# **Core Skills Analysis**

#### Science

- Learned about renewable energy and the concept of solar power.
- Understood the basic principles of how solar panels convert sunlight into electricity to power a car.
- Explored the importance of sustainable energy sources in reducing pollution and conserving resources.
- Gained insight into the components of a simple electrical circuit, including the solar panel, motor, and battery.

## Engineering

- Applied engineering principles to design and create a functional solar powered car.
- Developed problem-solving skills by troubleshooting design issues during the building process.
- Learned about the role of engineering design processes, including testing and refining their model.
- Understood the importance of materials selection in achieving efficiency and effectiveness.

#### Mathematics

- Engaged in measuring distances and dimensions of the car components to ensure proper fit.
- Learned to calculate angles for optimal positioning of the solar panel for maximum sunlight exposure.
- Applied basic measurements to estimate speed and distance traveled by the solar powered car.
- Used data collection to keep track of performance metrics, including the time taken for the car to travel a set distance.

## **Environmental Studies**

- Gained an understanding of the environmental impact of fossil fuels versus renewable energy sources.
- Discussed the benefits of using solar energy in reducing carbon footprints.
- Explored the innovative ways technology can address environmental challenges.
- Developed an appreciation for conservation efforts and the importance of sustainable living.

## Tips

To further enhance the learning experience, the student can explore various types of renewable energy projects, experiment with different designs to improve car performance, and research about real-life applications of solar energy in vehicles. Additionally, they could investigate the environmental impact of alternative energy sources and participate in discussions or activities focused on sustainability.

## **Book Recommendations**

- <u>The Solar System: A Beginner's Guide</u> by Cynthia Rylant: An engaging introduction to the solar system that helps kids understand the basics of solar energy and space.
- <u>Eco Warriors: The Solar Car</u> by Rosemary Mosco: A fun and informative book about environmental superheroes and how they use solar power for innovation.
- <u>Cool Cars: The Future of Solar Power</u> by James P. House: A fascinating book that explores how solar energy is transforming the automotive industry with bright illustrations.