Core Skills Analysis

Science - Chemistry

- Learned the basic principles of chromatography as a method to separate mixtures of substances.
- Understood how different components in a mixture travel at different speeds on a chromatography medium.
- Explored the practical applications of chromatography in analyzing inks or pigments.
- Gained insight into the experimental process and observation skills required for chromatography.

Tips

To deepen Ebony's understanding of chromatography, encourage hands-on experiments using everyday materials like coffee filters and different ink pens to observe how substances separate in real time. Discuss the scientific principles behind why certain components move farther, such as solubility and molecular size. Extend learning by researching modern applications of chromatography in fields like forensics, food safety, and environmental science to build real-world connections. Finally, encourage Ebony to record observations and conclusions in a science journal to enhance scientific communication skills.

Book Recommendations

- <u>The Chemistry of Colour</u> by Simon Quellen Field: An engaging introduction to the science of color and how substances mix and separate, including chromatography concepts.
- <u>Chemistry Experiments for Kids</u> by Liz Lee Heinecke: A hands-on guide with simple experiments including chromatography, designed for young learners.
- Forensics: The Science of Crime by Catherine D. Hughes: Explores how chromatography and other chemistry techniques solve crimes and analyze evidence.

Learning Standards

- KS3 Science Chemistry: Understand that substances can be separated through physical processes (National Curriculum Science Programme of Study, Year 8-9, Chemistry)
- Working scientifically skills planning, observing and recording experiments with chromatography method
- Developing understanding of mixtures, solutions, and properties of materials (KS3 5a-c: Properties and changes of materials)

Try This Next

- Create a worksheet where Ebony classifies different pigments from household inks based on chromatography results.
- Design a quiz asking why and how components separate during chromatography, including real-life application scenarios.