Core Skills Analysis

English

- Michelle improved her technical vocabulary by learning specific computer hardware terminology such as motherboard, CPU, RAM, and power supply.
- She enhanced her ability to follow sequential instructions by interpreting and executing the assembly steps accurately.
- The activity fostered communication skills as she may have explained or discussed the building process with peers or instructors.
- Michelle developed her reading comprehension through consulting manuals or guides that accompany computer components.

Math

- Michelle applied measurement skills to ensure proper fitting and alignment of components within the case.
- She used problem-solving skills to calculate compatibility of parts, such as matching voltage and power ratings for components.
- Spatial reasoning was exercised while organizing components efficiently inside the desktop casing.
- Basic arithmetic was involved in counting screws, connectors, or ports during assembly.

Science

- Michelle learned principles of electricity, understanding how power flows through different computer parts to enable functioning.
- She gained insight into materials science by recognizing various physical properties of components, like metals and plastics used in hardware.
- The activity demonstrated cause and effect as connections were made and tested to observe operational outcomes.
- Thermal dynamics concepts were indirectly encountered when fitting cooling systems or fans to prevent overheating.

Social Studies

- Michelle explored the historical development of computers by understanding how modern desktops evolved from earlier models.
- She gained awareness of the global nature of technology production, as components often come from various countries worldwide.
- The activity provided perspective on the role of computers in society and their impact on communication and work.
- She learned about economic concepts by recognizing the value and cost associated with different computer parts.

Computer Science

- Michelle developed foundational knowledge of hardware architecture by assembling core components and understanding their roles.
- She learned to troubleshoot hardware issues by testing connections and ensuring each part operates correctly.
- The hands-on experience reinforced understanding of system integration, showing how software needs hardware to function.
- She grasped basic input/output mechanisms by connecting peripherals and observing system boot-up processes.

Tips

To deepen Michelle's understanding and skills, encourage her to document the assembly process by writing a detailed report or creating a tutorial video, enhancing both her English and communication skills. For math, introduce activities involving computer performance benchmarks, which require data collection and statistical analysis. In science, exploring basic electronics experiments can solidify her grasp of electricity principles encountered during the build. Social studies can be enriched by researching the history of computing or the impact of technology on society through presentations or projects. Further computer science exploration can involve installing operating systems or learning basic programming to interact with the hardware she assembled. Additional activities like building simple robots or engaging in coding challenges can complement and expand her learning experience across these subjects.

Book Recommendations

- [Upgrading and Repairing PCs](#) by Scott Mueller: A comprehensive guide covering computer hardware components and step-by-step instructions for building and repairing PCs, suitable for learners seeking detailed technical knowledge.
- [The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution](#) by Walter Isaacson: This book provides an engaging historical perspective on the development of computers and technology, linking social studies content with computer science.
- [Coding for Beginners in Easy Steps](#) by Mike McGrath: A beginner-friendly introduction to programming concepts that complements hardware knowledge by teaching how software interacts with computer components.