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# Unraveling the Mystery of an Eccentric Black Hole

## Description

A supermassive black hole is 300 million light-years away. This black hole is causing confusion for scientists.

It is at the center of a galaxy called SDSS1335+0728. Since 2019, researchers have watched it wake up from sleep. Now, it is shining brightly and creating bursts of light.

This behavior is normal for supermassive black holes, but this one, called Ansky, is very strange. "The bursts of X-rays from Ansky are much brighter and last longer than what we usually see," says astrophysicist Joheen Chakraborty from MIT.

Typically, black holes can be active or quiet. They can switch between these two states. Ansky is the first black hole seen waking up in real-time.

"Studying Ansky will help us understand black holes better," says astronomer Lorena Hernández-García from Chile.

The light from Ansky is bright across many types of light, like infrared and X-rays. This is exciting, but we need more data.

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## Vocabulary List:

1. **Supermassive** /su:.pər'mæs.ɪv/ (adjective): Referring to a black hole with a mass that is millions or billions of times that of the Sun.
2. **Galaxies** /'gæl.ə.kɪz/ (noun): Large systems of stars gas and dust bound together by gravity.
3. **Bursts** /bɜrst/ (noun): Sudden occurrences of something such as light or energy happening briefly and intensely.
4. **Astrophysicist** /,æs.trəʊ'fɪz.ɪs.ɪst/ (noun): A scientist who studies the physical properties and processes of celestial bodies and the universe.
5. **Understanding** /,ʌn.dər'stæn.dɪŋ/ (noun): The ability to comprehend or grasp the nature of a subject.
6. **Data** /'deɪ.tə/ (noun): Facts and statistics collected for reference or analysis.

## Comprehension Questions

### Multiple Choice



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1. Where is the supermassive black hole located?
    - Option: In the Milky Way galaxy
    - Option: 300 million light-years away
    - Option: Next to our solar system
    - Option: In a different galaxy
  
  2. What is the name of the galaxy where the black hole is located?
    - Option: Andromeda
    - Option: SDSS1335+0728
    - Option: Orion
    - Option: Triangulum
  
  3. Why is Ansky known to be strange according to Joheen Chakraborty?
    - Option: It emits visible light
    - Option: Its X-ray bursts are brighter and longer than usual
    - Option: It is a quiet black hole
    - Option: It is located very close to Earth
  
  4. What is significant about Ansky in terms of black hole behavior?
    - Option: It is the smallest black hole discovered
    - Option: It is the first black hole seen waking up in real-time
    - Option: It has been dormant for centuries
    - Option: It emits only gamma rays
  
  5. Who believes studying Ansky will help in understanding black holes better?
    - Option: Joheen Chakraborty
    - Option: Lorena Hernández-García
    - Option: Ansky himself
    - Option: Researchers from NASA
  
  6. Which types of light does Ansky emit brightly across?
    - Option: Ultraviolet and radio waves
    - Option: Infrared and radio waves
    - Option: Visible light and microwaves
    - Option: Infrared and X-rays

### **True-False**



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7. The black hole in the center of SDSS1335+0728 has been active for millions of years.
  8. Black holes can only be active and never quiet.
  9. Ansky is the official name given to the black hole by astronomers.
  10. The behavior of Ansky is considered abnormal by researchers.
  11. The study about Ansky is published in Astronomy News.
  12. More data is not required to further understand Ansky.

### Gap-Fill

13. Ansky is causing confusion for scientists because it is much \_\_\_\_\_ than usual black holes.
14. Researchers have been observing the behavior of Ansky since the year \_\_\_\_\_.
15. Astronomer Lorena Hernández-García is from \_\_\_\_\_.
16. The light emitted by Ansky is bright across a wide range of types, including infrared and \_\_\_\_\_.
17. The black hole in the galaxy SDSS1335+0728 is named \_\_\_\_\_.
18. The behavior of Ansky is considered normal for supermassive black holes, but this one is very \_\_\_\_\_.

### Answer

**Multiple Choice:** 1. 300 million light-years away 2. SDSS1335+0728 3. Its X-ray bursts are brighter and longer than usual 4. It is the first black hole seen waking up in real-time 5. Lorena Hernández-García 6. Infrared and X-rays

**True-False:** 7. False 8. False 9. True 10. True 11. False 12. False

**Gap-Fill:** 13. stranger 14. 2019 15. Chile 16. X-rays 17. Ansky 18. strange



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## CATEGORY

1. Health - LEVEL1

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