

How to teach radioactive decay and radioisotopes in an interdisciplinary, low-cost way

Activity 2: Worksheet C

At the beginning of the 20th century, Radium-226 was seen as a miracle radioisotope. It glowed in the dark and was used in watch dials, makeup, toothpaste, and other applications. In the United States, many young women were hired to paint radium-based glow-in-the-dark paint on watches. They were known as the 'Radium Girls'. Unaware of the dangers of radiation, these workers ingested radium particles as they licked their brushes to make them finer. Years later, they suffered severe health problems including bone fractures and cancer. Many of them died from the consequences. Their legal fight led to one of the first workplace safety reforms in U.S. history.

Read more or watch the trailer here:

- <https://www.youtube.com/watch?v=mQAkdzPZ8Lo>
- <https://en.wikipedia.org/wiki/Radium-226>
- <https://www.britannica.com/story/radium-girls-the-women-who-fought-for-their-lives-in-a-killer-workplace>

1. What is the half-life of Radium-226? How does this contribute to the danger the 'Radium Girls' were exposed to?

2. What made radium seem 'magical' at the time? Why was it used in so many products?

3. Do you think the public fear of radiation today is connected to events like this one? Why or why not?

4. What lessons can we learn today from the story of the 'Radium Girls'? Name at least two.
