

RESEARCH ON INFLUENZA

Speaking: Future research

1. Work in small groups. Spend some time thinking about developments in each of the areas at different points in the future. Write your ideas into the boxes.¹

	2015	2050	2200
Chemistry			
Medicine			
Space			
Computers			

2. Now compare your ideas with people from another group. Which of them is (un)realistic? Then choose the most interesting idea and report to the whole class.

Listening: Flu Vaccine² <http://www.youtube.com/watch?v=zCB1xqmOMKM>

1. When did you last have influenza ? What were the symptoms ?
What do you think about flu vaccination ?

2. Match the expressions with their synonyms or descriptions.

ailment	related to breathing
assume	sudden feelings of coldness
authorities	liquids
chills	disease which affects lungs
contract	widespread, common
contagious	catch
fluids	illness
malnutrition	weakness from not eating enough good food
pneumonia	official departments that make decisions
prevalent	type with special characteristics
respiratory	believe, accept without proof
strain	infectious

3. Listen to the recording and answer the questions.

1. What is influenza ?
2. What are the symptoms ?
3. What is recommended ?
4. Who is at greater risk of complications ?
5. How many flu-cused deaths are shown by official reports ?
6. What other causes of death are compared with flu ?
7. What are the forms of flu vaccines in the US ?
8. Why do authorities travel to Asia ?
9. What are vaccine manufacturers instructed to do ?

Reading³

1. Scanning. Read the text quickly and answer this question: What is the flu's secret ingredient?

Flu's secret ingredient

A team of virus experts recently made a chance discovery, which could change the way that scientists understand the structure of the flu virus.
(Science In Action reports on the accidental find).

1

New research may explain why the influenza virus is so good at attacking humans. Previously scientists had thought that the flu virus produced 10 protein molecules, however researchers at the National Institute of Allergy and Infectious Diseases recently identified an additional protein.

2

Whilst studying the body's immune system, the scientists accidentally stumbled upon a "hidden" protein. They believe that the state of this protein could determine how virulent a particular strain of the flu virus is.

3

Leader of the research, Dr Jonathan Yewdell explains:

'This is a very interesting new protein that is encoded by the virus in a very tricky way so that it eluded investigators for nearly 20 years.'

4

'When this protein is made it goes to the part of the cell that is involved in producing energy for the cell, called the mitochondria. It sits in the mitochondria and in certain cases it ends up killing the cell.'

5

When a virus enters a cell it has the ability to quickly replicate itself. In the past scientists had considered the resulting peptides as waste products of the duplicating process.

6

However the researchers involved in this latest study recognised that there were large amounts of a particular protein occurring in flu-infected cells. This led them to believe that the presence of this toxic protein could dictate how strong a particular strain of flu is.

7

How this discovery will impact flu vaccines remains to be seen. However further research into why the protein is absent in some other animals is likely.

8

Flu is caused by a virus



2. Multiple choice - Choose the right option:

1. *The researchers made the discovery*
 - a) while identifying the number of proteins in a flu virus
 - b) while examining the structure of a flu virus
 - c) while studying the body's immune system

2. *The additional protein*
 - a) attracted investigators for nearly 20 years
 - b) remained hidden to researchers for nearly 20 years
 - c) was searched for by Dr Yewdell for nearly 20 years

3. *The discovery*
 - a) will have an impact on flu vaccines
 - b) will inspire future research
 - c) will help to weaken the strength of a flu strain

3. Comprehension: Say whether these statements are true or false.

If they are false, say what is true.

- | | |
|--|-----|
| a) The flu virus produces 11 proteins. | T/F |
| | |
| b) The newly discovered protein goes to ribosomes. | T/F |
| | |
| c) This protein can determine the virulence of the flu virus. | T/F |
| | |
| d) Research has shown its presence in some other animals, too. | T/F |
| | |

4. Read the text again and try to translate the following expressions:

1. make a chance discovery
2. be good at attacking humans
3. identify an additional protein
4. determine how virulent a particular strain of the flu virus is
5. consider the resulting peptides as waste products
6. accelerate the ability to harm cells
7. it remains to be seen
8. further research is likely

5. Here are some verbs and adjectives from the text. Use suffixes to change them into nouns.

vaccinate	consider	virulent
infect	determine	occur
replicate	involve	present
explain	discover	strong

DISCUSSION: Talking about science and research

Read these questions. Make sure you understand all of them. You can consult their meaning in pairs:

- Can you imagine yourself working as a scientist? What research would you like to participate in?
- Which invention/discovery would you most like to be invented/discovered in the future?
- "Science is more important than religion in today's world." Do you agree?
- Are there more men scientists than women scientists in your country? If so, why?
- Why do you think future science will depend more on computers?
- What do you think of scientific tests on animals?
- Has science and technology changed society for the better or for the worse? Give examples.

Now discuss your responses to these questions in small groups.

Expressing agreement

- That's for sure.
- This idea is absolutely right.
- That's exactly how I feel.
- No doubt about it.
- (agree with negative statement)** Me neither.
- (weak)** I suppose so./I guess so.
- I'm of the same opinion.
- That's quite true, but...

Expressing disagreement

- I don't think so.
- (strong)** No way.
- I'm afraid I disagree.
- (strong)** I totally disagree.
- (strong)** I'd say the exact opposite.
- Not necessarily.
- That's not always true.
- That's not always the case.
- No, I'm not so sure about that.

Interruptions

- Can I add something here?
- Is it okay if I jump in for a second?
- If I might add something...
- Sorry to interrupt, but...
- (after accidentally interrupting someone)** Sorry, go ahead. **OR** Sorry, you were saying...
- (after being interrupted)** You didn't let me finish.

<http://www.englishclub.com/speaking/agreeing-disagreeing-expressions.htm>

Homework: Complete the missin singular or plural forms.

- | | | | |
|---------------|--------------|--------------|-------|
| 1. | mitochondria | 6. radius | |
| 2. criterion | | 7. nucleus | |
| 3. phenomenon | | 8. focus | |
| 4. formula | | 9. | fungi |
| 5. | theses | 10. analysis | |

¹Adapted from BBC Learning English

²<http://www.youtube.com/watch?v=zCB1xqmOMKM>

³http://www.bbc.co.uk/worldservice/sci_tech/highlights/011205_flu.shtml