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Science World News

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Telescope Allows Scientists to See Planet's Birth

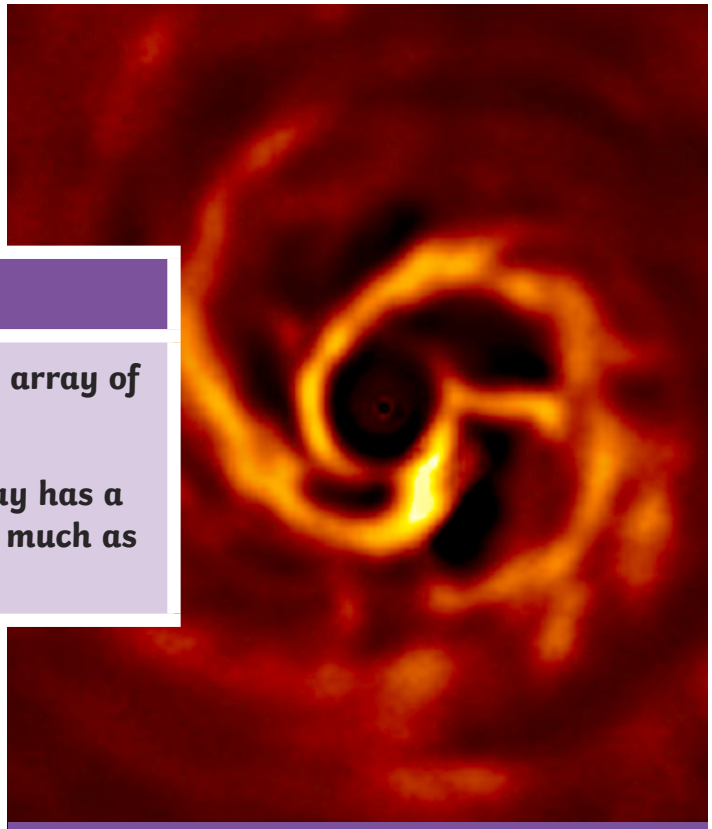

Photo: The image of a planet being born.

What is the Very Large Telescope?

- **The Very Large Telescope (VLT) is actually an array of telescopes all in one place.**
- **Each of the four largest telescopes in the array has a mirror 8.2 metres in diameter and weighs as much as a fully-loaded jumbo jet.**

From high on a mountain in the Atacama Desert, Chile, the European Southern Observatory's (ESO) VLT has spotted what scientists believe is the birth of a planet for the very first time.

Deep in the swirling dust and gas surrounding a young star called AB Aurigae, astronomers have observed two spiral arms reaching out to each other.

The VLT allowed the team of scientists to see a bright yellow 'twist' in the spiral arms. They believe this means that a baby exoplanet is being formed there.

It is thought that exoplanets are created as gas and dust surrounding new stars begin to stick together.

"Thousands of exoplanets have been identified so far," said Dr Anthony Boccaletti, who led the study, "but little is known about how they form."

This is because, until now, astronomers have been unable to take clear enough images to see how these types of planets are formed.

However, the VLT has allowed them to see the process for the first time. Even though it's happening 520 light years away.

This new and fascinating finding was made by the same equipment that also found WASP-76b. This is the planet on which it rained iron! The ESO thinks that more discoveries are sure to come, and in better detail, after they have completed their next project. This is because they are currently building an Extremely Large Telescope (ELT). The ELT will be much larger than the telescopes used in the VLT array.

It will have a 39-metre mirror (which is almost half the length of a football pitch) and will be able to produce images 15 times clearer than even the Hubble Space Telescope!

Glossary

astronomers	Scientists who study planets, moons and the universe.
exoplanet	A planet which orbits around a star which is not our Sun.
light years	The distance that light travels in one year (nearly 6 million million miles).
Hubble Space Telescope	A famous, and one of the largest, telescopes in space.

Questions

1. What does VLT stand for?

_____

2. 'This is because, until now, astronomers have been unable to take clear enough images to see how these types of planets are formed...'
   This suggests that...

   ○ The telescopes have been too wobbly.
   ○ Previous telescopes were not powerful enough.
   ○ Previous telescopes were powerful enough.
   ○ Astronomers are bad at taking photos.

3. How do you think the people working on this study felt when they discovered evidence of a planet being formed?

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_____

_____

4. Tick the word which could be used as a synonym for 'clearer' as it is used in the following sentence: '...and will be able to produce images 15 times clearer than even the Hubble Space Telescope!'

   ○ obvious
   ○ sunnier
   ○ sharper
   ○ free

5. Which headline does **not** summarise the story? Tick one.

   ○ Astronomers See Planet's Birth for First Time
   ○ Hubble Telescope Spots Planet's Birth
   ○ Very Large Telescope Spots Planet's Birth
   ○ 'Twist' Shows Birth of Planet for the First Time

6. Summarise the key information in this article using 15 words or fewer.

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Answers

1. What does VLT stand for?
   Very Large Telescope

2. 'This is because, until now, astronomers have been unable to take clear enough images to see how these types of planets are formed...'
   This suggests that...

   ○ The telescopes have been too wobbly.
   ✓ **Previous telescopes were not powerful enough.**
   ○ Previous telescopes were powerful enough.
   ○ Astronomers are bad at taking photos.

3. How do you think the people working on this study felt when they discovered evidence of a planet being formed?
   Accept an answer referring to this being done for the first time, e.g. I think they would have been excited because no one has spotted the birth of a planet before.

4. Tick the word which could be used as a synonym for 'clearer' as it is used in the following sentence: '...and will be able to produce images 15 times clearer than even the Hubble Space Telescope!'

   ○ obvious
   ○ sunnier
   ✓ **sharper**
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5. Which headline does **not** summarise the story? Tick one.

   ○ Astronomers See Planet's Birth for First Time
   ✓ **Hubble Telescope Spots Planet's Birth**
   ○ Very Large Telescope Spots Planet's Birth
   ○ 'Twist' Shows Birth of Planet for the First Time

6. Summarise the key information in this article using 15 words or fewer.
   Accept a reasonable answer which includes the story's key information in 15 words or fewer, e.g. Astronomers used the VLT to see the birth of a planet for the first time.