

FOR TEACHERS: PRE-VISIT ACTIVITIES grades 5-8

How to Use: Try any or all of the activities below in advance of your visit to the Spitzer Hall of Human Origins. You can also photocopy the worksheet on the opposite side of this page and distribute it to students to use as they walk through the exhibition. They'll need a pen or pencil and a hard surface to write on.

Diary of a Discovery:

To excite students about the famous fossils they'll see represented in the Spitzer Hall of Human Origins, visit amnh.org/education/humanorigins. You'll find firsthand accounts about the moment of discovery of Lucy, the Laetoli footprints, and Turkana Boy. Follow-up questions are suggested.

Ology Activities:

Engage students in web and hands-on activities about genetics and fossils from Ology, the Museum's website for kids. Visit:

amnh.org/ology/genetics

- *Go on a Genetic Journey* to track your unique traits
- *What Makes You YOU?* to zoom in on DNA in the body
- *Wear a Chimpanzee on Your Wrist* to make a bracelet of genetic code

amnh.org/ology/paleontology

- *Layers of Time* to sort fossil layers by date

DNA Extraction:

The Human Evolution Lab activity is designed for students in grades 6-8. By collecting and analyzing data, students will explore how humans have evolved and determine the evolutionary relationships among modern humans and our extinct relatives. The Genetics Lab activity is designed for students in grades 9-12 to explore how scientists measure and study human genetic variation. Both activities can be found here: <https://www.amnh.org/exhibitions/permanent/human-origins/educator-resources/human-origins-educational-lab>

Measuring Variation:

Give students 20 dried lima beans (or any other type of bean), rulers, and magnifying lenses.

1. Have the students observe the beans to see if they are identical. Then they can examine the beans to describe their variation, if any.
2. Have students measure the beans with the ruler and lens.
3. Use the following questions to guide a discussion of their observations and measurements:
 - How might the beans' variation affect what kind of plants they grow into?
 - What do your observations tell you about variation in living things?
 - Why is variation important?

You can correlate your visit to the Spitzer Hall of Human Origins to the NEW YORK CITY SCOPE AND SEQUENCE for grades 6-8.

Grade 6

Unit 3 Diversity of Life

Kingdoms of Life

- The cell is a basic unit of structure and function in living things.

Unit 4 Interdependence

Ecosystems and Interdependence

- Populations and definition of species

Grade 7

Unit 1 Geology, Fossils and Earth's History

- Where fossils are found

- Dating of rocks: Absolute and relative age
- The importance of the fossil record

Unit 3 Dynamic Equilibrium: The Human Animal

Levels of Organization

- Cells—structure and function

Grade 8

Unit 1 Reproduction, Heredity, and Evolution Heredity

- Genes and DNA
- Mutations

Natural Selection: The Driving Mechanism Behind Evolution

- Sources of variation in organisms
- Adaptations
- Evidence for evolution

FOR STUDENTS: DURING YOUR VISIT

Compare Skeletons:

At the start of the exhibition, compare the skeleton of the chimpanzee to either the human or the Neanderthal. For each of the following features, describe one difference between the two species.

Skull: _____

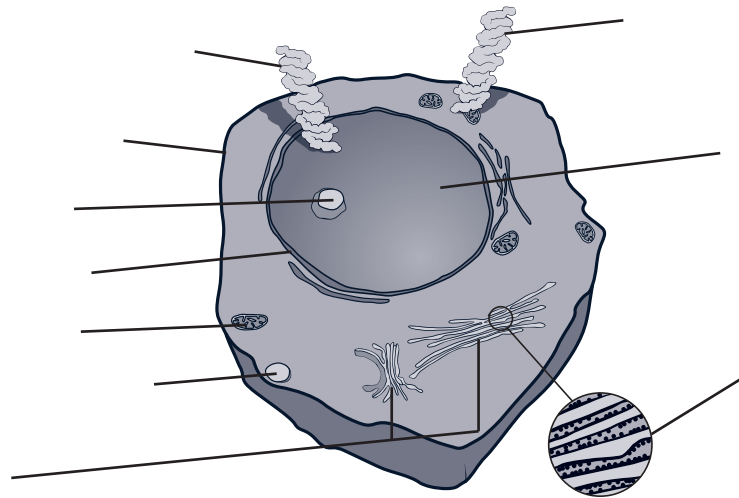
Pelvis: _____

Feet: _____

Use the "Meet Your Relatives" interactive behind the skeletons to explore how scientists interpret these differences.

Cell Model:

Examine the cell model in the first part of the exhibition. Label the parts of the cell. Circle the structures that contain DNA.



Diorama Scenes: Interpreting Evidence

1. Walk across the hall from the cell model to watch the video "Reconstructions: Faces from Fossils" and read the panel to its right.
2. Now pick the diorama scene that you like most in the center section of the exhibition. Observe its details. How do you think the scientists and artists who made this scene determined...

...how tall to make the figures? _____

...what tools to give them? _____

...what their environment looked like? _____

Would they know what their clothes looked like? Why or why not? _____

Would they know what their skin color and body hair looked like? Why or why not? _____