
Yvonne: Hello, I'm Yvonne Archer and this is 6 minute English. Today, we're talking about a rather exciting space mission and with me is Callum Robertson. Hello!

Callum: Hello Yvonne. Wow! Do you think there'll be space for an extra passenger – for me - on that space mission?

Yvonne: Well, the spacecraft won't leave until about 2017 – so anything can happen by then! But, before you start packing Callum, do you know anything about asteroids, Callum? I mean, I found out that there are millions of them travelling around our solar system.

Callum: Yeah... asteroids are - I suppose they're planets, I mean, big pieces of rock, maybe a few miles or a few kilometres wide - and they move around the sun in the same way that the earth moves around the sun.

Yvonne: Right, and in today's report we'll hear more about them. But we'll also come across the term 'for analysis'. Can you explain that for us, Callum?

Callum: Sure. If something is given to you 'for analysis', you go through the process of examining it - looking carefully at it to try to understand what it is or what it's made of.

Yvonne: Now, before we hear that report, let's give you that big question Callum. I've been scratching my head about this because you keep on getting them right! But anyway - according to scientists, when was the last time that an asteroid hit earth?

- Was it a) 85 million years ago
- b) 65 million years ago or
- c) 45 million years

Callum: Well ummm... I'm not really old enough to remember this...

Yvonne: Really???

Callum: No, and it's going to be a complete guess. So I'm just going to go for the middle one; I'm going to go for 65 million years.

Yvonne: Okay, well we'll find out the answer to that question at the end of the programme.

The space mission that's being worked on by European scientists and engineers is called Marco Polo. As the BBC's Christine McGourty's tells us about it, try to find the answer this two-part question: Where do the scientists hope to land and what do they want to bring back to earth?

CHRISTINE MCGOURTY

The plan is to select a small asteroid - less than 1 kilometre across - and to send a spacecraft there. It would land and drill beneath the surface to collect a mixture of dust and rubble to bring back to Earth for analysis.

Yvonne: Callum, where do the scientists hope to land?

Callum: Well, they want to land on an asteroid but they haven't 'selected' – or chosen which one yet.

Yvonne: That's right – and they want to select an asteroid that's less than one kilometre wide – as the report said: less than one kilometre "across". And what do they hope to bring back to earth from the asteroid?

Callum: Well, rubbish really!

Yvonne: A load of old rubbish!

Callum: Well exactly! They said they'd like to bring back 'dust' and 'rubble' – so small, tiny pieces of the asteroid which they'll take from under the surface. So they'll dig down into the asteroid using a special drill, collect up some dust and rubbish and bring that back.

Yvonne: Fantastic! And their analysis of the dust and rubble and rubbish should show the scientists what asteroids are made of. Interesting, but will it be useful for us to know about that here on earth? Hopefully, Christine has an answer for us in the next part of her report...

CHRISTINE MCGOURTY

Asteroids are debris leftover from the formation of the solar system, around 4.6 billion years ago. Studying their pristine material should provide new insights into the ingredients of the early solar system and how planets like our own evolved.

Yvonne: So the Marco Polo space mission should help us understand more about what our solar system was made up of – it's ingredients. And scientists also hope to learn new information and get a better understanding about how planets like earth gradually changed and developed – how they evolved.

So Callum - what about all those really scary stories about asteroids crashing and colliding with earth and killing us – wiping us all out?

Callum: Well, there certainly have been some movies along that now. I think "Armageddon" and "Deep Impact" were two movies where there were some – some crazy schemes were developed to try and push the asteroids into a

different path so they wouldn't hit the earth. But I don't know if that's really possible.

Yvonne: Well, let's hope that if it is possible, in real life, they will find a way how to stop asteroids hitting us here on earth by March the 16th 2880.

Callum: March the 16th 2880?

Yvonne: Yep.

Callum: It's a very specific date, Yvonne! Do you know something?

Yvonne: Yes. Scientists believe that's when an asteroid of about 10 kilometres – which is about seven miles wide – will actually hit earth.

Callum: Really? Wow!

Yvonne: Yeah. But we won't be here anyway, will we?

Callum: Well, I hope not!

Yvonne: But we must look after our planet for future generations, mustn't we?

Callum: Oh, of course.

Yvonne: Okay – now to that question: When was the last time that an asteroid hit earth?
a) 85 million years ago
b) 65 million years ago or
c) 45 million years

Callum: Well, I made a complete guess at 65 million years ago.

Yvonne: And once again, you were right Callum!

Callum: Really?

Yvonne: Yes.

Callum: Oh yes! Congratulations to me!

Yvonne: ...Because that's when the dinosaurs were all wiped out - by an asteroid it's thought.

Callum: Ahh – okay.

Yvonne: But that's all we've got time for in today's programme. Do join us again next time for more '6 minute English'.

C + Y: Goodbye!