

## Core Skills Analysis

### English

- Improved reading comprehension through following technical instructions to assemble the quad bike engine.
- Enhanced vocabulary by learning new terms related to quad bikes, engines, and mechanical parts.
- Developed writing skills by documenting the step-by-step process of assembling the quad bike engine.
- Strengthened listening and communication skills by collaborating with peers during the activity.

### Math

- Applied mathematical concepts like measurements and angles when assembling various parts of the quad bike engine.
- Practiced problem-solving skills by calculating torque requirements for different components.
- Understood the relationship between gear ratios and speed through practical application.
- Enhanced critical thinking by troubleshooting and adjusting engine components for optimal performance.

### Science

- Gained knowledge of mechanical principles such as friction, force, and energy transfer while assembling the quad bike engine.
- Learned about the combustion process and internal combustion engines by working with the engine components.
- Explored the concept of aerodynamics by understanding the impact of different engine configurations on performance.
- Applied scientific method by conducting experiments to test and optimize the engine performance.

### Tips

For continued development related to assembling quad bike engines, encourage the student to explore advanced engine mechanics by dismantling and reassembling different types of engines. Additionally, they can deepen their understanding by researching innovations in engine technology and experimenting with custom modifications to enhance performance.

### Book Recommendations

- [The Big Book of Engines](#) by Chris Oxlade: An engaging guide that introduces young readers to the world of engines and mechanics with colorful illustrations and simple explanations.
- [Build Your Own Motorbikes](#) by Paula Borton: A hands-on book that provides step-by-step instructions for building various motorbikes, encouraging practical skills and mechanical knowledge.
- [Engineering Marvels: Motorcycles](#) by Matt Mullin: Explores the evolution of motorcycle engineering with intriguing facts and captivating visuals, inspiring young readers to delve into the mechanics of motorcycles.