Core Skills Analysis

Science

- Charlie learned about the principles of engineering by witnessing the design and construction process of the high tech wheelchair.
- He gained insights into the application of technology in solving real-world problems, in this case, improving the mobility of a disabled child.
- Charlie might have explored concepts of physics, such as mechanics and force, that are integral to the functionality of the high tech wheelchair.
- Through this activity, he could have also developed an understanding of ergonomics and user-centered design.

Technology

- By watching Mark Rober's video, Charlie discovered the intersection of technology and compassion in creating assistive devices like the high tech wheelchair.
- He may have learned about different technologies used in the wheelchair, including sensors, actuators, and control systems.
- Charlie could have gained an appreciation for the role of coding and programming in customizing functionalities of such high tech devices.
- Through this experience, he might have also grasped the importance of user testing and iterative design in technological innovation.

Engineering

- From the video, Charlie learned about the various stages of the engineering design process, from ideation to prototyping and testing.
- He might have explored the concept of inclusive design by considering the specific needs and comfort of the disabled child while building the wheelchair.
- Charlie could have understood the significance of teamwork in engineering projects, as shown by Mark Rober's collaboration with experts and the child's family.
- Through this activity, he could have developed problem-solving skills by addressing challenges faced during the wheelchair construction.

Tips

To further enhance your understanding after watching Mark Rober's video, you can try to design your own assistive device for someone in need. Consider incorporating elements of STEM subjects like Science, Technology, Engineering, and Math into your project. Collaborate with friends or family members to brainstorm ideas and work on the design together. Remember to prioritize the user's needs and test your prototype for usability. Stay curious and keep exploring new ways technology can help improve people's lives!

Book Recommendations

- The Boy Who Harnessed the Wind by William Kamkwamba: This book tells the inspiring true story of a young boy who transforms his village by building a windmill from scrap materials, showcasing the power of innovation and perseverance.
- Rosie Revere, Engineer by Andrea Beaty: Follow the adventurous Rosie Revere as she dreams of becoming a great engineer and learns the value of creativity, experimentation, and never giving up on her goals.
- Ada Twist, Scientist by Andrea Beaty: Join Ada Twist on her scientific explorations and see how her curiosity, passion for discovery, and critical thinking skills lead her to solve mysteries and pursue knowledge.