Core Skills Analysis

Science

- Explored marine biology concepts through interaction with various underwater ecosystems and creatures depicted in the game.
- Engaged with environmental science themes by observing how different biomes interact and how resource management affects survival.
- Learned about the physical properties of water, such as pressure variation with depth and oxygen consumption, in the context of underwater exploration.
- Developed problem-solving skills by navigating underwater terrain and managing growth and resources effectively.

Technology & Digital Literacy

- Demonstrated proficiency with computer-based simulation, navigating complex game interfaces and controls.
- Explored the use of technology in scientific inquiry and exploration through the game's tools and equipment systems.
- Gained an understanding of game mechanics that simulate real-world scientific principles and survival strategies.
- Refined critical thinking and decision-making through interactive gameplay challenges requiring strategic resource management.

Geography

- Developed spatial awareness by navigating an open-world underwater environment with diverse geography and terrain features.
- Understood geographic concepts such as ecosystems, habitats, and the relationship between living organisms and their physical environment.
- Observed the mapping and exploration process of an unfamiliar environment, reinforcing navigation skill development.
- Noted variations in environment based on depth and location, paralleling real-world oceanographic zones.

Tips

To deepen understanding after playing Subnautica, encourage the student to engage in research projects about real marine ecosystems and compare them to those found in the game. Creating a journal or blog documenting discoveries, challenges, and learned facts enhances reflective skills. Practical activities like building a small aquarium or creating models of ocean layers foster hands-on engagement. Incorporating collaborative projects such as group discussions about environmental stewardship and the impact of human activity on oceans can expand social learning. Additionally, integrating science experiments related to water pressure and buoyancy can concretize abstract concepts experienced during gameplay.

Book Recommendations

- <u>The Ocean Book: Explore the Hidden Depths of Our Blue Planet</u> by Chris Oxlade: An engaging and informative book that explains ocean life, ecosystems, and oceanography with vivid illustrations suitable for teens.
- Introduction to Marine Biology by George Karleskint: A comprehensive textbook covering marine biology fundamentals, perfect for deepening knowledge after interactive learning experiences.
- Exploring Oceans: A Journey Through Earth's Water by Heather Alexander: A beautifully illustrated guide that takes young readers through ocean exploration, highlighting marine

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habitats and conservation.

Learning Standards

- Science Understanding (ACSSU094): Biological sciences related to interactions between living things and their environment.
- Science as a Human Endeavour (ACSHE119): Using science and technology in everyday contexts.
- Digital Technologies (ACTDIP018): Planning, creating, and communicating ideas and information safely using digital systems.
- Geography Geographical Knowledge and Understanding (ACHGK067): Natural environments and how they support ecosystems.

Try This Next

- Create a marine ecosystem diagram labeling different species and their roles as discovered in the game.
- Write a survival guide based on the game's challenges, incorporating scientific explanations for resource management and underwater exploration.

Growth Beyond Academics

The activity likely nurtures curiosity and resilience as the student navigates challenges in an unfamiliar environment. Problem-solving in high-pressure scenarios can boost confidence and independence. The immersive nature of the game may also foster patience and focus, encouraging persistence through trial and error.