

# CELLS: EXPERIENCE LIFE AT ITS TINIEST DISCUSSION GUIDE

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Experience Life at Its Tiniest

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## About This Book

Cells are the basic building blocks of life. Every living thing in life is made up of cells. Cell sciences help us understand the development of all living things. And today, we are using that knowledge to improve health, food, and criminal investigations. *Cells: Experience Life at Its Tiniest* allows readers to investigate how cells affect every part of our lives. The book also includes STEM projects for fun and to further understanding.

## Pre-Reading Activity

Have you ever asked ‘what is life’? How are you the same as the tiger in the zoo and the grass in the park? Cells are answer. But have you ever seen your cells? How do you prove what you can’t see?

## Discussion Questions

- Scientist Robert Hooke is credited with creating the word “cell.” Scan the code on page 5 to see what he saw in his telescope when he came up with the word. Do you agree or can you come up with a better name?
- After reading the introduction, how would you summarize “cell science”?
- Why do scientists keep scientific journals? How does this relate to the scientific method?
- Life that is made up of many cells—multicellular—is compared to a factory? How are they similar?
- How do your cells divide? Compare and contrast mitosis with meiosis.
- Most bacteria is good, not harmful. How do we know this?
- Is virus considered a living thing? Why or why not?
- Explain why cell biology progressed so much in the 19<sup>th</sup> century. What role did plants play in discoveries?
- Click to the photosynthesis interactive on page 47 (at this time, does not work with Microsoft Edge browser). What is the most important information from this interactive?
- What was necessary before scientists could start viewing animal cells? Can you think of other examples of technological inventions that led to important discoveries in cell science?
- *Cells: Experience Life at Its Tiniest* includes several STEM projects. What is the purpose of the projects?
- Explain how cells, DNA, and heredity interact.
- Cell science received a huge boost once the structure of DNA was identified and visualized. What scientist played a critical role in this discovery without receiving a Nobel Prize?
- How many chromosomes do you have? What traits do you have that passed through your chromosomes?
- Use this link – <https://bit.ly/207G9vH> – to get to resources from the Human Genome Project. Explore and then summarize the importance of the Human Genome Project.
- Who was Henrietta Lacks and how did she contribute to our knowledge about cells? What role did she play in medical ethics?
- What do you believe is the most significant discovery of cell science and why?
- Cell science includes many sciences. What is the most common one and what are some others?
- What do cells have to do with criminal investigations?