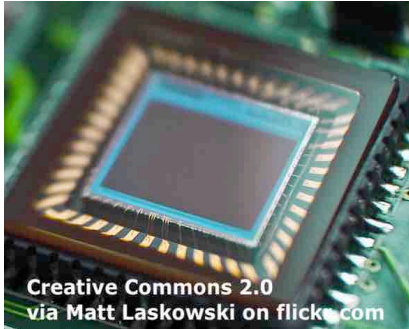


IBM makes 'next-generation' microchip

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Computers, tablets and smartphones can do more and more things these days. Fifteen years ago, they were not powerful enough to store movies or play high-definition games. Computer chip technology has

advanced at a fast rate. We can now stream movies on our smartphones and store huge amounts of data. IBM has announced it has made a significant breakthrough in microchip power. It has created chips that improve performance by 45 per cent. Its new chips also use 75 per cent less energy. This is good for the environment, and means batteries will be more energy efficient. The technology could quadruple mobile phone battery life. We might only need to charge our phones every four days.

IBM has greatly improved its microchips by reducing their size. The tech giant has created a two-nanometre chip. Computer engineers use nanometres to measure the size of chips. One nanometre is just a billionth of a metre. A chip that is 2nm in size is incredibly small. IBM says its 2nm processor can store 50 billion transistors on "a chip the size of a fingernail". Computer expert Peter Rudden said: "We have seen semiconductor manufacturers moving from 14nm to 10nm to 7nm, with 7nm being a real challenge for some." He said IBM's new chip could advance artificial intelligence (AI). The chips could also let data centres store more information. Data centres use one per cent of the world's electricity.

Sources: computerweekly.com / bbc.com / cnn.com

Writing

Technology will save the world. Discuss.

Chat

Talk about these words from the article.

computers / tablets / smartphones / games / microchip / performance / energy / chip size / giant / engineers / measure / processor / fingernail / manufacturer / electricity

True / False

- 1) The article says computers were not so powerful 50 years ago. T / F
- 2) The article says we can store huge movies on our smartphones. T / F
- 3) IBM's new chip uses 75% less energy. T / F
- 4) The new chip means we only need four days to charge our phones. T / F
- 5) IBM has created a giant chip. T / F
- 6) Computer engineers measure microchip sizes in nanometres. T / F
- 7) The new chips could lead to advances in artificial intelligence. T / F
- 8) Data centres use more than one percent of the world's electricity. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|-------------------------|------------------|
| 1. these days | a. tiny |
| 2. advanced | b. made |
| 3. huge | c. keep |
| 4. created | d. very large |
| 5. improve | e. specialist |
| 6. reducing | f. moved forward |
| 7. small | g. makers |
| 8. expert | h. boost |
| 9. manufacturers | i. cutting |
| 10. store | j. nowadays |

Discussion – Student A

- a) What do you think of computers and smartphones?
- b) How important is your smartphone to you?
- c) How much better is your smartphone now than 10 years ago?
- d) What do you need your smartphone for?
- e) What do you know about microchips?
- f) What do you know about the tech giant IBM?
- g) What could our phones do with lots more power?
- h) How much do you like technology?

Phrase Match

- | | |
|-------------------------------------|------------------------------|
| 1. smartphones can do more and more | a. mobile phone battery life |
| 2. they were not powerful | b. a fast rate |
| 3. chip technology has advanced at | c. intelligence |
| 4. it has made a significant | d. measure the size |
| 5. The technology could quadruple | e. enough |
| 6. improved its microchips by | f. of a fingernail |
| 7. engineers use nanometres to | g. things these days |
| 8. on a chip the size | h. reducing their size |
| 9. artificial | i. world's electricity |
| 10. use one per cent of the | j. breakthrough |

Discussion – Student B

- What do you think about what you read?
- What do you know about microchips?
- What does a computer engineer do all day?
- What is the world's best technology company?
- What new technology would you like to see?
- What do you think of artificial intelligence?
- Why do data centres use so much electricity?
- What questions would you like to ask IBM's engineers?

Spelling

- Computers, tablets and phneasmsrt
- fwperluo enough to store movies
- play high-inofinidet games
- it has made a ngiitfisnac breakthrough
- batteries will be more energy nieefictf
- eqldpauur mobile phone battery life
- IBM has greatly odeimpvr its microchips
- use nanometres to usaemr the size of chips
- 2nm in size is bidnceyrli small
- its 2nm esscoorpr can store 50 billion
- Computer eteprx
- IBM's new chip could advance talciirafi intelligence

Answers – Synonym Match

1. j	2. f	3. d	4. b	5. h
6. i	7. a	8. e	9. g	10. c

Role Play

Role A – Smartphones

You think smartphones are the best digital devices. Tell the others three reasons why. Tell them what is wrong with their devices. Also, tell the others which is the least useful of these (and why): televisions, laptop computers or USB Flash drives.

Role B – Televisions

You think televisions are the best digital devices. Tell the others three reasons why. Tell them what is wrong with their devices. Also, tell the others which is the least useful of these (and why): smartphones, laptop computers or USB Flash drives.

Role C – Laptop Computers

You think laptop computers are the best digital devices. Tell the others three reasons why. Tell them what is wrong with their devices. Also, tell the others which is the least useful of these (and why): televisions, smartphones or USB Flash drives.

Role D – USB Flash Drives

You think USB Flash drives are the best digital devices. Tell the others three reasons why. Tell them what is wrong with their devices. Also, tell the others which is the least useful of these (and why): televisions, laptop computers or smartphones.

Speaking – Digital Devices

Rank these with your partner. Put the best digital devices at the top. Change partners often and share your rankings.

- | | |
|--------------|-----------------------|
| • Tablets | • USB Flash drives |
| • Smartphone | • Television |
| • E-readers | • Digital photo frame |
| • Speakers | • Laptop computer |

Answers – True False

a	F	b	F	c	T	d	F	e	F	f	T	g	T	h	F
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Answers to Phrase Match and Spelling are in the text.