

Women in Science



WOMEN IN SCIENCE *bundle*



MARY ANNING



DR. CYNTHIA MOSS
& DR. JANE GOODALL



VIRTUAL *biography*

DR. CYNTHIA MOSS & DR. JANE GOODALL



VIRTUAL biography

Integrates Reading Skills



Who Is Dr. Cynthia Moss?

Mini Biography:

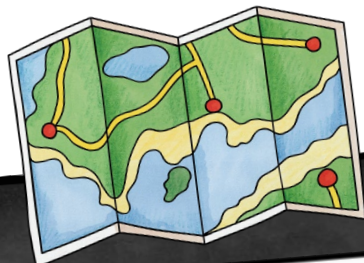
"In 1968, Cynthia Moss made a life-changing decision and moved to Africa to study elephants in Tanzania with Iain Douglas-Hamilton. Four years later, teaming up with Harvey Croze, she found the conditions for studying elephants in Amboseli National Park. Four decades later, her work is the longest running study of wild elephants ever undertaken, documenting the lives and deaths of almost 100 elephants. The Amboseli Elephant Research Project is now a hub for research collaboration and knowledge sharing."

Realistic solutions to the problems facing Africa's elephants can be developed only with the data from comprehensive long-term research studies. Studies in Amboseli have provided unique and detailed information on elephant birth rates, death rates, ranging patterns and nutritional needs, including analyses of their underlying determining factors. But the studies have also revealed much about elephants: that they celebrate birth, have lifelong bonds, communicate at a very sophisticated level, and appear to mourn the death of family members. Research has shown them to be highly intelligent, with the ability to reason and problem solve and has provided a window onto their complex social lives."

-Amboseli Trust For Elephants
(from the "Project History")



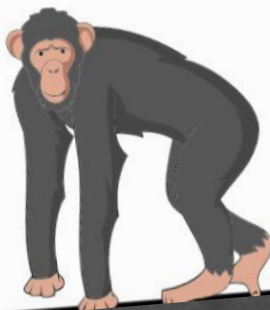
Geography



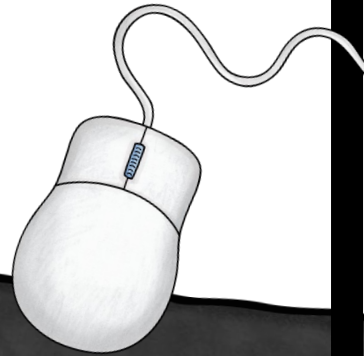
Jane Goodall's Beginning

Jane Goodall, one of the world's top experts on chimpanzees, spent years observing, living with, and studying chimpanzees in the Gombe Stream National Park.

1. Click [here](#) to locate the park online.
2. Move the star to the park's location.
3. Identify what country in Africa the park is located in.



Interactive



Let's take a trip to two countries in Africa. We will be visiting scientists Cynthia Moss and Jane Goodall.

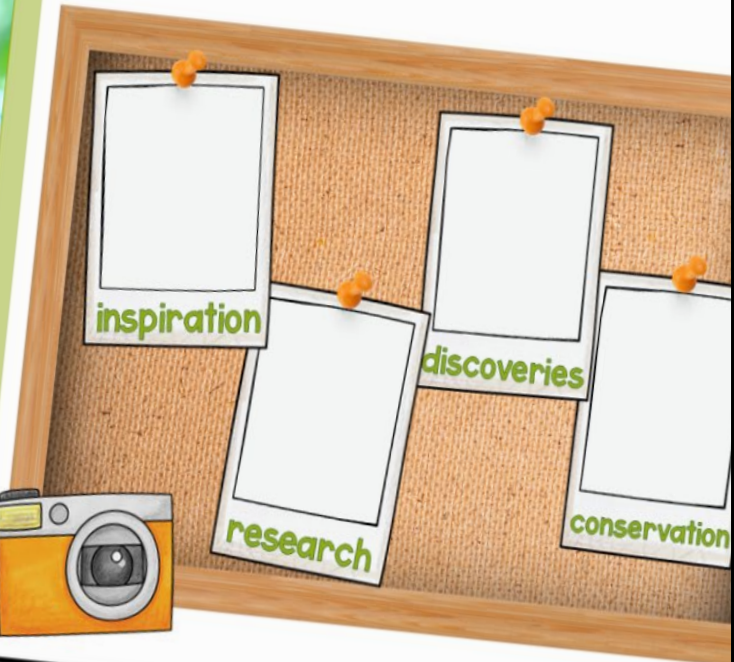


As we explore both scientists, their life's work, and the species they love, take some photos with your camera. After each section, paste the photo into the frame and move on to the next.

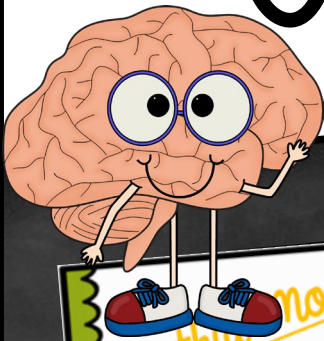
Use Ctrl+X to cut, then Ctrl+V to paste the photo into the frames. Resize to fit, if needed.



Let's Explore!



Critical Thinking



Cynthia Moss

Compare & Contrast

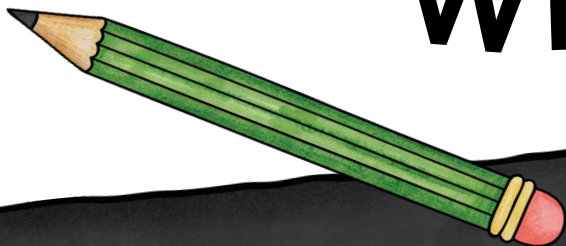
Jane Goodall

Reflect on the information you know so far about Cynthia Moss and Jane Goodall. Compare and contrast the two scientists and their work. Some topics you might consider include identity, location, passion, publicity, dedication, inspiration, and more.



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Writing



Jane Goodall

Watch the video to learn about Jane Goodall's study of chimpanzees and how she earned their trust.



Trusting Jane



What is most interesting to you about Jane Goodall's study of chimpanzees and the similarities she discovered between chimps and humans?



*Please Note: Links and instructions for embedded are included.

Engaging & Educational Media



Cynthia Moss

Identifying Elephants

Watch the video to see Cynthia Moss in action, and how she and her team identified hundreds of elephants in Amboseli National Park. Then, indicate whether the statements to the right are true or false.



©Zelle Baker



• In 1972, Cynthia Moss started the Elephant Research Project. It is a long-term running study of wild elephants.

• Most of what is now known about elephants and their lives, and their social structures, is the result of Cynthia Moss and her team's research.

• Cynthia Moss and her team do not use fences about elephant conservation.

• The matriarch of the elephant family always walks in the middle or back of the herd as they travel from place to place.

• Cynthia Moss and her team have identified the elephants by their ears.

*Please Note: Links and instructions for embedded are included.

Women in Science

MAE JEMISON



VIRTUAL biography

Integrates Reading Skills

Mae Jemison & STEAM

Based on what you know so far about Mae Jemison, how is her work related to the field of STEAM?

In Mae Jemison's TED Talk from 2002, she talks about the *need* to use sciences and arts together in order to move into the future. At that time, those two subjects were thought to be very different, but Dr. Jemison knew that in order to keep discovering and learning, we must be willing to change the way we think. She knew that every day, we all use sciences and arts to understand the world around us. Her goal was to help us understand that sciences and arts need to be taught together in order for us to learn, understand, and engineer new things in the world.

How are Dr. Jemison's ideas shared in 2002 being used to us make new discoveries and



Engaging & Educational Media

STEAM & NASA



Watch this video to learn about how astronauts train.

Watch this video to learn about NASA and engineering.



©2014 PBS

*Please Note: If you are purchasing this on TPT, instructions for how to embed videos are provided.

Critical Thinking

Comparing Images



NASA's Space Shuttle
Endeavour Crew, 1992



NASA's SpaceX
Crew-4 Mission, 2022





Science

What is STEAM?

S- science

T- technology

E- engineering

A- art

M- math

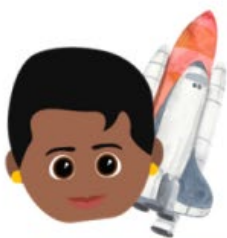
STEAM stands for science, technology, engineering, art, and math! The term STEAM refers to the areas of study where all these subject matters overlap and are used together to explore new things. There are STEAM clubs, STEAM activities, STEAM careers, and more! Used together, these subjects can do amazing things and take us further into the future than any single subject can.



What are your favorite subjects, and what subject(s) would you like to learn more about?



Reflection



What Mae Brought to Space

Click [here](#) to watch a video. Learn what Mae Jemison brought into space with her, and why!

What did all three items Mae Jemison took into space have in common?

A large, empty rectangular box with a light blue border, intended for a student's reflection on the first question.

According to the video, why exactly did Mae Jemison take those three items with her?

A large, empty rectangular box with a light blue border, intended for a student's reflection on the second question.

What three items would you choose to take into space with you?

A large, empty rectangular box with a light blue border, intended for a student's reflection on the third question.

Women in Science

MARY ANNING



VIRTUAL biography

Integrates Reading Skills

Kinds of Paleontology

Click [here](#) to explore paleontology further. Look at the photos and read their descriptions. To the right, describe which one is most interesting to you and why.

Then, read the text and match each "subdiscipline" of paleontology to the correct photograph or definition.

Paleobotany



Invertebrate paleontology

the study of
fossils of
microscopic
organisms

Micropaleontology



Vertebrate p

the
fossils
that
b

Engaging & Educational Media



Watch the video to learn about the field of Paleontology! Then, fill in the blanks.

Paleontology



©Julie Becker

Paleontology is not just

! It

of reptiles,

that

really long time ago. I

find o

forms which help us

life on Earth has bee

for the last 4.5 billion

G

Critical Thinking

Use the diagram to compare and contrast the three species you've learned about in the previous videos.

In the blue bubbles, identify one fact or feature related to that specific species.

in the yellow
ify one fact
that all three
in common.

Comparing Sea Monsters

PLESIOSAURS

all three

PLIOSAURS

ICHTHYOSAURS



Science

Ichthyosaurs



Watch the video to learn about ichthyosaurs! Then, indicate whether each statement is true or false by writing a "T" or an "F" in each yellow box.



© 2010 Bobas

1. Ichthyosaurs ruled the skies and seas.
2. Ichthyosaurs first appeared about 2 million years before dinosaurs.
3. In Greek, "ichthyosaurus" means "fish lizards."
4. Ichthyosaurs were predators at the top of the marine food chain.
5. During the 100 million years that ichthyosaurs lived, they never adapted, or evolved in any way.
6. One species of ichthyosaurs was that were over 10 inches wide that they see in the dark ocean.

Reflection

Mary Anning & Evolution



Reflect on Mary Anning's 1828 discovery of the first winged fossil. Then, think about what we know about birds and their connection to dinosaurs and pterosaurs from millions of years ago.

Why was Mary Anning's discovery so significant? How has it shaped what we know about the animals that currently live on Earth?



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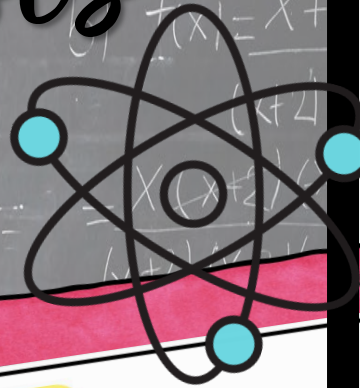
VIRTUAL BIOGRAPHY

Women Physicists

Marie Curie



Chien-Shiung Wu

Lise Meitner



All About: Marie Curie

Name:	Marie Curie
Year alive:	1867 - 1934
Birthplace:	Poland
Field of study:	physics & chemistry



[Click here to Curie's home world map! M the corre](#)

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Women in Science



Integrates Reading Skills

What Is Physics?

Do you know anything about physics?
Write what you know or think about
physics!



Click [here](#) to read about the subject of physics.
As you can see, there are many different subjects
within the field of physics that all help us explore
and understand the world around us.

Physicists are scientists who study physics. Some
physicists study specific kinds of physics, such as
Lise Meitner, who studied nuclear physics. Other
physicists study multiple kinds of physics, such as
Chien-Shiung Wu, who studied particle physics and
nuclear physics. Then, there are physicists who
also study multiple kinds of science, such as Marie
Curie, who was both a physicist and a chemist.

© Julie Buckner

Engaging & Educational Media

Queen of Physics

Read along with the story, *Queen of Physics*, to learn all about Chien-Shiung Wu's childhood.



1. Who were Chien-Shiung Wu's biggest and greatest supporters? How did they impact her life?

2. In what ways was Chien-Shiung Wu a leader? What skills did she have that made her a great leader?

Critical Thinking

Making Observations



Observe the photograph of Chien-Shiung Wu in 1958 at a science fair at Columbia University. She is with another professor and several students. Make three detailed observations about the photograph. What do you see?

Who do you see? Who is speaking?

--	--	--



Science

Lise Meitner and Otto Hahn

Observe the photo of Lise Meitner and Otto Hahn, her partner in science.



Use the space below to describe what you know about the two scientists, their work together, the Nobel Prize, and what you observe in the photo.



Reflection

Reflection & Comparison

1. Reflect on all of the information you've learned about Marie Curie, Chien-Shiung Wu, and Lise Meitner.
2. On the next slide, compare the three individuals' experiences as women in the field of science (or more specifically, physics).
3. Consider factors such as identity, respect & recognition, access to school/education, culture, sacrifices, studies of physics, and the ways in which we remember them.

