Asking and answering questions.
(adapted from Effective Presentations by Jeremy Comfort and Derek Utley, 2000, and materials by Hana Němcová.)

1. Watch the video and decide whether the speaker does (✓) or does not (x) carry out each stage in the checklist below. Concentrate on the phrases he uses.

version 1   **version 2**

welcomes the question

1x   2x   3x   1 ✓   2 ✓   3x   phrases………………………..

takes time to think before answering

1   2   3   1   2   3   …………………………………

clarifies the question

1   2   3   1   2   3   …………………………………

replies positively

1   2   3   1   2   3   …………………………………

checks the questioner is satisfied

1   2   3   1   2   3   …………………………………..

2. **You are going to hear six questions. Listen and choose the best response to each question.**

a
1 No, of course not.
2 Please do.
3 No, that's a problem.

d
1 I need a break.
2 I don't need a break.
3 That's a good idea.

b
1 Well, actually, it's confidential.
2 Yes, I do.
3 Certainly.

e
1 No, they aren't.
2 You're wrong.
3 Actually, some are at headquarters.

c
1 You could say so.
2 That's right.
3 I'd prefer not to.

f
1 Any moment.
2 That's a difficult question.
3 That's interesting.

3. **Handling questions. Put the following responses into 4 groups: responses to**
   Good questions
   Difficult questions
   Unnecessary questions
   Irrelevant questions

   1. I'm afraid I don't see the connection.
   2. Sorry, I don't follow you.
   3. I think I answered that earlier.
   4. Good point.
   5. Interesting. What do you think?
   6. Well, as I said/mentioned earlier…
   7. I'm afraid I don't have that information
   8. That's a very good question.
   9. I don't know that off the top of my head.

4. **What would you say in the following situations? Match the situation and possible responses.**

Situations:
1. Instead of asking a question, the person strongly, rather angrily, disagrees with you.
2. Instead of asking a question, the person states his/her viewpoint that agrees with yours.
3. The person says that some of your information is inaccurate, but you are absolutely sure that you are correct.
4. The person says that some of your information is inaccurate, and you are not sure whether your information was correct or not.
5. The person asks a question that will require a very long, complicated answer.

Responses:
a. Do not regard this as an attack. You can say: *I appreciate your bringing this to my attention. I will have to recheck my sources to see what is correct.*
b. If possible, give your source of information. If you cannot do so, you can say: *I believe that my information is correct, but I will certainly recheck my facts.*
c. You can say: *That is an interesting question, but it would take much too long to answer it. Perhaps we can discuss it later.*
d. Listen politely, then restate your point of view, with additional evidence, if possible. Do not argue with the person. If he/she repeat their position, you can say: *Well, we will have to agree to disagree on this point.* or *Unfortunately, there is no time to go into this more deeply right now.*
e. Show how this person's ideas support your own point of view. You can say: *Yes, that fits exactly with what I was saying.*

(based on Milada Pavlovová and IALS TESP materials)

5. **Now think about yourself as the audience. How would you ask for the items in the table?**

Ask for repetition		Ask for simplification
Ask for clarification	Ask for additional information	Give your opinion
Agree	Ask for sources	Ask for evidence
Ask for examples	Interrupt the speaker	Ask for opinion
Follow up a question. You are not satisfied with the answer	Express doubt and reservation	Disagree
Ask for methods	Ask for details	Ask for a take-home message

6. **Grammar focus – indirect questions.**

Here are some of the most common phrases used for asking indirect questions. Many of these phrases are questions (i.e. *Do you know when the next train leaves?)* while others are statements made to indicate a question (i.e. *I wonder if he will be on time*).

Do you know…?	I wonder / was wondering …
Can you tell me….?	Do you happen to know…?
I have no idea…	I am not sure…………….
I would like to know…..	Have you any idea……….

Poincare Conjecture

Pre-listening

1) What do you know about Poincare Conjecture?
2) Who and when solved that problem?
3) What is the Fields Medal?
4) What is a pinnacle?

Listen to and watch the video and answer the questions.

1) What was the question Henri Poincare asked?

   ………………………………………………………………………………..

2) When was the problem posed? …………………………………………………

3) What is a sphere? …………………………………………………………………

4) What is the reason why the presented cannot be inflated to form a sphere?

   ………………………………………………………………………………..

5) If you inflate an object, which two possible shapes can you get?

   …………………………………………………………………………………

6) What happens when you tighten a loop around a ball?

   …………………………………………………………………………………

7) What is the difference between a surface of a sphere and of a doughnut?

   …………………………………………………………………………………

8) Why is the solution important for scientists? ……………………………………..

9) What is the so called "blue skies research? ……………………………………….

10) What does Adam say about Grigori Perelman?

    ………………………………………………………………………………….

11) What is the thing the presenter will never understand?

    ………………………………………………………………………………….

Great maths puzzle 'solved'

By Dr David Whitehouse
BBC News Online science editor

1) Replace the underlined words with their synonyms.

A Russian mathematician claims to have proved the Poincare Conjecture, one of the most famous problems in mathematics.

Dr Grigori Perelman, of the Steklov Institute of Mathematics of the Russian Academy of Sciences, St Petersburg, has been touring US universities describing his work in a series of papers not yet completed. The Poincare Conjecture, an idea about three-dimensional objects, has haunted mathematicians for nearly a century. If it has been solved, the consequences will reverberate throughout geometry and physics. If his proof is accepted and survives two years of scrutiny, Perelman could also be eligible for a $1m prize sponsored by the Clay Mathematics Institute in Massachusetts for solving what the centre describes as one of the seven most important unsolved mathematics problems of the millennium.

2) Formulate questions so that you can answer with the expressions in *italics*.

    1) …………………………………………………………………………………………………

    2) ………………………………………………………………………………………………….

    3) …………………………………………………………………………………………………

    4) …………………………………………………………………………………………………

    5) …………………………………………………………………………………………………

Spheres and doughnuts

Formulated by the remarkable French mathematician *Henri Poincare* in 1904, the conjecture is a central question in topology, the study of the geometrical properties of objects that do not change when they are stretched, distorted or shrunk. For example, the hollow shell of the surface of the Earth is what topologists call a two-dimensional sphere. It has the property that every lasso of string encircling it can be pulled tight to a point. On the surface of a doughnut however, a lasso passing through the hole in the centre cannot be shrunk to a point without cutting through the surface meaning that, topologically speaking, spheres and doughnuts are different.

Since the 19th Century, mathematicians have known that the sphere is the only enclosed two-dimensional space with this property. But they were uncertain about *objects with more dimensions*. The Poincare Conjecture says that a three-dimensional sphere is the only enclosed three-dimensional space with no holes. But the proof of the conjecture has eluded *mathematicians*. Poincare himself demonstrated *that his earliest version of his conjecture was wrong*. Since then, dozens of mathematicians have asserted that they had proofs until fatal flaws were found.

3) Fill in the missing prepositions.

Internet rumours

Rumours about Perelman's work have been circulating a)…… November, when he posted the first of his papers reporting the result b)….. an internet preprint server. c)……… then, Perelman has persistently declined to be interviewed, saying any publicity would be premature.

Dr Tomasz Mrowka, a mathematician d)……. the Massachusetts Institute of Technology, said: "It's not certain, but we're taking it very seriously. "We're desperately trying to understand what he has done here," he adds.

Some are comparing Perelman's work e)…… that of Andrew Wiles, who famously solved Fermat's Last Theorem a decade ago. Indeed, Wiles was f)…… the Taplin Auditorium g)…….. Princeton University, New Jersey, where he holds a chair h)…….. mathematics, to hear Perelman describe his work recently. i)……… him sat John Nash, the Nobel Laureate who inspired the film A Beautiful Mind.

4) Decide whether the statements are true or false.

   a) Perelman in fact wanted to prove the Geometrization Conjecture, not Poincare Conjecture.

   b) William Thurston' s proposal is more complicated than the Poincare' s Conjecture.

   c) The Poincare result is just a by-product of more complex discoveries.

   d) With the Poincare Conjecture solved, we can describe all shapes of the Universe.

   Million dollar afterthought

What is all the more remarkable about Perelman's proposal is that he is trying to achieve something far grander than merely solving Poincare's Conjecture. He is trying to prove the Geometrisation Conjecture proposed by the American mathematician William Thurston in the 1970s - a far more ambitious proposal that defines and characterises all three-dimensional surfaces. "He's not facing Poincare directly, he's just trying to do this grander scheme," said Professor Peter Sarnak, of Princeton.

After creating so much new mathematics, the Poincare result is just "a million dollar afterthought," he said. If Perelman has solved Thurston's problem then experts say it would be possible to produce a catalogue of all possible three-dimensional shapes in the Universe, meaning that we could ultimately describe the actual shape of the cosmos itself.

3) HW: Find out who these scholars are:
   a) Andrew Wiles ………………………………………………………………….
   b) William Thurston……………………………………………………………….
   c) Tomasz Mrowka……………………………………………………………………
   d) Peter Sarnak…………………………………………………………………..
   e) John Nash……………………………………………………………………