

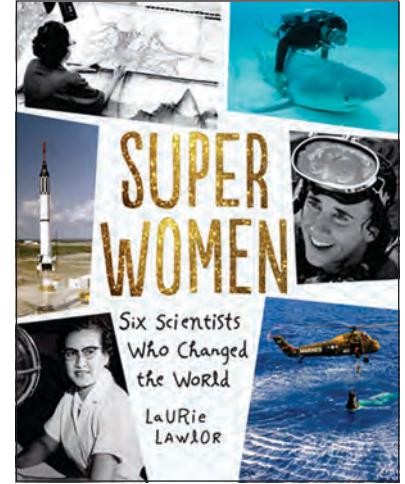
# Laurie Lawlor

author ✕ educator ✕ often found in nature

## Super Women

### Six Scientists Who Changed the World: an activity and discussion guide

Profiles of six amazing women who defied prejudice to succeed in the sciences using genius, ambition, and perseverance! Laurie Lawlor deftly paints portraits of each of these pioneers who refused to take no for an answer, pursuing their passions through fieldwork, observations, laboratories and research vessels in the face of sexism: Eugenie Clark, Marie Tharp, Katherine Coleman Johnson, Florence Hawley Ellis, Gertrude Elion, and Margaret Burbridge.



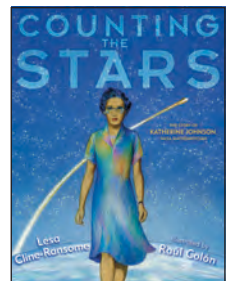
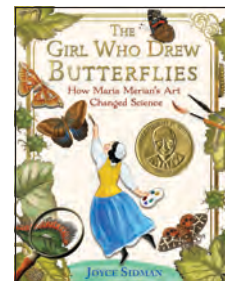
## Before and while reading the book

Mark a piece of paper with six vertical columns. At the top of each column, write each woman's name. Down the left margin, write each of these bolded words from the sentences below. Skip five lines between each word.

As you read the chapters, you can write some notes in each of these categories. Later, you can compare the answers and see if there are similarities between some of the women.

- ☐ What is her **field of science**? That is, what is her expertise?
- ☐ Did she have a **nickname**?
- ☐ What were her **parents** like? What was her **childhood** like?
- ☐ Did she have **hobbies**?
- ☐ How did **WWII** impact each woman?
- ☐ What **sparked** (or was there an *event* that sparked) her interest in her scientific field?
- ☐ Write some **barriers or challenges** that each woman faced.
- ☐ Did she have a **mentor**? Later, did she mentor other people?

## Add to your knowledge



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## Make a comparative timeline

Take a piece of lined paper. In the left margin, write the years in this vertical timeline, starting with 1905. Skip five years on each line going down, for example, 1905, 1910, 1915, 1920. Then mark six columns across the top, one for each woman. On this timeline, write the following dates or facts for each woman in her column, in the line that includes those five years.

Year born, year died. (Since the book was written, the last two women have died. Katherine Coleman Johnson died Feb 24, 2020. Margaret Burbidge died April 5, 2020).

What dates she was in **college**

Year of **first job**

Year(s) of **other important job(s)**

Year(s) of important **discoveries**

**WWI** 1914 - 1918

**WWII** 1939 - 1945

**Awards** received



	Johnson	Tharp	Eilon	Clark	Ellis	Burbidge
1905						
1910						
1915						
1920				Born		
1925				1922		
1930						
1935						
1940						
1945						
1950						
1955						Award
1960						1959
1965						
1970						
1975						
1980						
1985						
1990						
1995						
2000						
2005						
2010						
2015						
2020						



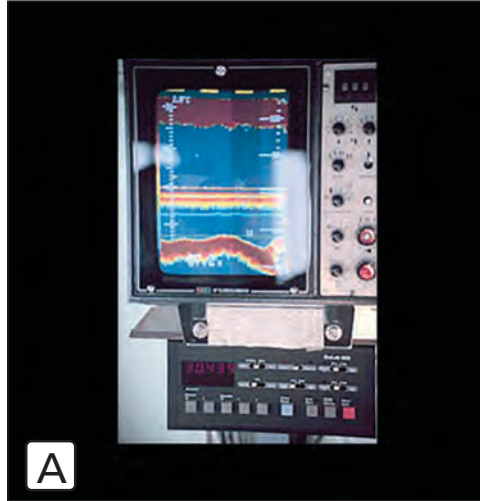
# Super Women

## Six Scientists Who Changed the World an activity and discussion guide

**Match the data for each scientist** From this page and the next page, match the scientist with a piece of equipment she used and, from the third column, another image associated with her (e.g., 1-A-u).



1 Katherine Coleman Johnson. public domain | NASA



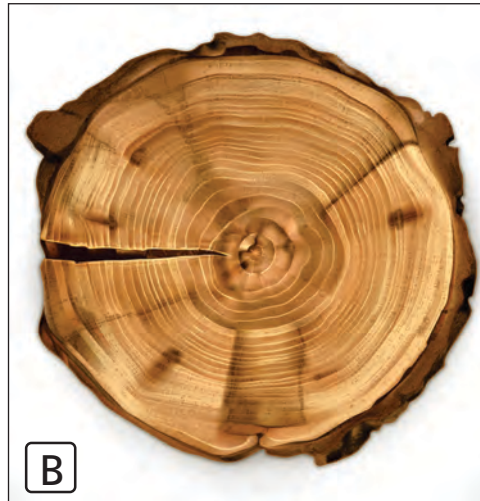
A Depth sounder (i.e., fathometer). public domain | NOAA



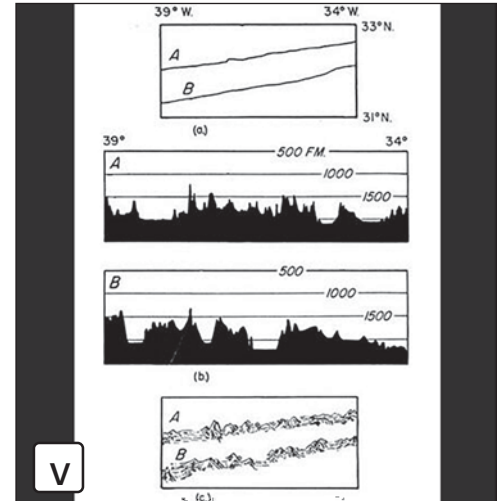
u Pueblo art. © Aleksandr Velichko | Dreamstime.com



2 Eugenie Clark. photo courtesy of Mote Marine Laboratory & Aquarium



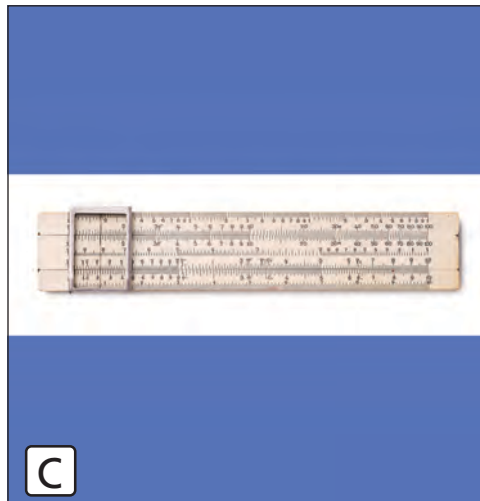
B Tree rings. © Natis76 | Dreamstime



V Sonar soundings method. © Geological Society of America.



3 Gertrude Elion. Creative Commons 4.0  
GlaxoSmithKline Heritage Archives



C Slide rule. © Anton Starikov | Dreamstime



W Lemon shark. © Albert Kok | GNU Free Documentation License



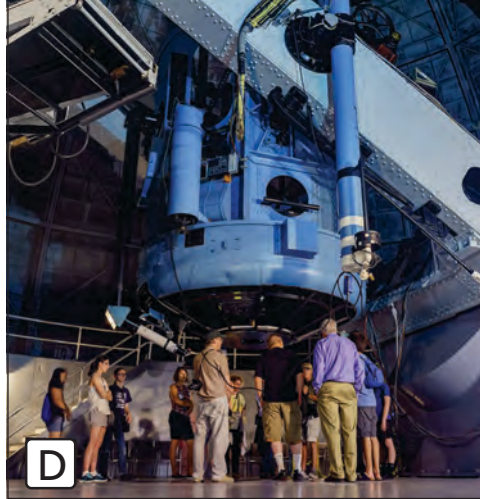
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Marie Tharp. photo courtesy Geography and Map Division, Library of Congress



Mt. Wilson Observatory. public domain | NOAA



Acyclovir vial. © Aleksandr Velichko | Dreamstime.com



Florence Hawley Ellis. Courtesy Chaco Cultural Natl Historic Park. NPS collection #28/4n28704 (date 1929; photographer unknown)



Submersible.. public domain | NOAA



Mercury rocket. © Aleksandr Velichko | Dreamstime.com



Margaret and Geoffrey Burbidge. Archives & Special Collections, CalTech. (photo ID #50.1-1)



Chemistry lab. public domain | NOAA



Stars and galaxies. © Aleksandr Velichko | Dreamstime.com

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## Word Search

Can you find these fifteen words? Which Super Woman is associated with each word?

E	A	F	F	V	B	E	H	F	D	D	D	N	V	E
L	L	S	G	N	P	P	E	N	I	R	A	M	G	H
G	S	L	A	P	O	O	R	D	X	O	L	D	I	G
E	X	L	I	N	T	C	I	I	T	Y	I	V	D	V
O	T	K	T	S	T	S	U	S	Q	B	W	G	H	K
F	L	A	K	Q	E	E	C	B	R	L	A	O	B	S
L	C	B	L	L	R	L	E	U	K	E	M	I	A	P
R	E	J	E	U	Y	E	B	N	S	U	N	C	R	A
F	N	N	J	U	C	T	V	H	O	O	B	A	L	M
R	K	T	A	O	P	L	A	J	B	F	H	S	D	K
E	L	I	O	N	H	R	A	E	H	T	S	T	H	R
S	R	A	T	S	K	N	L	C	B	T	O	A	Z	A
O	L	O	T	S	I	L	S	A	F	N	N	E	W	L
Q	V	X	I	T	J	A	V	O	W	J	A	E	J	C
O	N	D	J	F	C	G	P	X	N	Z	R	Z	O	U

BURBIDGE  
CALCULATE  
CLARK  
ELION  
ELLIS  
JOHNSON  
LEUKEMIA  
MAPS  
MARINE  
NASA  
NOBEL  
POTTERY  
PUEBLO  
SHARKS  
SONAR  
STARS  
TELESCOPE  
THARP

## Use technology to search for these:

- ☐ Remember, you can use technology to look up any word, piece of equipment, or scientific field that you don't know or don't understand, besides the glossary on pages 51-52.
- ☐ Use a search engine to locate an original obituary of each woman (not a Wikipedia article). Note the sorts of information that are included in each obituary as compared to the narrative in this book.
- ☐ Use technology to look up the articles, websites, or interviews found on pages 53-54.





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## Discussion questions



- ☐ What is discrimination, prejudice? How is it different from sexism? Give an example of discrimination experienced by each woman.
- ☐ What were some common acceptable behaviors, expectations, and stereotypes for women that society had before these women started in their field?
- ☐ What barriers did each of them face?
- ☐ How did they overcome those barriers?
- ☐ What were each woman's special talents?
- ☐ What are some traits that they all had in common?
- ☐ What were their major contributions to science?
- ☐ Is there a lesson learned, or some advice, that each one had?
- ☐ Who do you think had the most fun?
- ☐ Who do you like the best? Who would you most want to be? Why?
- ☐ Is there a different well-known woman that you admire? Why?
- ☐ Is there a woman that you personally know that you admire? Why?

## About the author

**Laurie Lawlor** is the author of more than 40 works of award-winning fiction and nonfiction for children and young adults. Lawlor's books have appeared on many ALA and NCSS notable lists. Among these, her picture book biography *Rachel Carson and Her Book That Changed the World* won a Green Earth Book Award Honor and a John Burroughs Association Riverby Award. Lawlor lives in Evanston, Illinois. She has a degree in journalism and has taught writing at several universities and given many elementary school workshops throughout the Midwest. She is committed to environmental activism. **Visit [laurielawlor.com](http://laurielawlor.com).**



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**A Note for Teachers:** The activities and discussion questions in this guide support the Common Core Standards for English Language Arts and Literacy in History/Social Studies, Science, and Technical Subjects including: Reading Informational Text: RI.6-8.1,2,3,6,7; Writing: W.6-8.1,2,3,4,7,8,9; Speaking and Listening: SL.6-8.1,4,5,6; Language: L.6-8.3,4,5,6.

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**Activity and Discussion Guide, *Super Women: Six Scientists Who Changed the World*** by Laurie Lawlor (Holiday House, 2019)  
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