

# Dinosaurs Extinct!

by Lorryn Picard  
lpicard@mcsd.k12.oh.us  
Grade 8  
Middletown, Ohio



**Theme:** Adaptation

**Big Idea:** Studying the past allows the future to be seen.

## **Standards:**

Heredity 3. Explain how variations in structure, behavior or physiology allow some organisms to enhance their reproductive success and survival in a particular environment.

Heredity 4. Investigate how an organism adapted to a particular environment may become extinct if the environment, as shown by the fossil record, changes.

Heredity 5. Explain that diversity of species is developed through gradual processes over many generations (e.g., fossil record).

## **Need to Know Questions:**

What proof do scientist have that dinosaurs still exist?

What happened to the original dinosaurs?

How have humans changed over the past 1000 years?

What changes would humans need to make to physically live in the time of the dinosaurs?

How would humans have to adapt to survive a change in the environment like the one that made the dinosaurs extinct?

## **Materials:**

1. Internet access
2. Word processing software
3. Database software
4. Multimedia software
5. Drawing software
6. Digital camera

7. Chicken wire
8. Paper mache

### **Mission:**

Captains Log 130687: We have entered the orbit of planet Earth. Our mission is to identify the living organisms on the planet. Early reports stated that large animals lived on the surface but they can no longer be identified from outside indicators. We are to send teams to various locations on the planet to find the previously discovered organisms or determine what happened to them.

Mission Crew's activities:

1. Before going to the planet Earth, research and identify early organisms, the time period they existed as well as diet and environment in existence during that time.
2. After entering the surface of the planet, collect data in an attempt to determine the outcome of the early organisms.

Mission Team #1 will study animals and insects in the time period of 220 - 65 million years ago.

Mission Team #2 will study animals and insects in the time period of 65 million - 14,000 years ago.

Mission Team #3 will study plants during the time period of 220 - 65 million years ago.

Mission Team #4 will study plants during the time period of 65 million - 14,000 years ago.

### **Mapping to Intelligences**

Verbal/Linguistic

Keep a daily log of activity and findings.

Mathematical/Logical

Research the timeline of the dinosaurs. Make sure to indicate what dinosaurs existed during the various periods of the Earth.

Visual/Spatial

Imagine an adaptation that would have helped the dinosaurs survive the changes in the environment that you believe made them extinct. Design a diagram showing how that adaptation would have appeared on a dinosaur of your choice.

#### Musical/Rhythmic

Identify environmental patterns across the Triassic, Jurassic and Cretaceous eras; try to determine what changed in the pattern when the dinosaurs disappeared.

#### Bodily/Kinesthetic

Build a three-dimensional model of a dinosaur, showing its physical features which helped it to adapt to its environment.

#### Interpersonal

Work collaboratively with your crew to agree on a theory of dinosaur extinction and build a multimedia presentation based on your ideas.

#### Intrapersonal

Identify roles of each mission member before exploring planet Earth. Agree on criteria for what makes a good theory of extinction.

#### Naturalist

Sort dinosaurs by time period, diet and size.

#### Existential

Consider adaptations humans would have to make in order to survive the environmental changes you believe made the dinosaurs extinct.

### **Culminating Event**

Each mission crews will create a multimedia presentation presenting their understandings of why the dinosaurs could not adapt and survive. Presentations can be made to the Captain and other commanders, crew members and parents.

### **Resources**

#### **Books**

Dinosaur Encyclopedia by David Lambert

[http://www.amazon.com/exec/obidos/ASIN/0789479354/qid=1078693922/sr=2-2/ref=sr\\_2\\_2/102-4063336-2733740](http://www.amazon.com/exec/obidos/ASIN/0789479354/qid=1078693922/sr=2-2/ref=sr_2_2/102-4063336-2733740)

Dinosaur Extinction and the End of an Era: What the Fossils Say (Critical Moments in Paleobiology and Earth History Series) by J. David Archibald

[http://www.amazon.com/exec/obidos/tg/detail/-/023107624X/qid=1078694265/sr=1-2/ref=sr\\_1\\_2/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/023107624X/qid=1078694265/sr=1-2/ref=sr_1_2/102-4063336-2733740?v=glance&s=books)

The Dinosaur Heresies: New Theories Unlocking the Mystery of the Dinosaurs and Their Extinction by Robert T. Bakker, Ph.D.

[http://www.amazon.com/exec/obidos/tg/detail/-/0806522607/qid=1078694265/sr=1-7/ref=sr\\_1\\_7/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0806522607/qid=1078694265/sr=1-7/ref=sr_1_7/102-4063336-2733740?v=glance&s=books)

The End of the Dinosaurs : Chicxulub Crater and Mass Extinctions by Charles Frankel

[http://www.amazon.com/exec/obidos/tg/detail/-/0521474477/qid=1078694265/sr=1-1/ref=sr\\_1\\_1/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0521474477/qid=1078694265/sr=1-1/ref=sr_1_1/102-4063336-2733740?v=glance&s=books)

The Evolution and Extinction of the Dinosaurs by David E. Fastovsky

[http://www.amazon.com/exec/obidos/tg/detail/-/0521444969/qid=1078694265/sr=1-6/ref=sr\\_1\\_6/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0521444969/qid=1078694265/sr=1-6/ref=sr_1_6/102-4063336-2733740?v=glance&s=books)

Eyewitness: Dinosaur by David Norman

[http://www.amazon.com/exec/obidos/tg/detail/-/078945808X/qid=1078694005/sr=1-27/ref=sr\\_1\\_27/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/078945808X/qid=1078694005/sr=1-27/ref=sr_1_27/102-4063336-2733740?v=glance&s=books)

A Field Guide to Dinosaurs : The Essential Handbook for Travelers in the Mesozoic by Henry Gee

[http://www.amazon.com/exec/obidos/tg/detail/-/0764155113/ref=pd\\_sim\\_books\\_5/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0764155113/ref=pd_sim_books_5/102-4063336-2733740?v=glance&s=books)

The Great Dinosaur Extinction Controversy (Helix Books) by Charles Officer

[http://www.amazon.com/exec/obidos/tg/detail/-/020148384X/qid=1078694265/sr=1-4/ref=sr\\_1\\_4/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/020148384X/qid=1078694265/sr=1-4/ref=sr_1_4/102-4063336-2733740?v=glance&s=books)

Jurassic Park Institute (TM) Dinosaur Field Guide by Dr. Michael Brett-Surman

[http://www.amazon.com/exec/obidos/tg/detail/-/0375812938/ref=pd\\_sim\\_books\\_3/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0375812938/ref=pd_sim_books_3/102-4063336-2733740?v=glance&s=books)

National Geographic Dinosaurs by Barrett

[http://www.amazon.com/exec/obidos/tg/detail/-/0792282248/qid=1078694005/sr=1-21/ref=sr\\_1\\_21/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0792282248/qid=1078694005/sr=1-21/ref=sr_1_21/102-4063336-2733740?v=glance&s=books)

The Scientific American Book of Dinosaurs by Gregory Paul

[http://www.amazon.com/exec/obidos/tg/detail/-/0312262264/ref=pd\\_sim\\_books\\_1/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0312262264/ref=pd_sim_books_1/102-4063336-2733740?v=glance&s=books)

Walking with Dinosaurs: A Natural History by Tim Haines

[http://www.amazon.com/exec/obidos/tg/detail/-/0789451875/ref=pd\\_sim\\_books\\_2/102-4063336-2733740?v=glance&s=books](http://www.amazon.com/exec/obidos/tg/detail/-/0789451875/ref=pd_sim_books_2/102-4063336-2733740?v=glance&s=books)

## **Songs**

*Building the Perfect Beast* – Don Henley

*Dead Heart* - Midnight Oil

*Don't Dream It's Over* - Crowded House

*Everybody Rock The Dinosaur* - Was/Not Was

*Everybody Wants to Rule the World* - Tears for Fears

*Farewell to Tarwathie* - Judy Collins

*The Lion Sleeps Tonight* - The Tokens

*My City was Gone* - The Pretenders

*Rocket Man* - Elton John

## **Web Resources**

Dinopedia

<http://www.jpoinstitute.com/dinopedia/index.jsp>

Dinorama

<http://www.nationalgeographic.com/dinorama/>

Dinosaur Diets

<http://www.enchantedlearning.com/subjects/dinosaurs/anatomy/Diet.shtml>

Dinosaur Extinction: The Volcano-Greenhouse Theory

[http://filebox.vt.edu/artsci/geology/mclean/Dinosaur\\_Volcano\\_Extinction/index.html](http://filebox.vt.edu/artsci/geology/mclean/Dinosaur_Volcano_Extinction/index.html)

Dinosaur Museum

<http://www.dinosaur-museum.org/>

Dinosauria

<http://www.ucmp.berkeley.edu/diapsids/dinosaur.html>

Dinosaurs: Facts and Fiction

<http://pubs.usgs.gov/gip/dinosaurs/>

Dinosaurs and Extinction

<http://www.cofc.edu/ete/modules/mse/dinosaur.html>

Douglas Henderson's Earth History Illustrations

<http://gallery.in-tch.com/~earthhistory/>

Paul Sereno's Dinosaur Web Site

<http://www.paulsereno.org/>

Walking with Dinosaurs

<http://dsc.discovery.com/stories/dinos/bbc/howdoweknow/q58.html>

What Killed The Dinosaurs?

<http://www.ucmp.berkeley.edu/diapsids/extinction.html>

Willo: The Dinosaur with a Heart

<http://www.dinoheart.org/>

Yahooligans Dinosaurs

<http://yahooligans.yahoo.com/content/science/dinosaurs/>

## Assessment

<b>Participation</b>	<b>Needs Improvement 1</b>	<b>Satisfactory 2</b>	<b>Exemplary 3</b>
Participates in class activities.	Occasionally when interested in the task.	Regularly whenever prompted to join.	Consistently with interest and enthusiasm.
Cooperates with peers.	Depends on whom he or she is working with.	Shares and works cooperatively.	Serves as a role model for sharing and cooperating.
Is a collaborative partner.	Does not share ideas or does not listen to others.	Collaborates to successfully complete tasks.	Is a class leader in forming collaborative partnerships.
Demonstrates an understanding of the dynamic of adaptation.	Does not demonstrate an understanding that adaptation is necessary for growth and progress.	Demonstrates a working understanding of how adaptation is necessary for growth and progress.	Demonstrates a working understanding of how adaptation is necessary for growth and progress which the learner then applies to new and different situations.
Demonstrated mastery of skills specified in state standards.	Did not meet the minimum requirements for state standards targeted in this unit.	Met the minimum requirements for state standards targeted in this unit.	Exceeded the minimum requirements for state standards targeted in this unit.

<b>Project</b>	<b>Needs Improvement 1</b>	<b>Satisfactory 2</b>	<b>Exemplary 3</b>
Is done neatly with attention to detail.	Project is incomplete or lacks sufficient depth.	Project is neat and shows attention to detail.	Project is neat, shows attention to detail and exhibits craftsmanship that goes beyond grade level expectations.
Is based in an identified content area of the unit.	Is not related to any content area being studied under the theme of change.	Is based in one identified content area.	Is based in two or more identified content areas.
Applies skills and concepts in a new or different way.	Project imitates objects or examples studied in class.	Project demonstrates mastery of skills and concepts in a unique way.	Project demonstrates mastery of skills and concepts in a unique way at the highest levels of thinking.
Adds to the class study of adaptation.	Does not add to the class experience or understanding of adaptation.	Adds to the class understanding of adaptation.	Adds to the class understanding of adaptation by elevating the level of discussion or activity.
Demonstrates high personal standards for work.	Does not demonstrate high personal standards in the completion of the project.	Demonstrates high standards for work as outlined by the teacher and/or class.	Demonstrates high personal standards for work that exceeds teacher expectations.