1 CONNECT THE WORDS TO THEIR DEFINITIONS

Check these words
- fascination • flesh • part-mechanical
- biological • disability • identify
- sophisticated • limb • brain • wire
- nerve • muscle • develop
- colour blind • device • allow • artificial
- function • become a reality
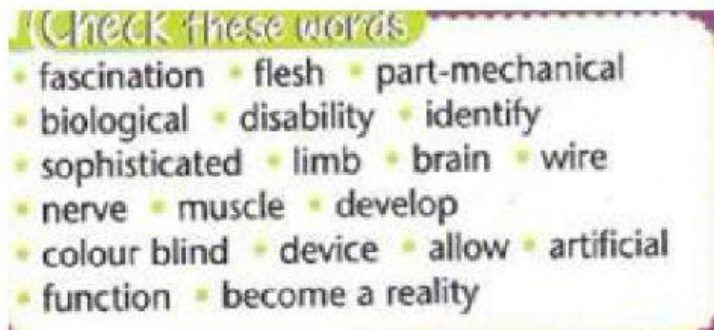
_____ - having some machine parts

_____ - an arm or a leg

_____ - a small machine

_____ - to exist in the real world, to become real

_____ - skin

_____ - a loss of ability because of a permanent injury to some part of the body

_____ - recognise

_____ - a long thin piece of metal used to carry electrical signals

_____ - not able to see colours

_____ - the state of being very interested in something

_____ - relating to processes and states in living things

_____ - advanced and very technical

_____ - the part of the body in the skull that controls the rest of the body

_____ - tissue that controls movement

_____ - long thin fibre that sends messages from the brain to a part of the body

_____ - design and produce

_____ - permit

_____ - not genuine, fake

_____ - work, perform an action

✓ **Check these words**
- fascination • flesh • part-mechanical
- biological • disability • identify
- sophisticated • limb • brain • wire
- nerve • muscle • develop
- colour blind • device • allow • artificial
- function • become a reality

1 Read the definition. What is a cyborg? In which sense are the people in the pictures cyborgs?
🎧 Listen and read to find out.

cyborg (n) /ˈsaɪbɔːg/ a being with both biological and artificial parts

Terminator

The Age of Cybernetics

Have you noticed how many science-fiction stories have got cyborg characters? To start with, there are the Borg in *Star Trek* and the Cybermen in *Dr Who*. The *Terminator* films feature machines with a human appearance and living flesh on top of their metal skeletons. In *Robocop*, the main character is a police officer who looks like a machine, but beneath his robotic body he has a human mind with human feelings.

So what is the fascination with these part-biological, part-mechanical beings? Is it perhaps that some people dream of one day being able to become like machines, or is it that we just want to use technology to fix people's disabilities? It's probably a bit of both, but the reality is that cyborgs will be here sooner than we realise.

Many scientists and doctors have been working with sophisticated technology to develop robotic limbs that can be attached to humans. With this technology, people who lose an arm or a leg will have the chance to live almost normal lives again. For example, in 2001, an American technician, Jesse Sullivan, lost both of his arms in an accident. He now has two robotic arms that his brain controls through wires connected to nerves in his chest muscles. Later, in 2003, engineers developed an 'eyeborg' for a completely colour-blind artist, Neil Harbisson. The eyeborg is a camera-like device which the artist wears on his head and which allows him to identify colours.

Some scientists believe that we are entering the Age of Cybernetics, where man and machine are going to become one. No one really knows, though, how far this will go. What is for sure is that people who need them will soon have artificial limbs that they will be able to control with microchips in their brains. Engineers will design smart joints such as knees and ankles that will function just like real ones. Some scientists believe it will be possible to make artificial eyes that can see better than human eyes. We are not quite there yet, but the idea of a real cybernetic man is getting closer and closer to becoming reality.

Study Skills

Read the rubric, then read the text once to get the general idea. Read the stem sentences and the possible options, and underline the key words. Find the part in the text that contains the answer to the question. Read carefully, trying to find synonymous phrases. Remember the statements follow the order they appear in the text.

Robocop

Jesse Sullivan

2 Read the text and for questions 1-5 choose the best answer *A, B, C or D.*

1 Cyborgs ...
   A can't experience feelings.
   B want to become human.
   C are small devices that help people do things.
   D are part-robot, part-human.

2 Scientists ...
   A have already developed robotic limbs.
   B don't think it's possible to create a cyborg.
   C can't do much to help people who lose limbs.
   D want to become cyborgs.

3 Jesse Sullivan ...
   A lost all his limbs.
   B has a robotic chest.
   C can lead an almost normal life.
   D is developing a cyborg.

4 An eyeborg is ...
A a person with robotic eyes.
B an artificial eye.
C a small device like a camera.
D a robotic eye for blind people.

5 Scientists predict that in the future, people will ...
A have microchips as brains.
B not need artificial limbs.
C be able to have artificial eyes.
D have better eyesight.

• Verbs

3 **Fill in:** *become, function, dream, control, connect, develop.*

1 The surgeons will .... wires from the man's nerves to an artificial arm so he can touch and even feel.
2 Scientists hope that in the future they will .... artificial limbs that will .... just like real ones.
3 Some people .... of becoming cyborgs.
4 A microchip in the brain will .... his two robotic arms.
5 Will the idea of a cybernetic man ever .... a reality?

• Word formation

4 **Read the theory and the examples. Complete the sentences with the correct noun derived from the adjectives in brackets.**

> Forming abstract nouns from adjectives
> We use these suffixes to form abstract nouns from adjectives:
> **-ness** *(happy – happiness)*, **-ity** *(complex – complexity)*,
> **-ment** *(merry – merriment)*, **-ence** *(silent – silence)*,
> **-y** *(honest – honesty)*, **-dom** *(free – freedom)*

1 The research institute was grateful for the .... of all the people who gave money. (generous)
2 His new artificial limbs will give him his .... of movement once again. (independent)
3 Some people are not sure about the .... of putting microchips in brains. (useful)
4 The .... of there being actual cyborgs in the future is great. (possible)

• Words often confused

5 **Fill in:** *artificial, false, fake.*

1 .... limbs; 2 ....
teeth; 3 .... intelligence;
4 .... information;
5 .... painting;
6 .... fur; 7 .... name;
8 .... eyelashes; 9 .... alarm;
10 .... certificate;
11 .... mountain;
12 .... flowers

6 **Choose the correct word.**

1 The mechanic **lost/missed** his leg in an accident.
2 Engineers are developing a(n) **artificial/fake** eye for blind people.
3 The robot has two **individual/single** microprocessors: one for movement and one for communication.
4 The new robotic leg will **allow/let** the man to walk again.
5 The brain **controls/guides** all the organs in the body.

Speaking & Writing

7 **In your own words and based on the ideas in the text, explain how cybernetics will improve people's lives. Write a few sentences in three minutes. Then tell the class.**

8 **THINK!** **Think of your own cyborg. What will it look like? What will it be able to do? Present it to the class.**