Aula 2 - Inglês

Tiny Transistor

Scientists report they have created the smallest device to carry electrical current ever made. The device _____ (1) a transistor. It is about one-million times smaller than a grain of sand.

Transistors are used in many electronic devices to control the flow of electrical current. True transistors can turn the flow of electricity on and off. They also have the ability to increase electrical current.

Extremely small transistors are used in computers. They form part of what is called an integrated circuit. Powerful integrated circuits have large numbers of transistors. Scientists have developed smaller transistors year after year to produce more powerful integrated circuits.

However, the new transistor may represent the smallest possible size for this kind of device. The area that carries electrical current in the new transistor is about _____ (2) of a single molecule.

Lucent Technologies' Bell Labs in Murray Hill, New Jersey, is developing the extremely small transistor. In Nineteen-Forty-Seven, scientists at the same laboratory invented the first transistor. William Shockley, John Bardeen and Walter Brattain received the Nobel Prize for Physics in Nineteen-Fifty-Six for their discovery.

Scientists Hendrik Schon, Zhenan Bao and Hong Meng created the new transistor. It is so small that it is put together chemically. The scientists used a chemical process to attach carbon-based molecules to gold. The process creates molecule-sized openings that carry electricity.

The molecules also chemically form a molecule-sized device that controls electrical current. Releasing and stopping electrical current permits electronic processors to move and store information. This simple ability to start and stop electrical current forms the language used by most computers.

The new transistor is still being developed. However, researchers at Bell Labs have already connected together several of the transistors into a circuit. They also say the chemical process for creating the transistors appears to work well.

Yet, the new extremely small transistors may be too small. One scientist at Hewlett-Packard Laboratories worries that connecting so many molecule-sized devices together would prove to be almost impossible.

(Mario Ritter, **VOA Special English Science Report**, November 14, 2001)

1. The missing word in (1) is
a. ( ) calls
b. ( ) is called

c. ( ) is nominated
d. ( ) is calling
e. ( ) nominates

2. The missing word in (2) is
a. ( ) the width
b. ( ) the depth.
c. ( ) the height.
d. ( ) the length
e. ( ) the tilth

3. The underlined word in the text could be replaced by:
a. ( ) although
b. ( ) likewise

c. ( ) but

d. ( ) so that

e. ( ) despite

4. Select the alternative that does not correspond to the text.
a. ( ) Scientists have created a device which is about one million times smaller than a grain of sand.
b. ( ) Tiny transistors are used in computers.

c. ( ) The first transistor was invented by scientists from Lucent Technologies' Bell Labs in 1947.
d. ( ) Researchers are still working on the new transistor.
e. ( ) In 1956 the physicians William Shockley, John Bardeen and Walter Brattain were awarded the Nobel Prize for their discovery.

5. Write **T** if the statement is True and **F** if the statement is False
a. ( ) True transistors are able to increase electrical current.
b. ( ) Extremely small transistors are part of an integrated circuit.
c. ( ) A large number of transistors are needed to integrate circuits.
d. ( ) The new transistor is put together chemically.
e. ( ) One scientist at Hewlett Packard Laboratories objects to the size of the transistors.

Gabarito comentado

Questão 1. A alternativa correta é a letra **b**. Preste atenção ao uso da voz passiva.

Se você respondeu a letra **c,** que também apresenta uma forma passiva, errou, pois o verbo *nominate* significa *propor um nome como candidato*.

Vejamos o exemplo: *Who was nominated for Presidency?*

Questão 2. A alternativa correta é a letra **a** (the width = a largura)

Analisemos, então as outras alternativas:

b. a palavra *depth* se refere à profundidade.

c. a palavra *height* se refere à altura.

d. a palavra length se refere ao comprimento.

e. a palavra tilth significa *cultivo da terra.*

Questão 3. A alternativa correta é a **c.** Preste atenção ao contexto e lembre-se que *however* exprime contraste de idéias.

Vejamos como poderíamos traduzir as outras palavras: although = embora (concessão)

Likewise = da mesma forma

So that = para que (finalidade)

Despite = apesar de

É importante lembrar que *in spite of* pode ser usado no lugar de *despite*. Observe, entretanto, que a primeira é seguida pela preposição *of* e a última não.

Questão 4. Esta é tricky! Veja que a questão pede a alternativa que não corresponde ao texto. Sendo assim, a resposta é a letra **e** e observe que a pegadinha esta no fato de eu ter utilizado a palavra physician (médico) quando a palavra correta para o contexto seria physicists (físicos).

Questão 5. As respostas são: T; T; F; T; F

Analisemos as respostas falsas: alternativa **c** é falsa. Compare a sentença extraída do texto com a sentença dada em c:

Powerful integrated circuits have large numbers of transistors

A large number of transistors are needed to integrate circuits.

Não tem nada a ver com o texto. Furada!

A alternativa **e** é falsa, pois isso não é dito no texto. Leia atentamente a última sentença do texto.