

# *The* **RADIUM GIRLS**



*by Kate Moore*

Novel Study

## Why Novel Studies in the Science Classroom?

Here at Nitty Gritty Science we want to foster the love of reading and improve science literacy. We believe that using novel studies in the science classroom will not only give students exposure to different perspectives but will also help them develop an understanding of how science vocabulary applies to so many events in their lives.

Research also shares benefits of using novel studies in the science classroom such as:

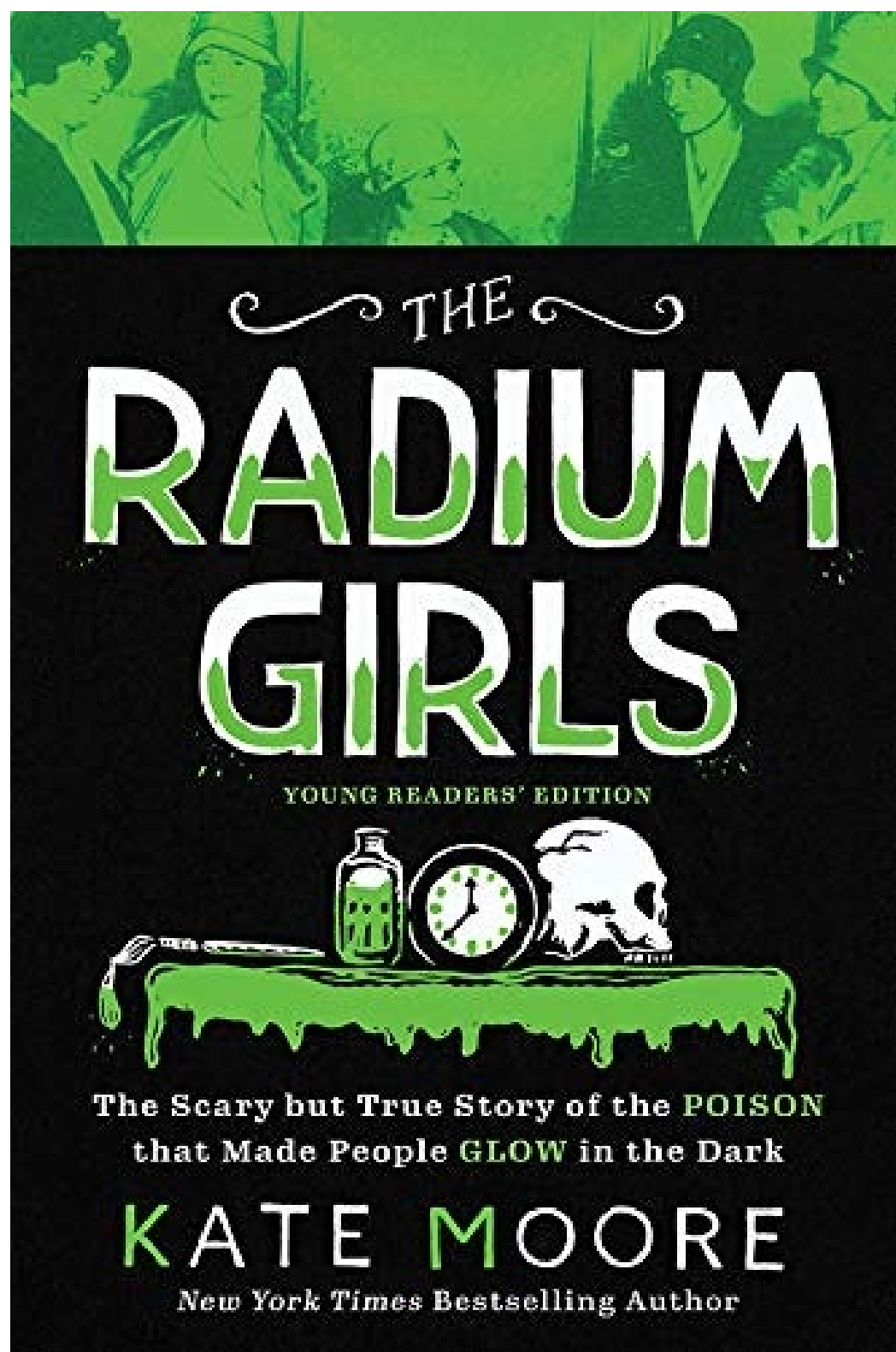
*The literacy from reading can easily come from non-fiction and fiction novels that surround a science-related topic and are far more of a high-interest read for the majority of students than reading a textbook (Anderson & Hite, 2010; Batchelor, 2017; Coiro, 2012; Freudenrich, 2000).*

*Science fiction novels are an excellent way to engage students in science ideas while also helping students improve their literacy skills. (Creech and Hale, 2006)*

*Teachers can add in other readings from the internet and news articles which brings the reading level down to a more manageable level, however students are more willing to learn and spend the time to learn new vocabulary when highly engaged in what they are reading (Weinbugh et al., 2014).*

There is very little research out there about the usefulness of using novels in classrooms other than ELA. Others have used novels and other types of formats to get students excited about science and science concepts (Batchelor, 2017; Coiro, 2012; Freudenrich, 2000; Ivey & Fisher, 2005; Jarman & McClune, 2001), but very few have used novels to teach science concepts and also try to increase literacy skills among students in the secondary classroom, so Nitty Gritty Science is here to help with that!

Happy reading,  
Erica



The Radium Girls novel study is based on the **young reader's edition**.

Explore the unbelievable true story of America's glowing girls and their fight for justice in the young readers edition of the New York Times and USA Today bestseller *The Radium Girls*. This enthralling new edition includes all-new material, including a glossary, timeline, and dozens of bonus photos.

Amid the excitement of the early twentieth century, hundreds of young women spend their days hard at work painting watch dials with glow-in-the-dark radium paint. The painters consider themselves lucky—until they start suffering from a mysterious illness. As the corporations try to cover up a shocking secret, these shining girls suddenly find themselves at the center of a deadly scandal.

*The Radium Girls: Young Readers Edition* tells the unbelievable true story of these incredible women, whose determination to fight back saved countless lives.

# Hyperlinked Table of Contents

Table of Contents: <u>The Radium Girls Novel Study</u>	
Description	Page #
<a href="#">Before You Read</a>	3
<a href="#">Comprehension Questions: Knowledge</a>	4-5
<a href="#">Word Study: Knowledge</a>	6-13
<a href="#">Project: Knowledge</a>	14-15
<a href="#">Comprehension Questions: Power</a>	16-17
<a href="#">Word Study: Power</a>	18-24
<a href="#">Project: Power</a>	25-27
<a href="#">Comprehension Questions: Justice</a>	28-29
<a href="#">Wordy Study: Justice</a>	30-35
<a href="#">Comprehension Questions: Epilogue</a>	36-37

Check out the following sample pages focusing on science vocabulary, reading comprehension, and literacy-based projects!

BEFORE YOU READ

1. Have you ever heard about it? If no, what

THE RADIIUM GIRLS

COMPREHENSION QUESTIONS: KNOWLEDGE

1. Who are Marie and Pierre Curie?

2. What are some charac

3. What are some of the described in the book?

THE RADIIUM GIRLS

COMPREHENSION QUESTIONS: KNOWLEDGE

6. Who was writing the positive publications that radium received and why?

7. Explain what happened when radium masked itself as

THE RADIIUM GIRLS

WORD STUDY SECTION 1: KNOWLEDGE

1. Scientist

List five jobs a s have

- \*
\*
\*
\*
\*

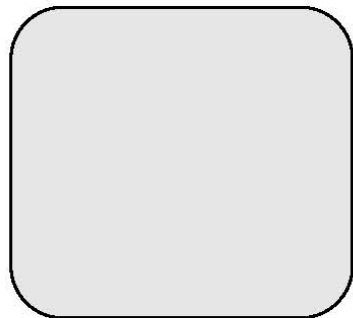
2. Element

THE RADIIUM GIRLS

WORD STUDY SECTION 1: KNOWLEDGE

6. Radioactive

Draw the symbol that indicates if something is radioactive:



8. Solution

A solution in chemistry is the same as a solution to a problem.

TRUE

FALSE

10. Aeronautical instrume

Which of the following are exam instruments? Explain your reas

\* Altimeter

\* Airspeed in

Initials: \_\_\_\_\_

THE RADIIUM GIRLS

Initials: \_\_\_\_\_

WORD STUDY SECTION 1: KNOWLEDGE

11. Lead-lined apron

Explain the purpose of a lead-lined apron.

12. Mesothorium

What is Mesothorium?

13. Isotope

An isotope is an atom of the same \_\_\_\_\_ that has a different number of neutrons.

Examples: B<sub>10</sub> (Boron - 10) or B<sub>11</sub> (Boron - 11)

14. Half-life

The half-life of an element refers to the amount of time it takes for \_\_\_\_\_ of the isotope to decay.

- a. all
b. half
c. three quarters
d. none

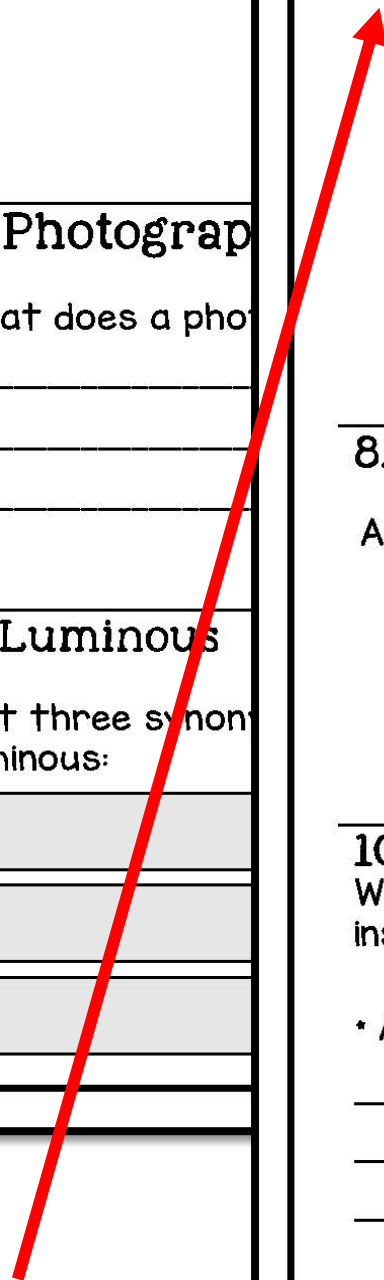
15. Hygienic

"...von Sochocky said the radioactive sand was 'most hygienic' for children to play in."

What does hygienic mean in this sentence?

16. Pyorrhea

Pyorrhea is a common disease that affects tissue around the \_\_\_\_\_.



# Novel Project options

## PROJECT SECTION ONE: KNOWLEDGE

Directions: After reading a piece of paper create pictures, and details for

Your Newspaper must

1. Main Article - This is what radium is and where, and how
2. Character Spotlight - choose one of the characters far and write short
3. Advertisement - Create depicting one of the described in the book
4. Scientific Discovery - advancement or discovery

Newspaper Grading Rubric					
Category	4	3	2	1	Score
Writing Assignment	Clearly and completely addresses the assignment	Addresses most	Addresses	Addresses	
Content	Ideas and details supported by the text	Major	Some	Minor	
Conventions	Few to no errors in grammar, spelling, and punctuation	A few	Several	Many	

### THE RADIIUM GIRLS

Name: \_\_\_\_\_ Date: \_\_\_\_\_

### WORD STUDY SECTION 2: POWER

#### 1. Expendable

Definition:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### 2. Jurisdiction

Explain why jurisdiction is important in a court of law.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

### THE RADIIUM GIRLS

Initials: \_\_\_\_\_

### WORD STUDY SECTION 2: POWER

#### 6. Discredit

The prefix *dis* means \_\_\_\_\_?

- Approve
- Not
- Time
- Beyond

#### 8. Galvanized

"Grace was galvanized by the action."

Identify one synonym for galvanized as it's used in the sentence above.

\_\_\_\_\_

#### 10. Radiology

- Which of the following is a function of radiology?
- Analyzes blood, urine, and other body fluids
  - Uses medical imaging to view the body
  - Diagnoses and treats diseases
  - Administers drug therapy

### THE RADIIUM GIRLS

Initials: \_\_\_\_\_

### WORD STUDY SECTION 2: POWER

#### 11. Fused

Which word means the opposite of fused?

- Together
- Unlikely
- Disease
- Separate

#### 13. Fraud

Dr. Flinn was "a fraud of frauds."

Identify a synonym for the word fraud as it's used in the sentence above.

\_\_\_\_\_

#### 15. Vertebrate

"Her vertebrate glowed in the vertical white lights."

Your vertebrate can be found where on your body?

- Heart
- Lungs
- Spine
- Feet

### THE RADIIUM GIRLS

Initials: \_\_\_\_\_

### WORD STUDY SECTION 2: POWER

#### 33. Pelvis

Circle the location of the pelvis on the skeleton below.



#### 35. Amputated

Why is amputation sometimes necessary?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

#### 34. Therapeutic

"It seems it made her wary of accepting any therapeutic advice."

What does therapeutic mean in this sentence?

\_\_\_\_\_

\_\_\_\_\_

#### 36. Recompense

\_\_\_\_\_ is another word for recompense.

- Recognition
- Compensation
- Identification
- Revisitation

#### 37. Industrial poisoning

Identify one example of industrial poisoning and explain how the use of it has or has not changed today?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_