The Great Human Odyssey

The Great Human Odyssey explores the unlikely survival and the miraculous emergence of Homo sapiens as the world's only global species. Ancient climate research has revealed that we evolved during the most volatile era since the extinction of the dinosaurs. Just like the many other kinds of human who once shared our world, we should have died away. Instead, our species survived to populate every corner of the planet, against all the odds.

The series is an excellent introduction the the Grade 8 Geography curriculum. It provides a historical context for many issues addressed in the the Ontario Curriculum, such as:

1. The ways in which the **physical environment** and **climate change** have influenced our earliest ancestors and their settlement patterns.
2. A look at **sustainable communities** and the relationship between our ancestors and the environment.
3. The series raises questions about the **quality of life** of our ancestors, allowing students to compare and contrast to other communities and times in the world.

Because the documentary series is a reflection of the lives of our ancestors, it is important for students to be able to compare and contrast some of these practices to modern times, and apply this knowledge to help make predictions about the future of the human species.

This Guide for Educators contains several components. For the three episodes, there are content overviews, viewing questions, and critical thinking questions, a computer-based assignment, which involves three community case studies for the first two episodes.

1. The **Viewing Questions** are meant to be answered by students while watching each episode, or in discussion after watching the episode.
2. The **Critical Thinking Challenges** are meant to be "big picture" questions that can be posed to students at any point during instruction.
3. Each episode also contains a **Web Component**, where students use technology to find maps and to examine one of the three **Case Studies,** using the interactive World of Extremes website. After watching the series, students are able to participate in a virtual reality experiment, walking in the shoes of Kalahari Bushmen, Chukchi reindeer herders or Badjao free-divers, through the interactive web documentary.

Episode 1

Overview

Humans are the only species today that inhabit all corners of the earth. Episode one teaches us about the "**evolution of adaptability**" in *homo sapiens*. The climate throughout history has been volatile, resulting in the extinction of countless species. Climate has also affected where and when our ancestors were able to settle the earth.

This episode also features two **case studies**. Students can explore how the Bushmen in Africa survive in the **extreme climate** of the Kalahari desert. and they can marvel at the expert breath-hold divers of Badjoa peoples of Tawi Tawi.

Students will discover the origins of humans in Africa, how we survived drastic climate change, and how symbolic thought and art-making gives us an understanding of their quality of life. (see an interactive timeline)

This episode's climax is an unforgettable journey into the unknown, and very dangerous world of the last remaining free-diving nomads: the Badjoa of the southern Philippines. Living in a war zone, they show how humans can become hunter-gatherers of the ocean floor. *The Great Human Odyssey* is the first documentary in history to offer a glimpse of this remarkable culture in its homeland.

The Great Human Odyssey

Episode 1 Viewing Questions

1. What are homo sapiens and what makes them unique/special?
2. What and where is the "cradle of humanity"?
3. Describe the habitat of the Khoisan, the Bushmen of the Kalahari.
4. How do the Bushmen use resources from the environment to survive?
5. What does Rick Potts suggest was the catalyst for the evolution of the brain. Why?

   5b. What evidence is there of our brain's evolution?

   5c. What is the "cost" of improved brain function?

6. In caves on South Africa's coast:

   a) how were silcrete blades made,

   b) what were they used for, and

   c) what do they tell us about humans approximately 70,000 years ago?

7. Describe the Bushmen's process for eating. What do they eat? How long does it take? What are the roles?

8. What does art reveal about our ancestors' lives? What materials did we use?
9. What environmental change triggered the evolution in intelligence?
10. The people of Badjoa in Tawi-Tawi demonstrate that humans evolved what ability? Why was this ability important to our survival?

Episode 1 Critical Thinking Questions

The following activities can be done in relation to the Bushmen or the Badjoa peoples. Exploring the World of Extremes in the computer lab will assist students in answering the following questions.

1. Divide the class into groups of 3 people. One person will be responsible for recording each of the following discussion topics:
    a. **Where people live and why they live there:** Describe the physical environment and the reasons for living there. What is the relationship between humans and the environment: what are some examples of sustainable practices they used to survive?
    b. Discuss the people's **quality of life**: what factors add to their quality of life? What factors detract from their quality of life?
    c. In the absence of an **economy**, what factors do you think would lead to greater status or wealth in this community? What factors could lead to inequalities or disadvantages?

Episode 1 in the Computer Lab

1. Find a map of
    a. the Kalahari desert
    b. Great Rift Valley
    c. Blombos Cave
    d. Tawi Tawi, Philippines

2. Explore a World of Extremes
    a. Bushmen of Kalahari Desert
    http://www.cbc.ca/greathumanodyssey/content/world/index.html#
    b. The Badjoa peoples of Tawi Tawi, Phillipines
    http://www.cbc.ca/greathumanodyssey/content/world/index.html#

2. Have students write a journal entry for a day in the life of a bushman or a Badjoa. Have them consider their age and their sex on their daily duties. Students should describe how the environment might affect their day.

Episode 2

Overview

In this episode, we learn how **climate change** can help and hinder human populations. Climate change aided early humans in finding a way through the greatest desert on Earth. Next, we discover how humans survived the journey onwards, into the completely foreign world of Europe. Finally, we learn how humans survive new diseases and adapt to environments from the tropics of East Asia to the Arctic? How did climate change affect humans and our Neanderthals ancestors?

This episode also features two **case studies**, where we learn how two very different communities adapted to their **extreme environments**. The first case study features a remote tribe in Papua New Guinea that is is able to survive the most malarial place on earth. The second case study is about the people of Arctic Russia, who teach us how humans were able to survive the most severe climate change: the ice age.

Episode two helps to explain how humans today have been able to survive extreme weather and climate, and how we are able to populate all corners of the earth. What evolutionary changes helped us to be the last apes standing? Through understanding the survival of our ancestors, students can now apply their knowledge to make predictions about how modern humans might survive climate change in the future.

Episode 2 Viewing Questions:

1. **How many homo sapiens escaped Africa and joined Neanderthals and Denisovans in Europe?**
2. **How do Bedouin survive in Arabia?**
3. **Why does Niobe Thompson call the Sahara a paradox?**
4. **Mt. Carmel, Israel:**
    a. Who was Dorothy Garrod?
    b. Describe what she found in Shkul?
    c. When was the next human skeleton found in this area?

5. **What did Hans Peter Uerpmann find in Jebel Feya, on the other side of Arabia from Shkul cave?**

6. **How many kilometers across is the Sahara desert?**

7. **Earth's climate vs. humans:**
    a. Climate cycles happen every how many years?
    b. What changes during this cycle:
    c. What was the critical factor that allowed humans to escape from Africa?
    d. Describe the changes to the Sahara as a result of this climate change?
    e. What geographical change likely allowed humans to travel through the remaining area of desert?.

8. **When humans escaped Africa :**
    a. **Humans encountered new diseases that they were not immune to. How did they survive?**
    b. What genes did the Nein people of Papua New Guinea inherit from Neanderthals and Denisovans?

9. **In Europe, compare Neanderthals to humans**
    a. How long did the Neanderthals live in Europe
    b. In the chart below, compare Neanderthals to humans.

	Neanderthals	Humans
physical body		
hunting		
Intelligence, Culture		

10. **What does art and music**
    a. **What did they teach us about humans 40,000 years ago?**
    b. **What did they lead to?**

11. Why did the humans survive the ice age 25,000 years ago, when Neanderthals did not?

12. The Chukchi Ice People of Russia

a. **Why did they lived a nomadic lifestyle?**
b. What impact do their temporary communities have on the environment?

Episode 2 in the Computer Lab

3. Find a map of
    a. The Sahara Desert
    b. Mt. Carmel, Israel
    c. Jebel Feya
    d. Siberia, Russia
    e. Migration patterns of humans, Neanderthals and Denisovans

4. Explore a World of Extremes then answer the discussion questions below
    a. Reindeer Nomads of Siberia, Russia
    http://www.cbc.ca/greathumanodyssey/content/world/index.html#

Episode 2 Critical Thinking Questions

The following activities can be done in relation to the first humans in Europe, the people of Papua New Guinea, or the nomadic peoples of Siberia. Exploring the World of Extremes in the computer lab will assist students in answering the following questions.

3. Divide the class into groups of 3 people. One person will be responsible for recording each of the following discussion topics:
    d. **Where people live and why they live there:** Describe the physical environment and the reasons for living there. What is the relationship between humans and the environment: what are some examples of sustainable practices they used to survive?
    e. Discuss the people's **quality of life**: what factors add to their quality of life? What factors detract from their quality of life?

f. In the absence of an **economy**, what factors do you think would lead to greater status or wealth in this community? What factors could lead to inequalities or disadvantages?

4. Have students write a journal entry for a day of: one of the first European humans, a person from people of Papua New Guinea, or of the nomadic peoples of Siberia. Have them consider their age and their sex on their daily duties. Students should describe how the environment might affect their day.

5. **Name a time when climate change helped humans? Explain.**

6. Name a time when climate change posed as an obstacle for humans.

7. **When humans escaped Africa, they faced new germs and diseases. Can you think of a connection to grade 7 history?**

8. Quality of Life:
    a. **What does the ivory flute teach us about humans 40,000 years ago?**
    b. **What does art and music say about a people's quality of life? Ex**plain.
    c. Can you think of a place that values art, music and culture **(**e.g., Italy or Paris) and compare it to a place where it is not valued?
9. **The people in Papua New Guinea. Do you think they have a good standard of life? Why or why not?**

10. **Are any of the advantages humans had over the Neanderthals that now** may threaten the future **survival of our species? Explain.**

Episode 3

In this episode, we discover how our Stone Age ancestors settled lands across the ocean. We begin in the birthplace of boat technology, Papua New Guinea, with extremely rare footage of a once-in-a-generation skin-cutting ritual of Crocodile People. Next, we explore two theories for how humans settled earth: accidental drifting, vs.expert navigation. The episode provides opportunities to look at maps of our planet's "sailing nursery" – Austronesia. Finally, our earliest ancestors created great feats without technology and lived "sustainably" off the land.

This episode also features a **case study**, where students find all of the **sustainable living practices** of the people of Polynesia and Beringia, both featured in this video. Next, a **mapping exercise** will allow students to explore the **settlement patterns** of "Austronesia" .

Episode three helps to explain how humans used nature to survive against all odds and navigate their way to the Americas. What was their motivation for finding new land? What trail did they leave for scientists to follow? How would these people compare with modern humans in their ability to survive, should we face another climate catastrophe?

"Humans were forged by calamity", says Dr Niobe Thompson. "Through the experience of near-extinction, we became tenacious, virtually impossible to wipe out, incredibly good at dealing with change. We became fast-breeding settlers, a relentless colonizer. With the evolution of the modern brain, our species became incredibly adaptable. That… may be our salvation."

The Great Human Odyssey

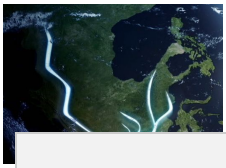
Viewing Questions

1. **Compare Heyerdahl's theory of accidental drifting to Irwin's theory of master sailors.**

Compare Heyerdahl's theory of accidental drifting	Irwin's theory of master sailors.

2. **What is the significance of the Easter Island heads?**
    a. **What environmental issues arose on the island?**
    b. How did it affect the island's population?

3. **What came to Chile first: the chickens or Columbus? What proof do we have the Polynesians made it to Chile?**



Episode 2 in the Computer Lab

5. Find a map of
    a. Sumatra to East Java and estimate the distance.
    b. Papua, New Guinea
    c. showing the settlement of people across Austronesia.

Discussion Questions:

1) How did you feel about the initiation into manhood celebrated by the Crocodile people of Papua New Guinea?
    a) Write a journal entry for the day of your initiation into manhood
    b) Does your culture have an initiation into adulthood? What is it?
    c) When do you think you become an adult? What symbols in Canada do we consider (e.g., like driving car, getting to vote, etc.)?

d) What do you think we SHOULD do to celebrate being coming an adult? At what age/milestone should this occur?

2) Can you think of a modern day comparison to the environmental issue on Easter Island?

Answers

Episode 1 Answers

11. What are homo sapiens and what makes them unique/special?

Q1: Homo sapiens have the unique ability to live almost anywhere, any climate, any temperature. We make our own ecologies.

12. What and where is the "cradle of humanity"?

Q2. Africa: the birthplace of homo sapiens: modern humans.

13. Describe the habitat of the Khoisan, or Bushmen of the Kalahari.

Q3. very hot and very dry (no rain for 9 months of the year).

14. How do they adapt to survive?

Q4: Drink: get water from Kalahari water tubers and from elephant drinking holes, using ostrich eggs as containers.

Food: hunters and gatherers. Use larvae poison for spears.

15. What does Rick Potts suggest was the catalyst for the evolution of the brain. Why?

Q5: The cruelty/instability of the climate - e.g., 1000 year drought. Only an innovative mind could come up with solutions to survive the most extreme climates.

5b. What evidence is there of our brain's evolution?

Q5b. The size of front brain increased, which allowed for the ability for abstract thought, maintain attention.

5c. What is the cost of improved brain function?

Q5c. At rest, our brains take 20% of our oxygen and metabolism for 2% of our mass.

16. In caves on South Africa's coast, a) how were silcrete blades made, b) what were they used for, and c) what do they tell us about human's approximately 70,000 years ago?

Q6. a) Silcrete hardens when heated slowly.

b)This allowed humans to create a long-distance projectiles (spear that could be thrown, or a bow and arrow) allowing humans to target dangerous prey from far away.
c) should that humans have developed a complex process that could only be shared through language and instruction.

17. Describe the Bushmen's process for eating. What do they eat? How long does it take? What are the roles?

A7:

18. What does art reveal?

A8: symbols are a sign of language & communication about past, present and future.
8b. Blombos cave: 75.000 years ago. Art is proof of communication. When you have free time, you have time to communicate with each other - therefore food was plentiful.
A8b. What materials did we use for art? Ochre

19. What triggered the revolution in intelligence?

A9: long chain polyunsaturated fatty acids available in sea food

20. The people of Badjoa in Tawi-Tawi, demonstrate that humans evolved what ability? Why was this ability important?

- breathhold diving: like seals, humans can divert oxygen to heat and brain, allowing us to hold our breath for up to 5 minutes. Our diet of seafood fed the final evolution of the brain.

Episode 2 Viewing Answers

1. 200,000 homo sapiens escaped africa and joined Neanderthals and Denisovans in Europe.

2. Bedouin teach us how someone could survive in Arabia.

- **transportation** camel help us travel in the desert. Carry our stuff when we're 2 days ride from the closest water
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13. |Why does Niobe call the Sahara a paradox?
    a. hostile to life, but only gateway to rest of the world.
14. Mt. Carmet, Isreal
    a. Who was Dorothy Garrod? amateur archeologist (in 1930s women couldn't be a professor)
    b. What did she find in Shkul? 10 intact human skeletons. They were 120,000 years old. Oldest moderm humanb remains ever discovered outside of Africa.
    c. When was the next human skeleton found in this area? 60,000 years later.

d.

15. What did Hans Peter Uerpmann find in Jebel Feya, on the other side of Arabia from Shkul cave?

a. a hand axe that was about 120,000 on the other side of Arabia of Shkul cave

16. How many kilmeters across the Sahara: 4,000 km
17. Earth's climate cycles every how many years? 20-40,000 years
    a. What changes during this cycle: how far North the monsoon goes.
    b. When humans escaped Africa, we suspect the monsoon belt was how much farther north than at present? 700 km further north
    c. What happened to the Sahara as a result? 4-500 km of desert remained.
    d. What geograhical change likely allowed humans to travel through the remaining area of desert? rivers flow through the Sahara that were 1-100 km wide going through to the Mediterranean.

18. When humans escaped Africa, they were exposed to new diseases that they were not immune to. How did they survive?.

a. By interbreeding with homo erectus: Neanderthals and Denisovans. and inheriting their immune systems.
b. What genes did the Nein people of Papual New Guinea inherit from Neanderthals and Denisovans? About 95% of their immune systems!

19. In Europe, compare Neanderthals to humans

	Neanderthals	Humans
physical body	strong, muscular, very fit, cold adapted body shape immunity	leaner heat adapted body
hunting	had to be fit and strong	long distance projectiles
Intelligence, Culture		smarter - art, music, religion, communication

- What does art and music teach us about humans 40,000 years ago?

- it was the glue to society. in a pre scientific world they used religion and superstition, symbols and art to solve their society's problems.
- music and art led to the creation of religion and a gateway to the spirit world

- **Why did the humans survive the ice age 25,000 years ago, when Neanderthals did not?**
    - humans had better clothing, better shelter and and better able to adapt quickly. We could reproduce quickly and therefore expand quickly.
    - Neanderthals ahd small groups and populations.
- **The Chukchi Ice People of Russia/**
    - Why did they live a nomadic lifestyle?

Episode 2 Critical Thinking Challenge

1. **Name a time when climate change helped humans? Explain.**

Due to the rising of the monsoon belt, the climate reduced the Sahara from 4000 to 500 km, and also created rivers flowing through it, which would have allowed early humans to escape Africa about 125,000 years ago.

2. Name a time when climate change posed as an obstacle for humans.

The 2nd ice age which made Neanderthals and Denisovans extinct.

3. When humans escaped Africa, they faced new germs and diseases. Can you think of a connection to grade 7 history/Canada's early history?

Like when they Europeans came to North America. They brought new diseases with them which the Native's were not immune to.

4. What does the ivory flute teach us about humans 40,000 years ago? What does art and music say about a people's quality of life? How have these

5. The people in Papua New Guinea. Do you think they have a good standard of life? Why or why not?

6. Are any of the advantages that humans had over the Neanderthals now a possible liability to the future survival of our species?

Episode 2 in the Computer Lab

In the computer lab, find a map of:

a. the Sahara desert
b. Mt. Carmel, Israel
c. Jebel Feya, United Arab Emirates (UAE)
d. Sepik River, Papua New Guinea

Experience a World of Extremes

e. Siberia, Russia
   CHUKCHI TUNDRA 66.02°N 176.97°E6.02°N 176.97°E
   http://www.cbc.ca/greathumanodyssey/content/world/index.html#tap