



## Fabiola Gianotti – questions, questions...

<b>Group:</b>	KS2
<b>Key message:</b>	Scientists ask questions
<b>Props:</b>	Assembly board Spooky Space 'Sounds' from NASA <a href="https://www.nasa.gov/vision/universe/features/halloween_sounds.html">https://www.nasa.gov/vision/universe/features/halloween_sounds.html</a>

### Engage

**Ask:** What do you want to be when you grow up? Take suggestions.

Explain that many people don't end up doing what they thought when they were children. An example of this is a lady called Fabiola Gianotti. When growing up, she wanted to be a ballerina but is instead a world-famous scientist who has helped make one of the world's most important discoveries.

### Develop

Fabiola Gianotti was born in Italy in 1962. Her father, a geologist, was responsible for developing Fabiola's love of nature by taking her on many walks through the mountains and beyond. At school, She loved dance, literature, art history, cooking and music. She also loved asking questions, and that is what eventually led her to study physics at university.

She said: 'When I was a small child I had exotic dreams – there was a time when I was studying classical dance, and I wanted to become a dancer. Then I studied piano and was thinking of a career as a musician. I was a very curious child, and always asked a lot of questions. Then, through my physics and maths classes in high school, I found that working in the field of physics would allow me to satisfy this curiosity.'

**Ask:** Do you know what physics is?

Physics is the branch of science concerned with the nature and properties of matter and energy. The subject matter of physics includes mechanics, heat, light, sound, electricity, magnetism, and the structure of atoms.

Fabiola thinks that science and cooking are similar – you have to follow a recipe in both of them but what makes both of them special is that you can be creative and invent something new.

After university, Fabiola went to work at CERN (European Organisation for Nuclear Research) in Switzerland as a research scientist. At CERN, they have the biggest underground science laboratory in the world, consisting of five miles of underground tunnels and massive machines.



**Cornerstones**

Recently, they discovered a new particle which is helping scientists to understand the origins of the universe – a very important discovery that has excited scientists all over the world.

In 2016, Fabiola became the leader of CERN. She is in charge of 3000 scientists working on this research, and it is one of the most important jobs in the world of science. She has received many awards for her work.

Fabiola is still passionate about asking questions and finding the answers. She is also very keen to get young people interested in science. She says:

‘Science, which means contributing to the progress of knowledge, is one of the most exciting and noble activities. It requires passion, enthusiasm, dedication and a lot of motivation. If a young person wants to take this path, I can only encourage him/her strongly. The path is long and difficult; there will be many challenges and dark moments, which need to be addressed with courage and determination. But the satisfaction of contributing to advance the limits of knowledge is extremely rewarding. Whatever you choose to do, don’t give up on your dreams, as you may regret it later.’

### Innovate

**Ask:** Do you ever look at things and wonder? Do you think: What makes the sky blue? Why is the Sun hot? What is a quark?

Ask children to share questions about the universe that make them wonder. Here are some they might like to discuss or try to find the answers to:

- What is a black hole?
- How did the universe begin?
- Why are we here?
- Do aliens exist?
- Will the universe last forever?
- What are we made of?
- What was there before the universe existed?
- Are there sounds in space? (See below)

### Express

Finding out about the origins of the universe is Fabiola’s passion, but there are lots of other people asking important questions too. For example, NASA (the American Space Agency) has a mission to find out more about space. They are also asking questions, such as: What’s out there? How do we get there? What will we find? Play recordings of NASA’s Spooky Space ‘Sounds’.

**Ask:** Does this make you want to know more?