

## Core Skills Analysis

### Environmental Science

- Students learned about the impact of plastic waste and the importance of recycling.
- They explored the concept of water conservation by observing how water is dispensed.
- They understood the environmental benefits of using reusable containers instead of single-use plastic bottles.
- Students discussed the relationship between clean water access and environmental sustainability.

### Physics

- Students observed the principles of pressure and suction as they used the straw to draw water from the bottle.
- They experimented with how changes in straw length affect the flow of water.
- They learned about gravity and its role in water movement within the fountain system.
- Students discussed how different angles of the straw impact the ease of drawing water out.

### Engineering

- Students designed and constructed a simple water fountain using everyday materials, fostering creativity.
- They evaluated the effectiveness of their designs in terms of water flow and aesthetics.
- Students learned problem-solving skills as they addressed any issues that arose during the construction.
- They discussed potential improvements and modifications for more efficient designs.

### Tips

To further explore, students can investigate different materials that could be used to create water fountains, comparing their effectiveness and sustainability. They might also consider researching how large-scale water fountains are designed and the physics behind their operation. Implementing features such as solar power for the water pump can encourage discussions on renewable energy. Additionally, conducting experiments with varying straw widths or lengths can deepen their understanding of fluid dynamics.

### Book Recommendations

- [The Water Cycle](#) by Angela Royston: An engaging exploration of the water cycle and its importance to Earth's ecosystems.
- [Plastic: A Toxic Love Story](#) by Suzi Gablik: A critical examination of plastic use in society and its environmental impact, encouraging readers to rethink their plastic consumption.
- [Engineering with Nature: An Introduction to the World of Water Management](#) by Toni L. O'Connor: A comprehensive guide on the principles of engineering in the context of water management, suitable for young aspiring engineers.