

**Atenção!! IMPRIMIR E RESPONDER NESTA PRÓPRIA FOLHA**

Nome \_\_\_\_\_ Data \_\_\_\_\_

LEIA OS TEXTOS E RESPONDA EM **PORTUGUÊS****ADDING UP THE UNDER-SKILLED**

For years U.S. employers have been grouching(1) that more and more aspiring workers lack the know-how to get the most basic jobs done. Last week such complaints received alarming confirmation. Adult Literacy in America, a 150-page survey conducted by the Educational Testing Service (ETS), reported that roughly 90 million Americans over age 16-almost half that category's total population-are, as far as most workplaces are concerned, basically unfit(2) for employment.

Who is included in that definition? Those who can sign a credit-card receipt but are incapable of writing a letter when they think their bill is wrong; those who can pay the correct change at the supermarket but have difficulty calculating the difference between regular and sale prices; those who can scan a newspaper story but cannot paraphrase its contents.

ETS based its findings on the performance of 26.000 people chosen to represent a cross section of adults in the U.S. Over a period of four years, all subjects were interviewed and given between 35 and 40 tests, drawn from a bank of 185 prepared for the survey. The tasks simulated real-life situations, calling upon basic reading and math(3) competence and the ability to interpret charts, graphs and timetables, and were assigned degrees of difficulty on a scale of 0 to 500.

After tabulating the test scores, ETS designated five different grades and projected that 42 million American adults fall within the lowest category; 52 million fill the next rank, which is still below the level required to perform a moderately demanding job. Perhaps the worst new from the survey was the hubris(4) expressed by those who were tested: when asked if they read well or very well, 71% of those in the bottom grade said yes.

If the ETS survey is accurate, the U.S. is not only significantly populated by people unprepared for current and advancing technologies, but most of them do not know that they do not know.

(Adapted from TIME INTERNATIONAL, September 20, 1993, pg 45)

- (1) to grouse - reclamar
- (2) unfit - não apropriado, inadaptado
- (3) math - matemática
- (4) hubris – arrogância

1) Quais os três aspectos básicos examinados através dos testes apresentados aos candidatos? \_\_\_\_\_

2) Segundo o autor do texto, qual a pior informação revelada pelo teste e por que motivo? \_\_\_\_\_

Read the text :

The hardness of diamond, like the speed of light, has long been regarded as an absolute - a value that could never be exceeded. But four years ago, theorists calculated that it might be possible to combine carbon and nitrogen atoms in a substance even harder than diamond, and now, at last, such a substance may have been created.

The new material, a blend of carbon and nitrogen atoms with the formula beta-C<sub>7</sub>N<sub>3</sub>, was synthesized by scientists at Harvard University under the direction of Dr. Charles M. Lieber. Announcing their success in the current issue of the journal Science, they said the carbon nitride they had prepared had all the molecular structural characteristics predicted for an ultrahard substance. But because the material is in the form of a very thin film containing many microscopic discontinuities, it has not yet been possible to test its hardness or ability to conduct heat.

The very compact and robust molecular structure of the carbon nitride prepared at Harvard has been verified by probing it with an electron beam and other techniques. The material is expected to have many of the same properties as diamond, and may be substantially harder.

"It scratches glass, of course, but we have not yet been able to test its absolute hardness", Dr. Lieber said in an interview. "What's really exciting about this work is that the experimental results were accurately predicted by theoretical work in 1989 by Dr. Marvin L. Cohen of the Lawrence Berkeley Laboratory at Berkeley, Calif. Usually theory follows experiment, but this time it was the other way around."

Dr. Lieber and his colleagues believe ultrahard carbon nitride film could find many industrial applications, including ultrahard coatings for machine tools and glass windshields. Thin diamond films increasingly are used in such applications already. "It remains to be seen whether carbon nitride is better than diamond film in these applications. Much will depend on cost and ease of applications", Dr. Lieber said. In any case, Harvard has applied for a patent for the process.

The traditional Mohs scale assigns numbers ranging from one to 10 as measures of hardness, with talc, the softest, as 1, and diamond, the hardest, as 10. The hardness number of a substance depends on its ability to scratch or to be

scratched by other substances, and up to now nothing was known that could withstand scratching by diamond. But the Mohs scale will have to be extended if carbon nitride, as expected, proves able to scratch diamond.

The theoretical birth of beta-C<sub>3</sub>N<sub>4</sub>, occurred at Lawrence Berkeley Laboratory four years ago as the result of a series of calculations based on quantum mechanics. Dr. Cohen and his student, Amy L. Liu, calculated that it would be possible to combine carbon and nitrogen atoms in the same kind of pattern as an existing compound: silicon nitride. Silicon nitride has a hardness almost rivaling that of diamond because, like diamond, the electronic bonds between its constituent atoms are extremely short. The Berkeley calculations revealed that if an analogue of silicon nitride could be synthesized - carbon nitride - its electronic bonds would be even shorter than those in diamond, and that carbon nitride should therefore be as hard or harder than diamond.

(The New York Times, Tuesday, July 20, 1993)

03) Na opinião de Dr. Lieber, o que torna seu trabalho fora do comum? \_\_\_\_\_

04) Observe os seguintes Falso Cognatos:

**Actually**      **Parents**      **library**      **nowadays**      **relatives**      **bookstore**

Complete as orações a seguir com esses Falso Cognatos:

- a) Both his \_\_\_\_\_ come from Italy. He is a son of Italians.
- b) Alan is going to the \_\_\_\_\_ to borrow a book.
- c) I used to smoke a lot, but \_\_\_\_\_ I quit. It's harmful to my health.
- d) Every year all my \_\_\_\_\_ meet each other. It's a chance to see and talk to each other, because they live far away.
- e) Anne speaks English fluently. \_\_\_\_\_ she is Americans' daughter.
- f) I'd like to buy the new book by Jorge Amado. I think I'll buy it at Siciliano \_\_\_\_\_.

Read the text to complete exercise 05:

The department of Engineering is one of the... **(I)**... of its type in the UK and is currently undergoing rapid expansion. There are approximately 65 academic staff, 70 research staff and over 600 postgraduates following MSc courses or undertaking research. The large and internationally recognized Centres of Microengineering and Metrology and for advanced Manufacturing Technology are part of the Department. Strong research teams also exist in electronics (especially high integrity systems and digital vision systems), advanced materials assessment and characterization, control engineering and development studies. In the 1986 UGC review, the research of the department was judged "outstanding" and in 1989 UFC review the department was given a rating of 5 - the... **(II)**... category. There is a strong tradition of research in close co-operation with industry.

05) As lacunas I e II devem ser preenchidas respectivamente por:

- a) larger / higher
- b) largest / most high
- c) largest / highest
- d) more large / more high
- e) most large / highest