

Name _____

The Battle Against Air

Open-Ended Response Answer Key

1. An example is the Wright brothers' first powered flight in 1903. Understanding air resistance and aerodynamics was crucial in designing their aircraft, the Wright Flyer, which successfully achieved powered flight.
2. In skydiving, skydivers use air resistance to control their descent. Parachutes are designed with a large surface area to increase air resistance, allowing skydivers to slow down and land safely. Advanced parachute designs include features like vents and toggles to further control descent speed.
3. In a world without air resistance, objects would not experience drag when moving through the air. This would impact sports, as projectiles would travel indefinitely without slowing down. Transportation methods might not rely on aerodynamics, and flying or driving would be more efficient.
4. Air resistance is crucial in the design of modern aircraft. Engineers use aerodynamics to create efficient shapes that reduce drag and increase fuel efficiency. Safety features such as spoilers and flaps are used to control air resistance and ensure safe takeoffs and landings. Understanding air resistance is essential for improving the performance and safety of airplanes.

