1 **Check these words in the Word List. What do you think the text is about?**

- *crawl*
- *metal and circuits*
- *artificial intelligence*
- *physically interact*
- *learning abilities*
- *equipped*
- *motor*
- *generate*
- *toddler*
- *camera*
- *microphone*
- *record sounds*
- *surroundings*
- *patient care*
- *experiment*

2 **Which of these sentences are true about the toddler robot? Decide in pairs. Read and check.**

1 It can think for itself.
2 It is modelled on a baby human.
3 It works in hospitals.
4 It can't respond to the environment like a human.

Check these words

- *toddler* • *flesh* • *humanoid*
- *apply* • *physique* • *equipped*
- *generate* • *research* • *investigate*
- *stimuli* • *demonstrate*
- *workplace* • *residential care home*
- *assist* • *experiment* • *workload*

The Toddler Robot

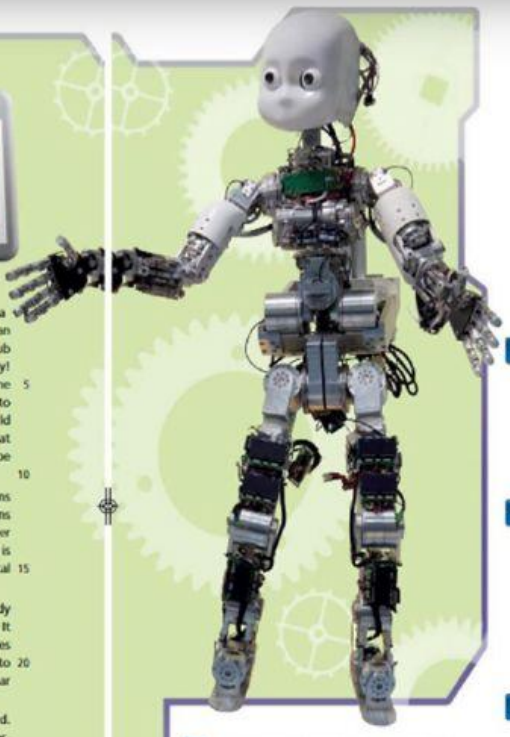
It is only one metre high. It looks and behaves like a human child of about three. It can crawl and sit up. It can even play the drums. 1) What is it? It's the iCub robot — the latest in artificial intelligence and technology! The humanoid iCub robot was created by scientists at the Italian Institute of Technology in Genoa, Italy, in order to understand how human children learn about the world around them. This is important because scientists believe that once they understand how human beings learn, they will be able to apply these principles to robots.

How can a robot teach scientists about how humans learn? Well, many scientists believe that one way humans learn is by physically interacting with objects and other humans. 2) So, by building a robot with a physique that is as human as possible, scientists can study how our physical form helps us develop our learning abilities.

3) Well, it has a large number of motors in its body that generate movement in the head, arms, hands and legs. It has cameras for eyes and it listens with two tiny microphones on its head that record sounds. 4) This enables the iCub to crawl, walk and even pick up objects in its hand in a similar way to a toddler.

On the outside, the iCub looks like a small child. However, a child will interact with interest to what it sees. 5) The iCub robot has only just managed to 'learn' how to control its eye movements based on external stimuli. That's a long way from being able to learn by interacting with its surroundings the way a child does.

6) If so, you could be in for a long wait! Nevertheless, the iCub — and robots like it — demonstrate that one day it should be possible to introduce 'thinking' robots into the workplace. Places such as hospitals and residential care homes could use these robots to assist with patient care. If the iCub experiment succeeds, many busy doctors and nurses will get a helping hand with their workload. Meanwhile, the iCub research team are patiently waiting and watching — much like normal parents — to see how their 'child' learns as it grows up!



3 **Read the text and fill in the gaps 1-6 with a correct sentence A-H. Two sentences are extra.**

A How has the iCub robot been equipped to help scientists research this idea?
B Also, it has been programmed with 53 different movements.
C In short, they will be able to build robots that can actually think!
D Would you believe such a future is likely to come about?
E What's more, it will investigate it, then store what it has learnt.
F It isn't made of flesh and blood, though; it's made of metal and circuits.
G A baby, for instance, learns many things simply by touching, smelling or seeing objects around it.
H Do you dream of a future where robots can think and make their own decisions?

What style is the text written in? Give reasons.

4 **Listen and read the text. In your own words and based on ideas from the text, answer the questions.**

1 Why have scientists modelled the iCub on a baby human?
2 How can 'thinking' robots be useful to us?

What is the author's intention?

5 **Find words in the text which mean:**

- act (para A) • most recent (para A)
- have a human shape and appearance (para A)
- rules (para A) • body structure (para B)
- advance (para B) • produce (para C)
- outside (para D)
- things which cause us to react (para D)
- communicate (para D) • show (para E)

What part of speech is each word?

6 **Fill in:** *residential, artificial, human, helping, research, pick up.* **Use the completed phrases to write or say sentences about the iCub.**

1 team
2 objects
3 care home
4 being
5 hand
6 intelligence

7 ICT **Collect more information about the iCub. Use the key word: iCub. Tell the class.**

Make notes under the headings: *Name – Type – Description – Abilities – Future plans.* Use your notes to present the iCub to the class either in English or in Polish.

THINK! **How do you feel about the development of a robot which could interact with people? In three minutes write a few sentences. Tell the class.**

Zoom out