AI, ROBOTS AND ANDROIDS

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WARM UP (7 min)

1. **Please suggest words which you associate with AI and robots. (2 min)**

VOCABULARY

artificial intelligence (AI) - the simulation of human intelligence processes by machines
robot - a machine that resembles a living creature in being capable of moving independently (as by walking or rolling on wheels) and performing complex actions (such as grasping and moving objects)
android - a robot or other artificial being designed to resemble a human, and often made from a flesh-like material.
machine learning - an application of artificial intelligence (AI) that provides systems the ability to automatically learn and improve from experience without being explicitly programmed
fulfilment center - a third-party logics warehouse where incoming orders are received, processed and filled.
frostbite - injury to body tissues caused by exposure to extreme cold, typically affecting the nose, fingers, or toes and often resulting in gangrene.
bionic limb – an artificial part of the body which can work with the nervous system
body tissue - groups of cells with a similar structure working together for a specific function.
proprioception - is the sense of self-movement and body position
foe – an enemy or opponent

Now prepare short story using the suggested words and vocabulary. The story should consist of 3-5 sentences. (5 min)

VIDEO - What is AI? (10 min)
https://www.youtube.com/watch?v=mJeNghZXtMo

2. **Watch the video and answer the questions. (10 min)**
   a) What does the AI field of science deal with?
   b) When was the term "artificial intelligence" invented?
   c) What are the factors responsible for the growth of AI in the recent years?
   d) How is AI being used now?
   e) What are the differences between machines and human?
   f) What is the purpose of this video?

READING - Robots: friend or foe? (15 min)

3. **Read the text and choose correct answers. (10 min)**

What is the future of artificial intelligence (AI)? Will it be possible for robots to be autonomous? If so, when will that happen and will it be a good thing? We asked four experts what they think.

A
I would say that we are quite a long way off developing the computing power or the algorithms for fully autonomous AI, though I do think it will happen within the next thirty or forty years. We will probably remain in control of technology and it will help us solve many of the world's problems. However, no one really knows what will happen if machines become more intelligent than humans.

They may help us, ignore us or destroy us. I tend to believe AI will have a positive influence on our future lives, but whether that is true will be partly up to us.

B

I have to admit that the potential consequences of creating something that can match or **surpass** human intelligence frighten me. Even now, scientists are teaching computers how to learn on their own. At some point in the near future, their intelligence may well **take off** and **develop** at an ever-increasing speed. Human beings **evolve** biologically very slowly and we would be quickly **superseded**. In the short term, there is the danger that robots will **take over** millions of human jobs, creating a large underclass of unemployed people. This could mean large-scale poverty and social unrest. In the long term, machines might decide the world would be better without humans.

C

Personally, I think it's fascinating to consider how we'll speed up our evolution as a species by augmenting our bodies. Imagine if you could implant a computer inside our brain! Soon we'll be able to do just that and enhance our mathematical ability, audiovisual perception and our memory, and this idea is only going to become more and more commonplace. AI is also popping up in the world around us. Recent developments include self-driving cars and drones carrying life-saving equipment to people at sea. Granted, there have been a few teething problems: one woman who was asleep on the floor had her hair eaten by her robot vacuum cleaner and there have been fatal accidents with self-driving cars. But progress always comes at a cost, and for me the advantages far outweigh the disadvantages.

D

I'm a member of the Campaign to Stop Killer Robots. Forget the movie image of a terrifying Terminator stamping on human skulls and think of what's happening right now: military machines like drones, gun turrets and sentry robots are already being used to kill with very little human input. The next step will be autonomous 'murderbots', following orders but ultimately deciding who to kill on their own. It seems clear to me that this would be completely unethical and dangerous for humanity. We need to be very cautious indeed about what we ask machines to do.

a) Which expert has a different view from the others regarding the timescale of AI becoming much more autonomous?
   Expert A   Expert B   Expert C   Expert D

b) Which expert has a similar view to A about the responsibility humans have for the future of AI?
   Expert A   Expert B   Expert C   Expert D

c) Which expert agrees with B that the negative aspects of AI far outweigh the positive aspects?
   Expert A   Expert B   Expert C   Expert D

d) Which expert seems to disagree with B about how fast humans can change?
   Expert A   Expert B   Expert C   Expert D

e) Which expert gives their opinion about what will happen with the same level of certainty as D?
   Expert A   Expert B   Expert C   Expert D

4. **Match the verbs with their meanings. All the verbs can be found in text B. (5 min)**
    a. to take over (from someone)
    b. to develop
    c. to supersede
    d. to take off
    e. to evolve
    f. to surpass

    to go beyond
    to replace something older or less advanced
    to start doing something that someone else was doing
    to suddenly start to be successful
    to develop gradually (especially for a biological species)
    to grow or improve, or to make something grow or improve

VIDEO - Robots in Amazon. (10 min)
https://www.youtube.com/watch?v=HSA5Bq-1fU4

5. **Watch the video and answer the questions. (5 min)**
    a) How large are Amazon fulfillment centers?
    b) Some people are aware of using robots in such a big scale. Why? How the Amazon chief roboticist see it?
    c) What did the guy at the end of the video say?

6. **Imagine you have a robot to help you at home and at school. Which three jobs would you like your robot to do? Put your top three. (5 min)**

    Now compare your top 3 ideas with the rest of the class.

VIDEO - How we'll become cyborgs and extend human potential | Hugh Herr (20 min)
https://www.ted.com/talks/hugh_herr_the_new_bionics_that_let_us_run_climb_and_dance?language=pl

7. **Watch the video and answer the question. (20 min)**

    What does Hugh Herr do?
    What happened in 1982?
    What are the bionic legs made of?
    What is the difference between bionic man and cyborg?
    Do bionic legs allow to feel stimuli?
    What is NeuroEmbodied Design?
    What did the professor say about his feet?
    What is AMI?
    What is Team Cyborg?
    Who is Jim Ewing?
    How will people be able to extend their bodies in the future?

DISCUSSION (10 min)

8. Design your own robot. Imagine that you work for a robot design company. You and your team (group of two or three) are responsible for designing the next generation of robots for the home. Talk to your team and decide on these points:

a) What will your robot be able to do?
b) What will your robot look like?
c) How much will your robot cost to buy?
d) What type of people will want to buy your robot?
e) What brand name will you give your robot? Now draw your robot and tell the other teams about your design.