



Women in STEM

Adaptable Assembly/Lesson Plan

For key stage 3, 4 or 5

The Big Picture

In a year which sees the centenary of the Representation of the People Act being passed, there has never been a better time to celebrate International Women's Day (IWD).

IWD celebrates the social, economic, cultural and political achievements of women. This year, the theme is #PressforProgress.

Objectives

- To understand the importance of women in STEM
- To provide inspiration for future female scientists
- To provide links to careers advice and guidance

Engagement

Get pupils to think of as many female scientists as possible in 1 minute. Or get pupils to state discoveries/inventions resulting from the work of female scientists.

Differentiation

Consider providing pupils with writing frames to support any of the key learning episodes.

Stretch & Challenge

Get pupils to consider what challenges were faced by female scientists 50 or even 100 years ago, and what challenges face 21st century female scientists.

Or get pupils to rank impact of discovery on society and get them to justify their reasons.

Key Words/Acronyms

STEM, scientist.

AfL

Through discussion.

Learning Episodes

Pupils could:

- create a timeline of a female scientist's life;
- write a news report on a female scientist and her discovery
- write posthumous Twitter profiles for female scientists
- create 'Top Trump' cards of female scientists (categories could include: year born, number of discoveries, groundbreaking rating; number of Nobel Prizes/Awards; areas of interest).



Marie Curie (1867-1934), Polish-French physicist who won two Nobel Prizes, in 1903 for Physics and 1911 for Chemistry.

Suggestions for study

Mary Anning – the world-famous fossil collector and palaeontologist known for her Jurassic marine fossil finds at Lyme Regis in Dorset;

Françoise Barré-Sinoussi – a Nobel-winning virologist who performed some of the fundamental work in the identification of the human immunodeficiency virus (HIV) as the cause of AIDS;

Elizabeth Blackwell – the first woman to receive a medical degree in the United States and the first woman on the Medical Register of the General Medical Council;

Rachel Carson – a ground-breaking marine biologist whose work has advanced the global environmental movement;

Marie Curie – a pioneer in research on radioactivity, the first woman to win a Nobel Prize, and the first person and only woman to win twice;

Rosalind Franklin – an English chemist and X-ray crystallographer who is widely regarded as being pivotal to the understanding of the molecular structures of DNA;

Jane Goodall – primatologist and the world's foremost expert on chimpanzees, who has studied primates for over 55-year study;

Grace Hopper – an American computer scientist who was one of the first programmers of the Harvard Mark I computer;

Mae C. Jemison – an American engineer, physician and NASA astronaut, and the first African American woman to travel on the Space Shuttle Endeavour in 1992;

Ada Lovelace – an English mathematician who worked on Charles Babbage's general-purpose machine – the first 'computer'.

Metrodora (c. 200-400 CE) – an ancient Greek female physician and author of the oldest medical text known to have been written by a woman;

Tu Youyou – a Nobel-winning pharmaceutical chemist who discovered medicines to treat malaria, which have saved millions of lives.

This is not an exhaustive list of female scientists and there are many great pioneers outside of the field of bioscience that you may wish to study.

Summary

To provide inspiration to pupils as to how they can follow science career paths, use the ABPI Careers website careers.abpi.org.uk. This provides many examples of female scientists, some perhaps not as famous as those mentioned above, and the case studies show how they are making a difference. It also has case studies showing other roles outside the lab within the pharmaceutical industry.

About

The ABPI represents innovative research-based biopharmaceutical companies, large, medium and small, leading an exciting new era of biosciences in the UK. Our industry, a major contributor to the economy of the UK, brings life-saving and life-enhancing medicines to patients.

The screenshot shows the ABPI website interface for schools. At the top, there's a navigation bar with 'Home', 'Teachers', 'About the ABPI', and 'Contact us'. Below that is a search bar and a section for selecting an age range (5-7, 7-11, 11-14, 14-16, 16+, View all topics). The main content area includes 'What's new?' with a link to 'Antimicrobial resistance', 'Download library' with 'DOWNLOAD DIAGRAMS AND ANIMATIONS', and 'Careers poster' with 'LIFE ENHANCING CAREERS POSTER'. There are also links to 'Solids liquids and gases' and 'Stem cells'.

For more free to use resources on careers in STEM, visit the ABPI's Schools website at abpischools.org.uk