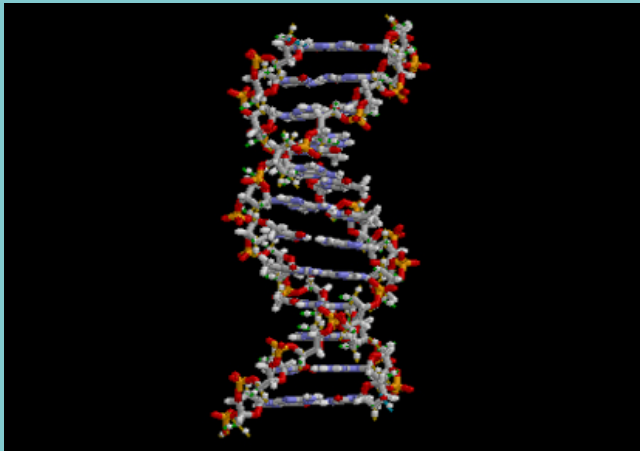
What is Engineering?

- **Engineering** is the process of **creating technology**.
- Name some examples of technology that engineers, scientists, and inventors have created.



What is Bioengineering?

- **Bioengineering** is the application of **engineering** (technology) to **living things**, such as **humans and plants**.
- Bioengineers look at problems that occur in living things and invent technology that will help with these problems.



Assistive Bioengineering

- **Technology** that is developed to help organisms, but **DOES NOT** change them.

- **ASSIST = HELP**

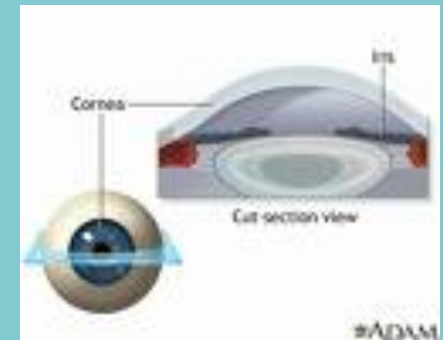
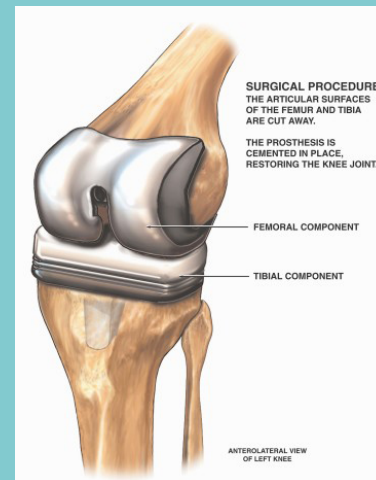
- **Examples:**

- Eyeglasses
- Wheelchairs
- Antibiotics



Adaptive Bioengineering

- **Technology** developed to help living organisms and **DOES** change them.
- **ADAPT = CHANGE**
- **Examples:**
 - Lasik Eye Surgery
 - Knee replacement
 - New strains of crop in agriculture



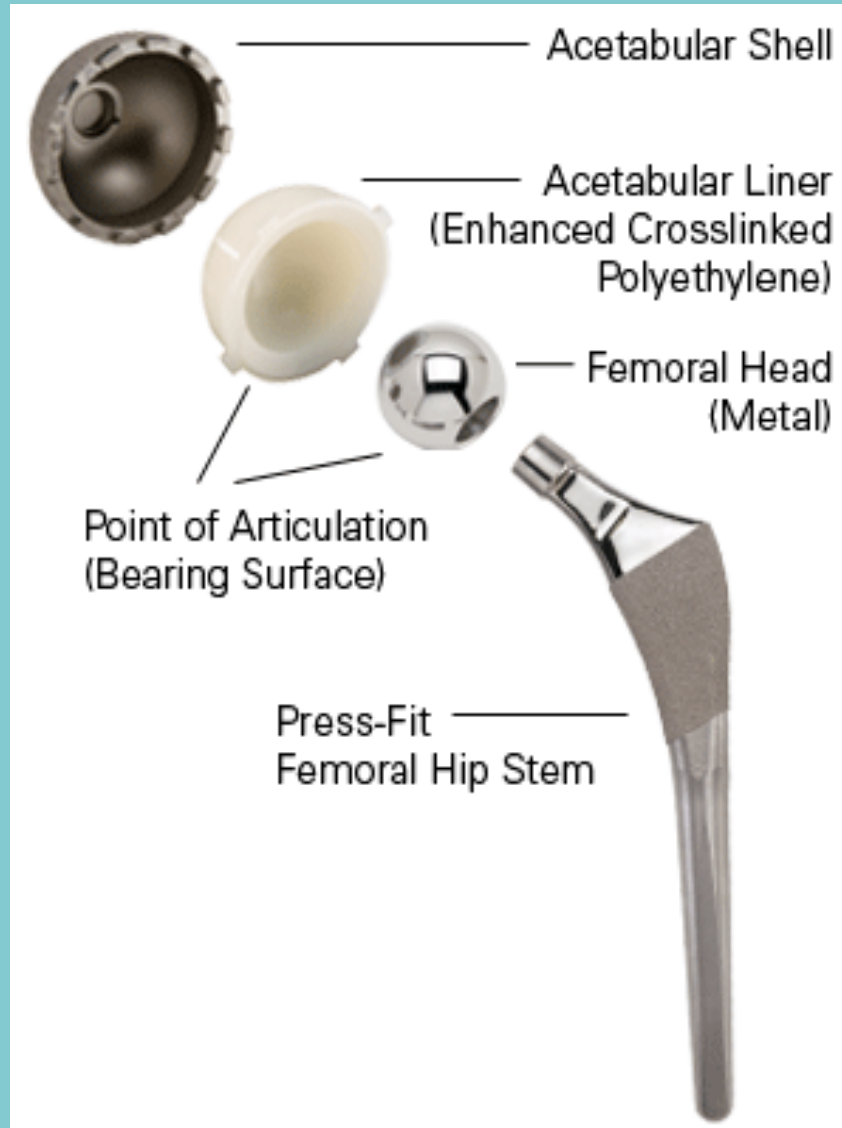
Adaptive or Assistive????

- On the back of your notes make 2 columns labeled Adaptive and Assistive
- Write the name of the item you see underneath the type of bioengineering you think it is.
- Remember: Assist = Help
Adapt = Change

Hearing Aid



Hip Replacement



Crutches



Genetically altered corn that resists pests



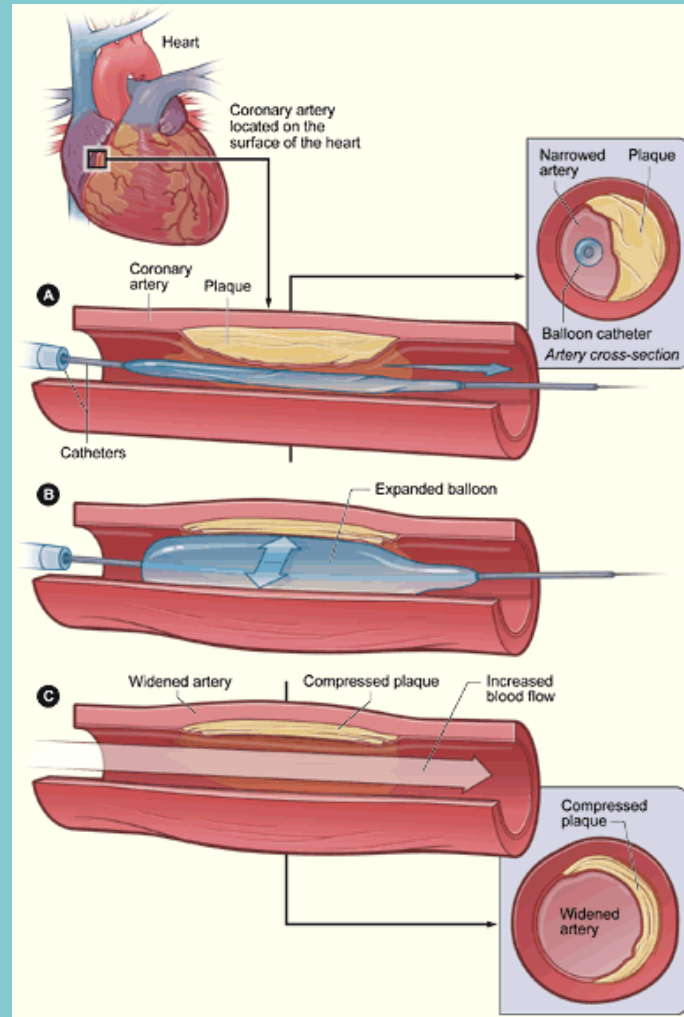
Knee Brace



Arm Cast



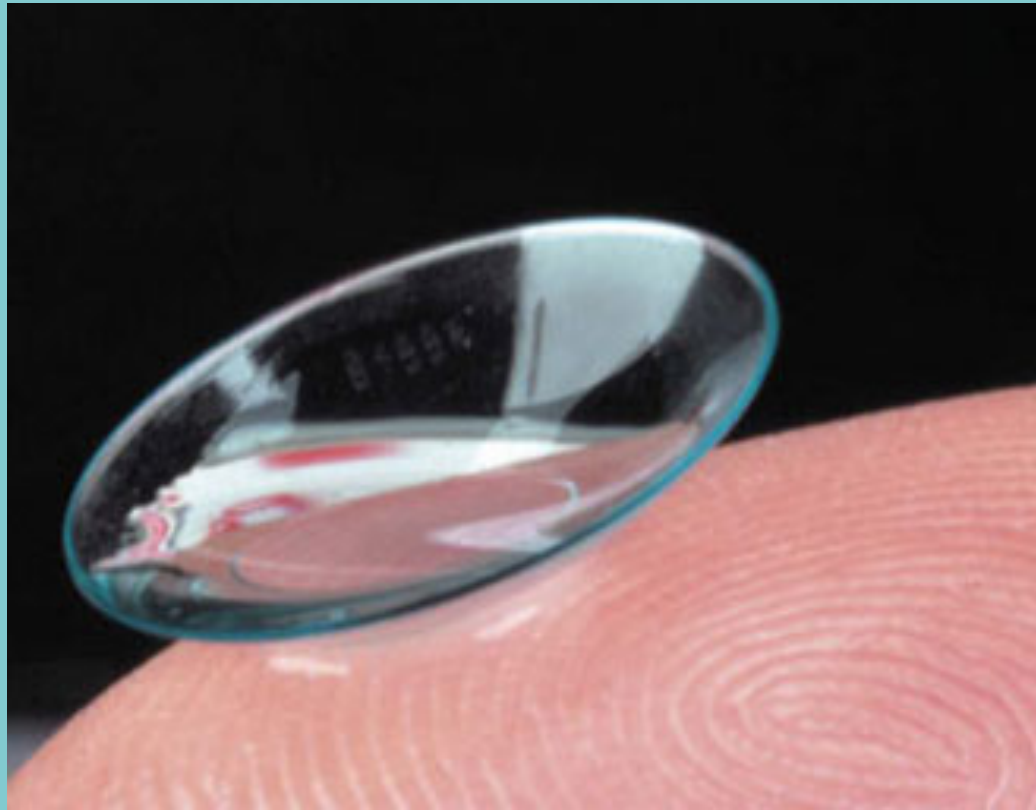
Angioplasty



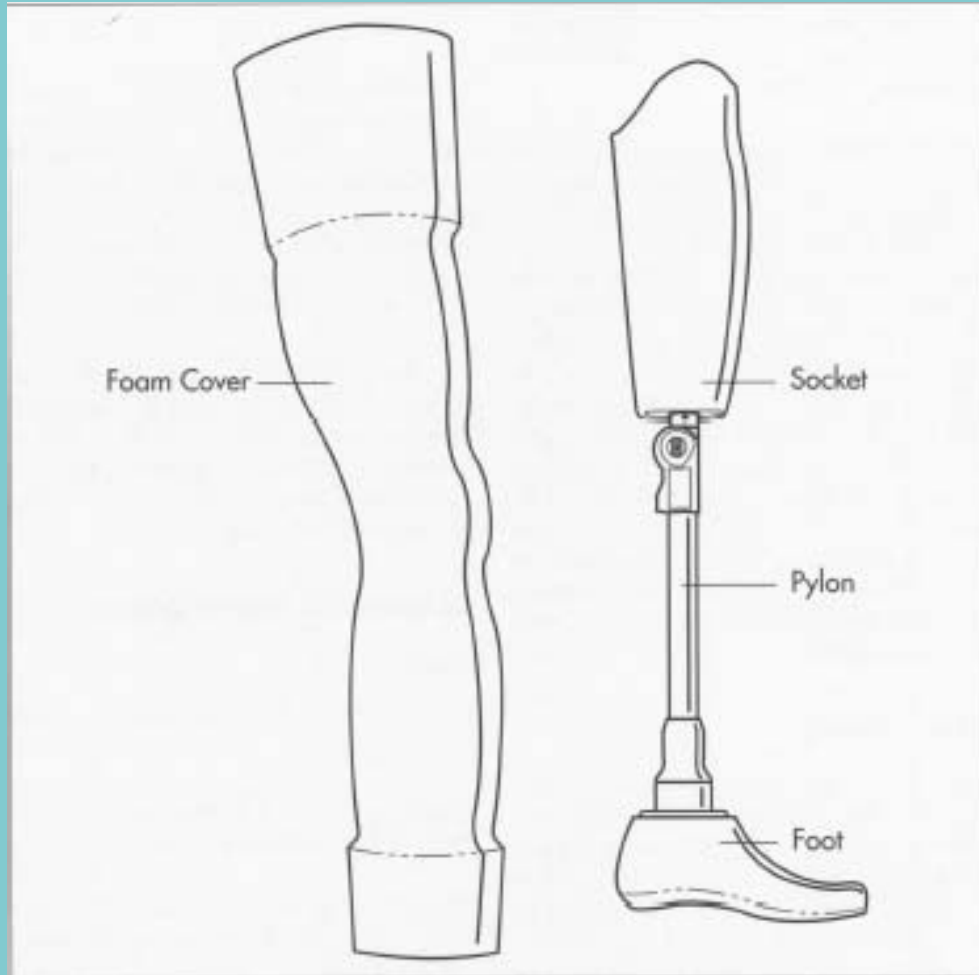
Crop Pesticide



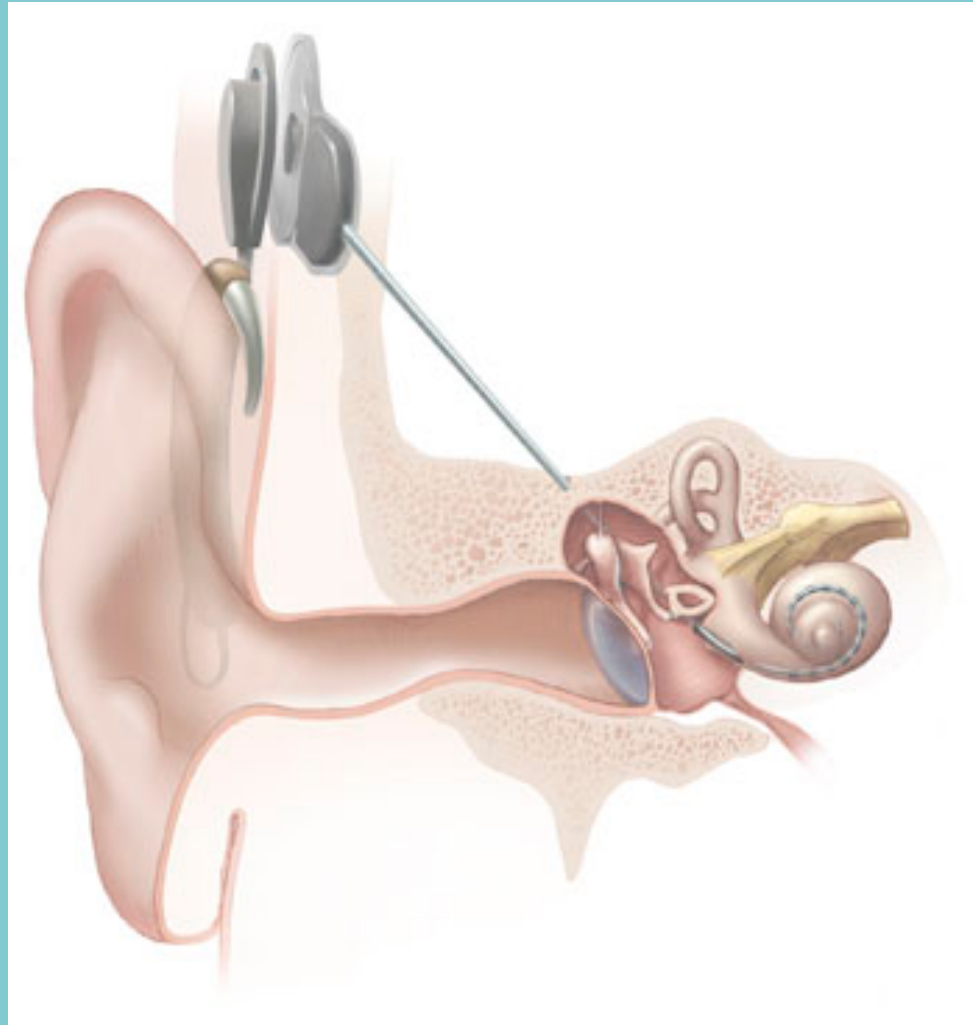
Contact Lenses



Artificial Limbs



Cochlear Implants



Glasses



Assignment:

- Choose one adaptive bioengineering technology and one assistive bioengineering technology to draw.
- Divide your paper into two sections and draw and color each.
- Label the item and write one sentence on how each piece of technology can help organisms in their daily lives.

Use your whiteboard to answer.

Performance Indicator: 0707.TE.4 Differentiate between adaptive and assistive engineered products.

- 9 Which statement best explains why a book with large print is classified as an assistive technology?
- A The technology to produce books with large print already exists.
 - B Large-print books help people who have poor vision read more clearly.
 - C Large-print books are less expensive to produce than standard-print books.
 - D More people enjoy books with large print than books with standard print.