

# 《高中英语（上外版）》选择性必修第二册 Unit 1 Scientists

课时：第 5 课时 教学内容：Reading B: Rosalind Franklin

课型：阅读课 设计者：上海中学孙依静、方维芊

## 一、教学设计与说明

### 1. 教学目标

本课为本单元的第五课时，学生通过该课时的学习，能通过与人物专栏文章进行比较，掌握人物传记的语篇特征和主要内容；能通过分析作者对词汇、句子结构和修辞方法的选择，辨认作者的情感；能通过分析富兰克林应对困难时展现出的精神品质和诠释成为科学家对她的意义，解读她对科学的热爱。

### 2. 设计思路

本课为本单元的第五四课时，旨在引导学生通过比较人物专栏文章，理解人物传记的文体特征；通过分析作者的遣词造句，判断作者的情感；通过理解科学家面对的困难，分析科学家应对困难的态度，概括科学家的精神品质。首先，请学生思考人物传记应包含的内容，接着通过与人物专栏文章的比较，概括人物传记的文体特征，包括标题的拟定、图片的选择和主要内容。其次，教师引导学生梳理富兰克林作为一位女性科学家遇到的困难，分析她应对困难的态度，理解她的主要成就，从而概括她的精神品质，进一步理解她对科学毕生的热爱。最后，学生基于对文章的理解和补充的富兰克林的引言，分小组谈谈自己对成为一名科学家对于富兰克林的意义的理解，并在全班分享小组的理解。作业要求：以富兰克林的口吻给女科学家们写 80 个词左右的信，谈谈她对于自己的成就终于获得认可的感受以及她给女科学家们的建议。

### 3. 重点难点

分析作者的遣词造句，判断作者的情感；概括科学家的精神品质并理解成为一名科学家对富兰克林的意义。

## Lesson Plan

### **Learning Objectives:**

By the end of this period, students will be able to:

1. grasp the main content and the textual features of Rosalind Franklin's biography by comparing it with a feature article and arranging her life events in time order;
2. identify the author's feelings by analyzing the author's choice of words, sentence structure and figures of speech;
3. explain Rosalind Franklin's undying passion for science by analyzing the various qualities she displayed in her approaches to difficulties and by interpreting what it means to her to be a scientist.

### **Learning Procedures:**

#### **Before-reading**

##### **I. Interactive activity 1: The layout of a biography of a scientist**

\*T: Ask Ss to compare the layout of a feature article with that of a biography and encourage them to think about what text type this passage is and what they'd like to include in a biography

\*Ss: Compare the layout of a feature article with that of a biography and think about the type of writing and brainstorm different parts of a biography

**Purpose: to prepare for to the biography of Rosalind Franklin and to help Ss have a basic understanding of the layout of a biography**

Guided question:

What would you like to include in a scientist's biography?

##### **II. Interactive activity 2: The Dark Lady of DNA (1)**

\*T: Ask Ss students to think about why Franklin was called "the Dark Lady of DNA" and what the word "dark" means.

\*Ss: Think about the questions and share their understandings

**Purpose: to encourage Ss to recall what they read in Reading B and get them ready for the understanding of Rosalind Franklin's difficulties as a female scientist.**

Guided questions:

1. Why was Rosalind Franklin called "the Dark Lady of DNA"?
2. What does the work "dark" mean?

##### **III. Interactive activity 3: Rosalind Franklin's life and career**

\*T&Ss: check the preview assignment: Ex II on Page 13.

**Purpose: to encourage Ss to recall Rosalind Franklin's life events.**

Guided question:

What did Franklin do at different stages of her life?

### **While-reading**

#### **IV. Interactive activity 4: Undying passion for science**

\*T: Ask Ss to read the first paragraph and identify Franklin's outstanding quality as a scientist.

\*Ss: Read the first paragraph and identify Franklin's outstanding quality as a scientist.

#### **Purpose: To help Ss capture Franklin's most outstanding quality**

Guided question:

What carried Franklin through all the difficulties she encountered?

#### **V. Interactive activity 5: Difficulties Franklin faced as a female scientist**

\*T: Ask Ss to scan the text and find specific difficulties Franklin encountered during her course of career.

\*Ss: Scan the passage and find specific difficulties Franklin encountered.

#### **Purpose: To help Ss understand various difficulties Franklin encountered as a female scientist so as to better appreciate her undying passion for science and her various qualities.**

Guided questions:

1. What difficulties did she encounter as a female scientist?
2. What qualities did she display in overcoming these difficulties?

#### **VI. Interactive activity 6: The famous image**

\*T: Ask students to scan Paragraph 5 to find out the breakthrough Franklin made and think about its importance.

\*Ss: Scan Paragraph 5 for the breakthrough Franklin made and think about its importance.

#### **Purpose: To help Ss understand the significance of Franklin's contribution so as to better understand the unfair difference between men and women in science and prepare students for such later tasks as identifying the author's feelings.**

Guided questions:

1. What's Rosalind Franklin's contribution to science?
2. What's the importance of her scientific research?

#### **VII. Interactive activity 7: Culture Link: Nobel Prize Fast Facts**

\*T: Ask students to guess what "Nobel Laureate" means and in which area Crick and Watson were awarded the Nobel Prize.

\*Ss: Take a guess and check the culture link for answer.

#### **Purpose: to familiarize Ss with some basic facts about the Noble Prize.**

Guided questions:

1. What does Nobel Laureate means?
2. In which area were Crick and Watson awarded the Nobel Prize?

#### **VIII. Interactive activity 8: The Dark Lady of DNA (2)**

\*T: Ask students to check their previous understandings of the reason for Franklin's being called "the Dark Lady of DNA" and the meaning of the word "dark".

\*Ss: Check their previous understandings.

#### **Purpose: To help Ss better empathize with Franklin's unfair treatment.**

Guided question:

Do you have different or further understanding of the reason for her being called "the Dark Lady of DNA" or the meaning of the word "dark"?

#### **IX. Interactive activity 9: The author's feelings**

\*T: Ask Ss to identify how the author feels about the difficulties Franklin faced as a female scientist and find evidence from the text to support their answers by analyzing the author's choice of words, the sentence structures and figures of speech.

\*Ss: Read carefully for the author's feelings and find evidence.

#### **Purpose: To help Ss identify the author's feelings and further appreciate Franklin's achievements and qualities**

Guided question:

How does the author feel about Franklin's difficulties and the unfair differences?

#### **After-reading**

#### **X. Interactive activity 10: To be a scientist**

\*T: Ask Ss to have a group discussion and write down their understanding of what "to be a scientist" means to Rosalind Franklin in complete sentences based on the biography and two of her quotes.

\*Ss: Have a discussion in groups of six, write down their understanding and present it to the whole class.

#### **Purpose: To encourage Ss to think deeply with the help of Franklin's deeds in the biography and her words and better understand Franklin's passion and qualities.**

Guided question:

What does "to be a scientist" mean to Rosalind Franklin?

#### **XI. Assignment:**

Suppose, by some miracle, Franklin were informed that her contributions were finally recognized. She decided to write a letter to provide encouragement and suggestions for women who've been courageous enough to follow her steps. Students are expected to write a letter of about 80 words from the perspective of Franklin. The letter should include:

1. her feelings of being recognized
2. her suggestions for female scientists

Students may find the following checklist helpful.

#### **CHECKLIST**

- Do I bear my readers (female scientists) in mind when writing this letter?
- Does the letter convey Franklin's feelings which are consistent with her personality?
- Can the suggestions provided in my letter reflect Franklin's qualities?
- Is my letter clear, coherent and grammatically correct?