

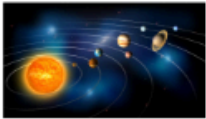
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Crash Course Astronomy #40: Gamma-Ray Bursts

Name: _____ Date: _____

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- Gamma-ray bursts were first detected by satellites launched during the _____.
- The _____ satellites were designed to detect gamma-ray flashes from nuclear detonations.
- GRBs emit the highest-energy form of light known as _____ rays.
- GRBs were found to originate from deep _____, not from Earth or nearby space.
- A supernova that is more energetic than usual and may produce a GRB is called a _____.
- When the core of a massive star collapses, it can form a _____.
- Surrounding a newly formed black hole, a swirling maelstrom of matter forms called an _____ disk.
- GRBs come in two types: long bursts from hypernovae, and short bursts from _____ star mergers.
- The short duration of some GRBs suggests they are caused by the collision of _____ stars.
- A GRB beam aimed directly at Earth can be dangerous even from over _____ light years away.
- The _____ satellite helped identify GRBs by detecting gamma-ray flashes and coordinating ground-based observations.
- GRBs are the cosmic "birth cries" of _____.
- The longer bursts of GRBs are typically longer than _____ seconds.
- Merging neutron stars gradually spiral together due to the emission of _____ waves.
- Because their energy is narrowly beamed, GRBs are only detectable when their _____ is aimed at Earth.

Crash Course Astronomy #40: Gamma-Ray Bursts KEY

- Gamma-ray bursts were first detected by satellites launched during the **Cold War**.
- The **Vela** satellites were designed to detect gamma-ray flashes from nuclear detonations.
- GRBs emit the highest-energy form of light known as **gamma** rays.
- GRBs were found to originate from deep **space**, not from Earth or nearby space.
- A supernova that is more energetic than usual and may produce a GRB is called a **hypernova**.
- When the core of a massive star collapses, it can form a **black hole**.
- Surrounding a newly formed black hole, a swirling maelstrom of matter forms called an **accretion disk**.
- GRBs come in two types: long bursts from hypernovae, and short bursts from **neutron** star mergers.
- The short duration of some GRBs suggests they are caused by the collision of **neutron** stars.
- A GRB beam aimed directly at Earth can be dangerous even from over **7000** light years away.
- The **Swift** satellite helped identify GRBs by detecting gamma-ray flashes and coordinating ground-based observations.
- GRBs are the cosmic "birth cries" of **black holes**.
- The longer bursts of GRBs are typically longer than **two** seconds.
- Merging neutron stars gradually spiral together due to the emission of **gravitational** waves.
- Because their energy is narrowly beamed, GRBs are only detectable when their **beam** is aimed at Earth.

15 Questions

Answer Key Included

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