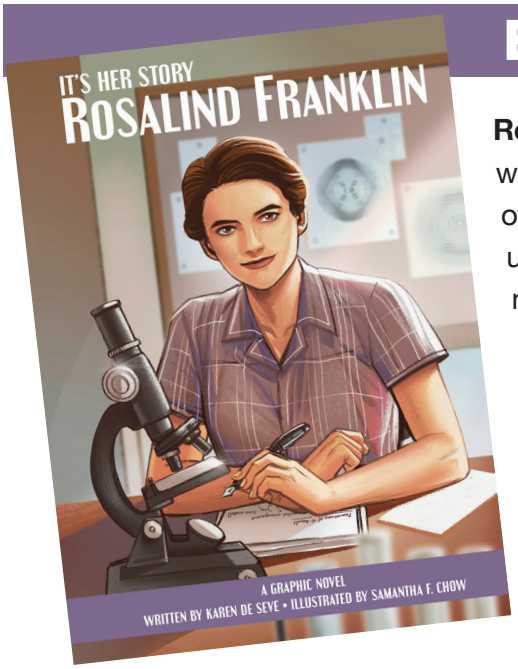
It's Her Story: Rosalind Franklin- A Graphic Novel

EDUCATOR GUIDE



Rosalind Franklin was a British chemist during the 1940s and 1950s, when few women worked in the sciences. During World War II, she expanded our knowledge of the physics of coal, and later she studied viruses. Her "Photo 51" was central to understanding the double-helix structure of DNA, groundbreaking work she was never given credit for in her lifetime.

It's Her Story: Rosalind Franklin
Written by Karen de Seve
Illustrated by Samantha F. Chow
$10.99 US / $14.99 CAN
ISBN: 9798765400289
Ages 7 to 10
48 pages
Hardcover, 6.2 x 8.6 inches

DISCUSSION

Ask these questions to the class as a whole or have students discuss in small groups.

1. Make a list of Rosalind's likes and dislikes. Where did she feel happiest? Why?
2. Then think about the activities and environments that you like. Where do you feel most yourself?
3. Find some of the people in the story who were good friends and colleagues to Rosalind. What makes someone a good friend? A good work partner?

ETHICS CONNECTION

Have a discussion about ethics with your students.

Keep these tips in mind:

- Prompt students to work through their reasoning with follow-up questions, such as "Why"?
- Slow down the pace of discussion to allow for time to think and to encourage participation among all students.
- Reserve judgment and resist asking leading questions or suggesting answers. Instead, ask "Can you tell us more about your thoughts on that?" "Why?" and "And then what?"

1. Offer this simple definition: Your ethics are your understanding of what is right and wrong. If you are behaving ethically, you are doing the right thing.
2. Ask: How do we know what is right and what is wrong? (parents, religious teachings, community expectations, authorities, the Golden Rule)
3. Lead a discussion with the following prompts.
   a.) On p. 37, Maurice Wilkins secretly shows Rosalind's double-helix photograph to James Watson. Was this right or wrong? Why?
   b.) James Watson and his partner Francis Crick then use Rosalind's image to figure out how DNA is put together. Was this right or wrong? Why?
   c.) Watson and Crick do not give Rosalind credit in their article. What if they did give her credit in the article? Would that have made their earlier actions okay? Why/why not?

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ETHICS CONNECTION (Continued)

d.) These days, many people know about Rosalind's role in the discovery of DNA and other scientific accomplishments. Does that right any wrongs done to her? Why/why not?

e.) Wilkins, Watson, and Crick received Nobel Prizes and are widely honored for their work with DNA. Would taking away some of their honors make things right? Why or why not?

f.) Wrap up by having students write one sentence stating an interesting idea from the discussion.

SCIENCE CONNECTION

Rosalind Franklin was skilled in making, fixing, and improving things like lab equipment. In this activity, students make a simple magnifying glass, then test different versions.

Materials

- A few clean plastic clamshell-style produce containers
- Honey (squeeze-bottle style works best mess-wise)
- Water and/or clear liquid soap
- Keychain lights or mobile phones
- Observation notebooks

STEPS

1. Cut or have students cut the clamshell container(s) into 1-inch by 3-inch strips.
2. Squeeze a drop (about 0.25-inch diameter) of honey onto each strip, about a third of the way from the end. Distribute these magnifiers.
3. Students place a flat or tiny item on a table and hold the magnifier over it. Students take turns holding the light source for their partner.
4. Have students experiment to find the best distance between the magnifier and the item in terms of magnification and clear image.
5. Have students try new magnifiers using a drop of water and then a drop of soap.

ASK STUDENTS TO:

1. Record the materials, procedure, and a hypothesis in their observation notebooks.
2. Observe the magnifiers and describe and/or sketch them. Remind students to move slowly and carefully with the magnifiers.
3. Describe and/or sketch any magnification noted as well as any other interesting occurrences (does the drop stay in place?)
4. Repeat their observations and note-taking for each variation of the experiment.
5. Observe and note how variations in the procedure change the results. Does one liquid magnify better than another?