

JAG03 Unit 7 Innovations

Task 1 Speaking

- A) Make a list of five items of technology that you possess which you consider the most useful and practical. If you had to live with only one, which one would it be?**
- B) Work in groups and compare your lists. Give reasons and examples for your selections.**
- C) For each of the five items on your list, note down at least one disadvantage.**
- D) Which item of technology is currently the most desirable and fashionable in the world of science? Give reasons.**

Task 2 Plankton, pumps and carbon dioxide

A) Match the words to the definitions.

- | | |
|-------------------|---|
| 1) pump | a) any substance which plants or animals need in order to live and grow |
| 2) plankton | b) the solid waste produced by some animals |
| 3) to excrete | c) to stop something such as machine from working |
| 4) pellets | d) very small plants and animals which float on the surface of the sea and on which other animals feed |
| 5) algae | e) to use something for advantage |
| 6) nutrients | f) a piece of equipment which is used to cause liquid, air or gas to move from one place to another |
| 7) carbon dioxide | g) the gas formed when carbon is burned or when people or animals breathe out |
| 8) to exploit | h) very simple, usually small plants that grow in water and do not have ordinary leaves, stems or roots |
| 9) to disable | i) to get rid of materials such as solid waste from the body |

B) You are going to hear an extract from a science broadcast about ocean pumps. Look at the picture and read the questions. Then listen to the extract and answer the questions.



Salps (<https://www.newsobserver.com/news/local/article231929328.html>)

- What environmental problem(s) are ocean pumps designed to solve?
- How do they work?

C) Listen again and circle the correct answer.

1. Ocean pumps could reduce the carbon dioxide in the atmosphere
 - a) three times
 - b) by almost 3 per cent
 - c) by about 33 per cent
2. Salps are...
 - a) a type of plankton
 - b) a type of barrel
 - c) a type of algae
3. The pumps bring..... to the surface.
 - a) salps
 - b) nutrients
 - c) algae
4. The pumps could also....
 - a) increase fish stocks
 - b) reduce the fish population
 - c) damage the food chain
5. The ocean pumps could prevent hurricanes by ocean's temperature.
 - a) reducing the deeper
 - b) bringing up the upper
 - c) bringing down the upper
6. The pumps...
 - a) have already been tested
 - b) are being tested
 - c) are going to be tested

D) Writing an introduction

Put the sentences of the introduction into the correct order.

- a) The recent invention of the ocean pump by Philip Kithil could provide such a solution as well as mitigating some of the problems associated with global warming.
- b) Another solution is to find a way to remove carbon from the carbon cycle.
- c) Climate change is perhaps the greatest threat facing the planet today.
- d) By pumping cooler water from the deep ocean to the surface, the ocean pump could reduce the amount of carbon dioxide in the atmosphere, increase fish stocks in some areas and prevent hurricanes in areas prone to them.
- e) Governments are attempting to take action on global warming through agreements to reduce carbon dioxide emissions but this is difficult to achieve in practice and by itself may not be enough to solve the problem of increased CO₂ in the atmosphere and its negative side effects.

Choose an invention from Task 1 and write a funnel introduction.

(adapted from Lane, S. *Instant Academic Skills*. CUP, 2010.)

Task 3 Hedging

Read the text. What do the underlined words and phrases have in common? Why does the writer use them?

The latest research appears to confirm that buildings are responsible for approximately 40% of energy consumption and 35% of EU carbon emissions. It has been suggested that companies should take a lead in adopting policies to reduce those emissions. Such policies might include retrofitting and energy reduction.

In academic writing you need to make it clear when you are expressing a claim or opinion as opposed to a fact. The best way of doing this is to distance yourself to some extent from the claim by 'hedging', i.e. using less direct language in order to make your views more cautious.

Rewrite the sentences as hedged statements, using the words in brackets and making any other changes necessary.

1. Drought is the major problem in some parts of Sub-Saharan Africa. (appears)
2. Wasps with a greater number of black spots on their heads are more aggressive, according to research. (tend)
3. The report concludes that life expectancy gap between men and women is shortening in Canada. (indicates)
4. Most commentators agree that deregulation caused the banking crisis in 2008. (contributed to)
5. Smaller electronics companies are doing better than their larger rivals. (appear/s)
6. Space debris will damage key communication satellites. (might)
7. Changes in the chemical composition of the material occurred as a result of careless handling in the laboratory. (might)
8. There will be a worldwide shortage of rare earth metals in the near future. (likely)