

Name _____

Black Holes' Cosmic Influence: Effects on Nearby Stars and Planets

Open-Ended Response Questions

1. Imagine you are an astronaut on a mission to study a black hole and its impact on nearby stars and planets. Describe the steps and equipment you would need for this mission, as well as the potential risks and discoveries you might encounter.
2. Reflect on the role of black holes in shaping the cosmos and the intricate dance of celestial bodies affected by their gravitational influence. Discuss the significance of studying these phenomena for our understanding of the universe.
3. Investigate the implications of a star being torn apart by a black hole during a Tidal Disruption Event (TDE). How does this event influence the black hole's growth, and what does it reveal about the behavior of matter in extreme conditions?
4. Consider the potential applications of the knowledge gained from studying black holes and their effects on nearby stars and planets. How might this knowledge impact future space exploration and our understanding of cosmic phenomena?

