

Teacher's Guide for ODYSSEY

October 2009: Cast of Humans

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INTRODUCTION: Ask students what they know about their grandparents. Do they know anything about their great-grandparents? After discussion, tell students they will be looking back in time on the great cast of humans and what scientists have gleamed from their research.

WHOLE CLASS ASSIGNMENT:

Have the students read the articles

Meet Ida, Your Long Lost Primate Cousin (p. 2)

Hyena Poop Hairballs (p.3)

Humankind's First Art Project (p.4)

Body Swap illusion (p.4-5)

What's for Dinner? Did Early Humans Eat Neandertals? (p.5)

Baby Mammoth is Big News (p.48-49)

AFTER reading the articles have students create a summary book by writing a summary paragraph for each reading and illustrate them. As a whole class share the summaries and discuss similarities and differences in the summaries.

HAVE the students do the flash fiction story (What do you think? (p.5), illustrate. To share, hold a reading party and have students share their stories. Could have students vote for the top two stories and award FLASH FICTION LITERACY AWARDS.

DIVIDE students into groups of 2 or 3 students. Have them read assigned article and use the questions to guide their group discussion. Have students create a presentation with a visual (e.g. chart, poster, graph, power point) to explain the information from their articles. Make presentation to class.

In Search of Hobbits (p.6-8) and The Origin of the Species: Two Experts Encounter the Hobbit (p.9)

1. What was the surprising find that is challenging the understanding of human Ancestry?
2. Who are the "hobbits"?
3. What was the new find named?
4. Where were they found?
5. What is the controversy over this find?
6. How old are the bones?
7. What did the researchers determine about their intelligence?
8. Explain why the researchers believe the "hobbits" were tiny?
9. Describe and explain the rest of the findings.
10. What are some of the findings of the researchers on page 9.
11. What did the researchers think of the "hobbits"?

Family Relations (p.10-13)

1. What does Homo habilis, Homo erectus, Homo neanderthalensis, and Homo

- Sapiens mean. Why did they receive these names?
2. What do paleontologists study?
 3. What is paleo-anthropology the study of?
 4. What issues can be addressed through the study of the fossil record?
 5. Why are fossils important?
 6. Explain the ideas of Charles Darwin and Thomas Henry Huxley.
 7. Explain the organizing scheme used today.
 8. How does a new fossil get its name?

DNA Detective Work: Tracing our Greatest Grandparents (p.14-17)

1. What ancient relic has been passed down to you from the very first human?
2. What do molecular anthropologists do?
3. Explain DNA make-up?
4. Explain the mitochondrial Eve and the Y Adam.
5. Define DNA, genes, chromosomes, nuclear genome, and mitochondrial genome.
6. Compare and contrast the "Out of Africa" hypothesis and Multiregional hypothesis.

How Old Is It? (P.18-20)

1. Compare/contrast case 1 and case 2.
2. What do potassium/argon, argon/argon, accelerator mass spectrometry, thermo luminescence, and electron spin resonance mean?

Who's Who Among the Early hominins (p.22-25)

1. What does hominins and hominid mean?
2. Describe the Early hominins.
3. Compare/contrast Early Hominins in chart.

Name				
Discovered Where When				
Age				
Description				
Other Information				

- Define positional behavior, grade, and taxonomic.
- Create a timeline (see p. 22-25) placing the Early Hominins on it.

On Our Own Two Feet (26-27)

- Guided question for small would be "How did we come to walk in our strange Way?" As you read, try to come up with an answer that might explain this.
- Create a chart to compare/contrast the 3 skulls:

Chimpanzee Skull	Human Skull	Australopithecus afarensis Skull
<ul style="list-style-type: none"> Sticks out in front Smaller brain case Foramen magnum angled backward and downward to allow spinal cord into the skull 	<ul style="list-style-type: none"> Relatively flat Brain case much larger Rounded vault Foramen magnum is horizontal and hole is in bottom of skull- spinal cords enter skulls directly from below 	<ul style="list-style-type: none"> Looks a lot like a chimpanzee skull Face juts out Brain case not much larger than chimpanzee Looks more chimp-like than human-like Foramen magnum is horizontal and in bottom center of skull

- What are some theories of why we walk two feet?
- Why are the scientists having a hard time figuring this out?

Taming Fire: the First Scientist? (p.29-30)

- Make a T-chart to compare/contrast wildfires and hearth fires

Wildfires	Hearth Fires
<ul style="list-style-type: none"> Started by natural phenomena Destructive power Obvious and awesome Pattern more widespread Lower temperature 	<ul style="list-style-type: none"> Rudimentary fireplaces, often identified by ring of rocks that outlines them Often contain fragments of charred bone or singed stone tools Unburned bones and tools scattered elsewhere nearby Pattern evidence shows fire intentionally contained in one spot Heat objects to higher temperature Cooking, provided heat, provided light, warded off predators

- What did the author conclude about the prehistoric humans and their experimentation with fire?

Who was the First Chef? (p.31)

- What is Dr. Richard Wrangham's hypothesis that links the first use of fire, cooking, and the earliest humans?

2. Use the answers he gives to the questions asked to explain why he feels this way.

From Grunts to Grammar: The Evolution of Language (p.34-36)

1. What does grammar make possible?
2. What has helped us see that the brains of our ancestors gradually changed?
3. What else is just as important as the brain in language development?
4. What was radically changed with the disengagement of the larynx?
5. How would brains grow?
6. How do scientists find indications of what happened?
7. Explain some of the interpretations of the archaeological finds?
8. What is the archaeologist's job?

Did Neandertals Talk Like Us? (p.37)

1. Create a descriptive chart on Neandertals.

- Prehistoric
- Flourished in Europe and Asia for 200,000
- Roamed same territories as Homo sapiens
- Disappeared- homo sapiens thrived and developed
- Highly skilled toolmakers
- Looked after the ill and injured
- Buried some of the dead
- Did not create objects of art , engage in any religious ritual, make any advances in technology
- Probably didn't use language the way we do
- Probably did sing and dance

2. Why would the Neandertals use singing and dancing?

What's New with Neandertals? (p.38-41)

1. What is the common ancestor Neandertals and modern human share?
2. Who is our closest extinct relative?
3. Where did Neandertals live?
4. Describe a Neandertal and illustrate according to the description?
5. Where did the Neandertals go?
6. Why did the Neandertals disappear?
7. Explain the study and findings of Neandertals' DNA.

Read, Relax, Enjoy, Explain...

The First Day of Spring (p.32-33)

Have students write what Etal understood about the peas she found on the side of the road and what she would tell her people about it. Have them share their answers and discuss.