

LESSON 1

The Female Factory Workers That Glowed in the Dark

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STORY TASK 1.

Do you know the words/expressions below? Try to translate them into your native language.

- | | |
|---|---|
| 1. radium | 24. a legal battle..... |
| 2. a mystery | 25. a court hearing |
| 3. a solution | 26. to raise something..... |
| 4. numerous | 27. an oath |
| 5. to contain something..... | 28. to testify that..... |
| 6. to glow | 29. syphilis..... |
| 7. luminous..... | 30. annual |
| 8. zinc sulfide..... | 31. ultimately..... |
| 9. avid | |
| 10. to be selling like hot cakes [idiom]..... | Words/phrases with prepositions or adverbs: |
| 11. a dial..... | |
| 12. to assure somebody that..... | |
| 13. to lick something..... | 32. to be exposed to something..... |
| 14. a brush..... | 33. an ingredient of something |
| 15. precise..... | 34. to be marketed by somebody |
| 16. to poison oneself | 35. to take advantage of something |
| 17. radiation | 36. to be in high demand..... |
| 18. anemic | 37. to cover something with something |
| 19. fragile | 38. a sign of something |
| 20. an issue | 39. to fall out..... |
| 21. the jaw | 40. to sue somebody for something |
| 22. to investigate something | 41. to die from something |
| 23. to damage something | 42. to suffer from something..... |

STORY TASK 2.

Discussion starter: Answer the questions below. Try to speak for around 3-5 minutes in total.

1. What is the most dangerous job you can think of? Why?
2. What are the potential dangers of your (dream) job?

STORY TASK 3.

Read the text and answer the questions in as much detail as possible. Try to use the highlighted vocabulary from the text.

1. Why were various products with (primarily fake) radium so popular at the beginning of the 20th century?
.....
2. What was used to make the luminous paint? Who invented it?
.....
3. How did the bosses deceive the new factory employees?
.....
4. Why did the bosses tell the factory workers to lick their brushes while painting the glow-in-the-dark watches?
.....

5. What were the common symptoms of radiation poisoning?
.....
6. Who was Grace Fryer? What happened to her, and what did she decide to do about it?
.....
7. What were the factory workers who attended the court hearing in 1928 unable to do?
.....
8. What did U.S. Radium do to defend themselves in court?
.....
9. Why weren't the "Radium Girls" able to get more than two annual payments from U.S. Radium?
.....
10. What consequences of being exposed to radium did Mae Kane experience?
.....

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When Marie Skłodowska Curie and her husband Pierre discovered radium in 1898, the potential dangers of being exposed to the radioactive chemical element were still a mystery. In fact, at the beginning of the 20th century, many companies promoted it as a solution to numerous health problems. Therefore, products like toothpaste, face creams, or mineral water with radium quickly became very popular. Luckily, most of them didn't contain actual radium. Because it glows in the dark, the element was commonly used as the main ingredient of luminous paint. In 1917, an American company called United States Radium started using it to produce glow-in-the-dark watches. Unfortunately, the women responsible for painting them paid an unimaginable price for their job.

The extraordinary paint, marketed by U.S Radium under the name Undark, was a mixture of radium, glue, and zinc sulfide. It was created by William J. Hammer, a famous electrical engineer and an avid promoter of the newly discovered element. U.S. Radium was one of many companies that took advantage of Hammer's invention. Its glowing watches and alarm clocks were selling like hot cakes. By the end of World War I, the corporation signed a few contracts with the government to produce glowing watches for American soldiers. Because the products were in such high demand, about 70 young women were hired to cover watch dials with the radioactive paint. Their bosses assured them the job was safe even though they knew it wasn't. The "Radium Girls" were even told to lick their brushes to ensure their work was precise and that the paint didn't dry too quickly.

LESSON 1 - The Female Factory Workers That Glowed in the Dark

Unsurprisingly, that made their skin, teeth, and clothes glow. Some girls would even use the dangerous substance to paint their nails.

None of them realized that they were actually poisoning themselves. It didn't take long for the first signs of radiation poisoning to show. The girls were feeling weak, and many of them became anemic. Their bones were also becoming increasingly fragile, which meant they were breaking very easily. Another common symptom was intense jaw pain. In some cases, it was so strong that it made eating impossible. One of the young women who were experiencing these issues was Grace Fryer. She got a job in the U.S. Radium factory soon after it opened and quit in 1920. About two years later, her teeth started falling out, and her jaw began to hurt. She went to a few doctors, but they had no idea what could cause such problems. Finally, in July 1925, one of them suggested they may have something to do with her job in the factory.

Grace decided to investigate that possibility and, eventually, sued the company for damaging her health and putting her life at risk. She quickly realized that winning the legal battle wouldn't be easy. It took her two years to find a lawyer who agreed to represent her and other women in court. When the first court hearing finally took place in January 1928, many of them were already dead, and the ones that came couldn't even raise their hands to take the oath. Moreover, U.S. Radium paid doctors to testify that the women were suffering and dying from syphilis, not due to radium poisoning. Although U.S. Radium did everything they could to damage the reputations of their workers, the "Radium Girls" became a media sensation. Grace and four other victims wanted the company to give them \$250,000, but they ultimately got only \$10,000 each and an annual payment of \$600. Sadly, none lived long enough to receive more than two such payments.

Radium was used to produce glow-in-the-dark watches until 1968. According to a 1980s documentary, some early factory workers' bodies were radioactive even after their deaths. One of the last "Radium Girls", Mae Kane, died in 2014 at the impressive age of 107. She worked at U.S. Radium only for a few days, but this doesn't mean she didn't experience any health-related consequences. She suffered from migraines, had teeth problems, and survived cancer twice.

STORY TASK 4.

Look through the text again and make some notes. Retell the whole story to your teacher/fellow students. Try to use as much vocabulary from STORY TASK 1 as possible. Your notes cannot contain full sentences.

STORY TASK 5.

Conversation. Answer the questions below. Try to speak for around 3-5 minutes in total.

1. Do you think the compensation that the "Radium Girls" got from US Radium was appropriate? Why/why not? In your opinion, should their bosses have been punished for hiding their knowledge about the dangers of being exposed to radium? If so, how?

2. Do you think that the endangerment and exploitation of workers are prevalent nowadays? If so, in what industries might they be the most common and why?

STORY TASK 6.

Now, it is your turn to ask questions. Think of 10 more questions about the story and ask them to your teacher/another student.

VOCABULARY TASK 1.1

Match each of the following words and phrases (1–41) with the right meaning (A–PP).

- | | |
|---|--|
| 1. radium | 22. to investigate something..... |
| 2. a mystery | 23. to damage something |
| 3. a solution | 24. a legal battle |
| 4. numerous..... | 25. a court hearing..... |
| 5. to contain something | 26. to raise something |
| 6. to glow..... | 27. an oath..... |
| 7. luminous | 28. to testify that |
| 8. zinc sulfide | 29. syphilis |
| 9. avid..... | 30. annual..... |
| 10. to be selling like hot cakes [<i>idiom</i>] | 31. ultimately |
| 11. a dial..... | 32. to be exposed to something |
| 12. to assure somebody that..... | 33. an ingredient of something..... |
| 13. to lick something | 34. to be marketed by somebody..... |
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| 21. the jaw..... | 42. to suffer from something |

DEFINITIONS:

- A. to try to discover the truth about something
B. to move something to a higher position or level
C. if something is _____, many people want it
D. to be advertised and offered for sale by a company or person
E. many (events, objects, etc.)
F. happening every year
G. to produce a soft light
H. a form of energy which is produced during a nuclear reaction and can be very harmful to human health
I. to be likely to experience something dangerous, harmful, or unpleasant because you are not protected from it
J. a problem
K. to accidentally or purposefully eat, drink, or breathe in a substance that can kill or seriously harm you
L. one of the products that are combined to make something
M. to be included in something

LESSON 1 - The Female Factory Workers That Glowed in the Dark

- N. a toxic, highly radioactive chemical element that is used in the treatment of cancer
- O. either of the two bones in your mouth that your teeth are in
- P. to use something as an opportunity to get what you want
- Q. to experience physical or mental pain because of an illness or problem
- R. very weak, having little energy because you don't have enough red blood cells
- S. a chemical combination of two elements which can be found in nature in the form of white-yellow powder or crystal
- T. to harm or destroy something
- U. an object with short pieces of hair that you paint with
- V. the round part of a clock or watch that shows you the time (*synonym*: face)
- W. a conflict between two or more people or organizations that is resolved by a judge in court
- X. an answer to a problem
- Y. a piece of evidence that something is happening
- Z. something that cannot be explained or understood because there is not enough information about it
- AA. very enthusiastic about something
- BB. easy to break or destroy
- CC. a formal promise, especially that you will tell the truth in court
- DD. to become loose and drop
- EE. shining in the dark
- FF. to tell somebody that something is definitely going to happen
- GG. in the end; finally
- HH. an infection that can be transmitted from one person to another during sex, and can cause serious health problems with the heart, brain, and nervous system if it's not treated
- II. accurate and very careful, even about small details
- JJ. to be bought very quickly and in large numbers or amounts
- KK. a meeting during which a judge and jury decide if someone is guilty of a crime or not
- LL. to put something over something else
- MM. to take someone to court because they have harmed you in some way, usually to get money from them
- NN. to move your tongue across something and make this thing wet as a result
- OO. to pass away because of a particular illness or health problem
- PP. to take an oath and say what you know; usually in a court case

VOCABULARY TASK 1.2

Fill in each gap with the correct word(s) from VOCABULARY TASK 1.1. Remember to use the correct forms of words/expressions.

1. If the police _____ the incident more thoroughly, the perpetrator would have been caught and brought to justice. Regrettably, they neglected it and he got away with the crime.
2. With any major decision in life, it is always important to consult with others to get different perspectives. However, at the end of the day, it is _____ up to you to decide what you believe is best for you.
3. Sue is an _____ runner who never misses a run, rain or shine.

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4. Gemma took _____. She swore to tell the truth, the whole truth, and nothing but the truth.
5. I was so careful. I packed the vase for our move, but it shattered anyway. It was very _____.
6. The _____ at hand is of utmost importance. This is why we must address it now.
7. I wish all edible mushrooms _____ in the dark. That way we could go mushroom foraging at night and collect only the ones that give away light.
8. Eddy _____ his lips for hours because they just feel so cracked and dry. He's thinking of trying to put chapstick on.
9. Before my grandma filled the box with old newspapers, it _____ a variety of her valuables, including a gold necklace, a silver locket, and a diamond ring.
10. _____ stars twinkle in the night sky, providing an otherworldly light show for all to enjoy.
11. Patrick _____ me for days _____ the project was on track. However, when the delivery date came, it was clear that he had been lying to me the whole time.
12. It's freezing in here, and your nephew is only wearing a t-shirt. I _____ rather you _____ him _____ a blanket so he doesn't get cold.

VOCABULARY TASK 2.

Use each of the given prompts to tell a story. Each story should be about three minutes long.

1. Think of a product that has been selling like hot cakes in your country recently. What is it? Why is it so popular? Have you bought it yourself? Why/why not?
2. What would you do if you found out that you had been exposed to a dangerous virus? Whom would you inform? How would you protect your family and friends? Have you ever been in such a situation? If so, describe it.
3. Have you ever taken advantage of an unexpected opportunity? What was the opportunity, and how did it come about? How exactly did you take advantage of it?
4. What skills are in high demand on the job market nowadays? Think of at least a few. What makes them attractive to employers? Do you have any of those skills? If so, how did you develop them? If not, what would you do to develop them?
5. What would you do if you were sued for blackmailing somebody, but you were innocent? How would you react to being sued? How would you try to prove your innocence?

LESSON 1 - The Female Factory Workers That Glowed in the Dark

VOCABULARY TASK 3.1

Fill in the table with the missing PARTS OF SPEECH WITHIN THE SAME FAMILY OF WORDS. A cross (X) means that a given word doesn't exist. If there are two options, think of two different words within the same family of words. If there are two options with the word 'opposite' in the second line, think of a word and its opposite within the same family of words. Sometimes, there will be a lot of options to choose from but try to think of the options that would be the most useful for you in everyday life.

To form a **VERB**, choose one of the following **endings (suffixes)**: *-ate, -ize, -en, -ify, -fy*. (Note: only some verbs are created by adding a suffix).

To form a **NOUN**, choose one of the following **endings (suffixes)**: *-ance, -ence, -ment, -ion, -ity, -ice, -ant, -cy, -ness, -ing, -ation*.

To form an **ADJECTIVE**, choose one of the following **endings (suffixes)**: *-able, -ive, -ial, -ful, -ous, -ory, -(e)d, -ing, -y*.

To form an **OPPOSITE** meaning, choose one of the following **beginnings (prefixes)**: *-un, -im, -in, -ir, -dis, -de, -mis* or **endings (suffixes)**: *less*.

Note: There are some additional suffixes that you **DON'T NEED TO USE**.

Note: Some **VERBS, NOUNS, and ADJECTIVES** do not follow these patterns (they are not created by adding a suffix).

VERB	NOUN	ADJECTIVE
.....		1. solvable/ 2. (opposite)
.....		1. glowing 2.
X		luminous

.....		1. jawing 2.
to damage		1. 2.
to raise		1. 2.

.....	1. 2.	1. 2. exposed
.....	a demand	1. 2.
.....	 (a person)	sued
to suffer		1./ 2. (opposite)

VOCABULARY TASK 3.2

Fill in the gaps with the right words from the table from VOCABULARY TASK 3.1. Use **ONLY ONE** word from **EACH** family of words.

- I have been trying to figure this puzzle out for hours, and I'm getting nowhere. I think it's _____.
- This foundation with vitamin C is my go-to when my skin looks dull. It instantly brings _____ to my complexion and makes me look hydrated and rested.
- If he _____ his voice every time he talks to his employees, they would respect him more. Unfortunately, he does.
- Since Mark left his job as the CEO of a major corporation, he _____ multiple times by his former employer for breach of contract.
- The long-term, almost constant _____ to the sun caused the paint to fade, so we had to repaint the house.
- The tornado that hit the town was so powerful that it destroyed almost everything in its path, along with our house. The _____ was so severe that it had to be torn down and rebuilt from scratch.
- You can't constantly give in to children's _____, or they will never learn how to be self-sufficient and resourceful.
- The most _____ person I know is my mother-in-law. She's always criticizing me and finding fault in everything I do.
- When I was a teenager, the members of my family would _____ with each other about politics around the dinner table almost every night.

LESSON 1 - The Female Factory Workers That Glowed in the Dark

10. These toy stars _____ better _____ in the dark. If they don't, my son will be disappointed that he is not able to see the constellations on the ceiling with the light turned off.

VOCABULARY TASK 3.3

Answer each question/task with **AT LEAST THREE** examples. Use full sentences each time.

1. What seems unsolvable, but in reality, it is solvable?
.....
2. What would you do if your skin glowed in the dark?
.....
3. Provide examples of things that are luminous.
.....
4. What can you do to silence a jawing stranger in the cinema?
.....
5. What is likely to damage somebody's reputation?
.....
6. What arguments should an employee use to get a raise?
.....
7. Provide examples of expositions and exposures.
.....
8. In what situations can you demand a refund?
.....
9. What can a sued person do to defend themselves in court?
.....
10. What do the elderly often suffer from?
.....

VOCABULARY TASK 4.

Try to **explain the meaning of the words/expressions given (1-10)** without using the words in brackets. You also can't use any words from the same word family as the word you are trying to explain or any of the parts of the expression you're trying to describe.

Example: if you're trying to describe the word "untouched", don't use the words "touch", "touching", etc.; if you're trying to describe the noun "construction worker", don't use the words "construction" and "worker", "construct", "work", etc.

Let your teacher/fellow student guess which word you are describing.

1. a mystery (DO NOT USE: to understand, to explain)
2. to glow (DO NOT USE: to produce, light)
3. avid (DO NOT USE: enthusiastic, interested)
4. precise (DO NOT USE: careful, a detail)
5. fragile (DO NOT USE: to break, to destroy)

6. an issue (DO NOT USE: a problem, difficult)
7. the jaw (DO NOT USE: the mouth, teeth)
8. a court hearing (DO NOT USE: a judge, a crime)
9. an oath (DO NOT USE: a promise, a court)
10. an ingredient of something (DO NOT USE: to combine, a product)

VOCABULARY TASK 5

Choose **10** words from **VOCABULARY TASK 1.1** and use them to create a short story. The more creative the story, the better. Then, share the story with your teacher/fellow student.

VOCABULARY TASK 6.1

Complete the expressions (1-11) with the right prepositions/adverbs (A-H). Some prepositions/adverbs can be used more than once. These **EXPRESSIONS ARE FROM THE TEXT**. Other versions are sometimes possible but you should focus only on the ones **FROM THE TEXT**.

A) with, B) by, C) out, D) of (x3), E) from (x2), F) to, G) for, H) in

1. to be exposed _____ something
2. an ingredient _____ something
3. to be marketed _____ somebody
4. to take advantage _____ something
5. to be _____ high demand
6. to cover something _____ something
7. a sign _____ something
8. to fall _____
9. to sue somebody _____ something
10. to die _____ something
11. to suffer _____ something

VOCABULARY TASK 6.2

Now, complete each sentence with the right expression from **VOCABULARY TASK 6.1**. Remember to use the correct tenses/forms of the verbs.

1. He acts as if his products _____, but in reality, they are barely selling.
2. He looks as if he _____ a heart condition. He is constantly out of breath and has been complaining of chest pain lately. If I were him, I'd immediately go to a cardiologist for a check-up.
3. The jar was filled with a green liquid and placed in the center of the room. While the jar _____ a cloth, the room began to fill with a cloud of thick, green smoke. The scientists did not manage to contain the experiment and had to evacuate the building.

LESSON 1 - The Female Factory Workers That Glowed in the Dark

4. One of the _____ gunpowder is charcoal, which is made by slow burning of wood in a low-oxygen environment.
5. Chrissy _____ the sun for way too long. One more hour and she will be severely sunburned.
6. I was looking for my contact lens case this morning and couldn't find it anywhere. Then I recalled that it _____ of my pocket when I was getting into my car this morning.
7. If people stopped viewing tears as _____ weakness, they would be able to express their emotions more freely. Bottling up your feelings can lead to all sorts of problems, both mental and physical.
8. When Martha met Jason, she thought that he _____ her vulnerability. She was pleasantly surprised when he didn't.
9. If he _____ a gunshot wound to the head, there would be an entry wound in the skull, so I don't really think that was the cause of death.
10. If the new line of clothing _____ a fashion company and not by a sports company, we would have reached the sales targets weeks ago. Our strategy is not working. We need to change it.
11. We believe that they have been committing fraud against us for months, and it's high time we _____ them _____ it.