WALKING WITH DINOSAURS
THE LIVE EXPERIENCE

Wed-Sun, Jan 16-20, 2008

ROSE GARDEN™

ATOM Study Guide

OVERVIEW

Walking With Dinosaurs (Tim Haynes, 1999) is a 180-minute six-part series that recreates the world of the dinosaurs over a period of 155 million years.

With narration by Kenneth Branagh, each of the six half-hour episodes focuses on a specific period between 220 million and 65 million years ago. The episodes move from the earliest to the most recent in chronological sequence.

The series therefore provides a set of snapshots in time and place that tell the story of the coming of the dinosaurs, their way of life, their domination of the earth and their eventual extinction.

The dinosaurs are recreated through animation and realistic models, and inserted into filmed natural environments.

The series is based on the most up-to-date scientific evidence, but also uses typical nature documentary and story-telling features to create an engrossing and often dramatic narrative.

The series also has a DVD on the making of each of the six programs, or viewers can watch the series DVD version with a special feature turned on that explains how special effects were used to create many key moments.

***Walking With Dinosaurs* is a magnificent resource to use with a study of dinosaurs, or to illustrate some concepts of biological science such as adaptation, habitat and ecosystems.**

CURRICULUM CONNECTIONS

Walking With Dinosaurs can be used with upper primary and secondary students in:

SCIENCE	Using evidence in science Adaptation Animals and their environments
FILM STUDIES	Genres Animation

Each episode in the series is 30-minutes long.

In this study guide we suggest ways that teachers can use all or parts of the series to help students, at upper primary and lower secondary levels in particular, use their fascination with dinosaurs to explore scientific evidence and thinking.

BEFORE WATCHING THE FILMS

To Teachers

What is a dinosaur?

Do students know what a dinosaur is?

The word dinosaur means 'terrible lizard' in Greek. A dinosaur is a reptile that evolved an upright gait similar to that of mammals – that is, their legs were straight, perpendicular to the ground and supported the weight of the body so that they could walk or run more easily. Other reptiles and modern lizards have a sprawling gait.

Dinosaurs evolved around 230 million years ago and lived in the Mesozoic period – known as the 'age of reptiles'.

There were more than 700 different types of dinosaur.

They are often classified as either meat-eaters (carnivores) like Tyrannosaurus Rex, or plant-eaters (herbivores) like Triceratops.

Dinosaurs all looked different. Some walked on two legs and others walked on four.

Some were very fast like Velociraptor but some were slow and lumbering, like Ankylosaurus.

Some had horns and spikes, or bumpy skin. But no one actually knows what colour or pattern dinosaurs were.

Dinosaurs ruled the Earth for about 160 million years, then suddenly died out around 65 million years ago.

There are several theories about why this happened. The most accepted theory is that a giant asteroid crashed into earth around this time and caused catastrophic changes to the climate. It was probably freezing cold and the dinosaurs could not adapt to the new weather conditions.

There are, however, other theories, and these are looked at in this study guide.

Scientists called palaeontologists study fossils and old bones to find out more about dinosaurs and how they lived. *Walking With Dinosaurs* is based on many of the findings of modern palaeontology, but it also includes many aspects that are controversial and speculative.

Introductory Activities

Walking With Dinosaurs covers a huge range of time.

It is important to try and have some idea about the extent of this time range, and about the chronology of the period.

Here is a way of building up a timeline to help you do this.

Activity 1 What do you think?

Look at the events in this list. They are not in their correct time sequence. Number them in the order you think they occurred over time. This is not a test, so just work out what order you think things happened in. You can check your answers below.

✂

List these events in the order you think they happened, from 1 (first or oldest) to 12 (last or most recent)

- ❑ First animal with a backbone
- ❑ First ants
- ❑ First dinosaurs
- ❑ First egg-laying reptiles
- ❑ First ferns
- ❑ First flowering plants
- ❑ First grasses
- ❑ First humans
- ❑ First mammals
- ❑ First sharks and fishes
- ❑ First turtles
- ❑ First Tyrannosaurus Rex
- ❑ Extinction of dinosaurs and many other animals

Activity 2 Making a timeline

Here is the order in which these events happened.

✂

480 million years ago (20)	First animal with a backbone
400 million years ago (180)	First sharks and fishes
350 million years ago (280)	First ferns
300 million years ago (380)	First egg-laying reptiles
228 million years ago (520)	First dinosaurs
210 million years ago (560)	First turtles and first mammals
120 million years ago (740)	First flowering plants
100 million years ago (780)	First ants
70 million years ago (840)	First Tyrannosaurus Rex
65 million years ago (850)	Extinction of dinosaurs and many other animals
20 million years ago (940)	First grasses
4 million years ago (960)	First humans
(980)	Today

Here is how you can make a class timeline to show this.

1 Use a roll of adding machine paper 1000 cm long and pin or stick it on a board or wall in your classroom.

2 Cut the above table into sections and distribute these among groups.

3 Each group copies its event on to a post-it sticker.

4 Attach that to the roll in correct position. The number in brackets shows where the event should be placed on the timeline.

Activity 3 Adding geological periods to your timeline

1 Cut this table of time periods into sections and distribute them among groups.

2 Write each time period on a different coloured post-it sticker, and add each to the timeline. Groups with the Era, Period and Epoch names also add those in different colours.

3 You will be able later to attach your own research findings about dinosaurs (see the activity below) to this timeline.

✂

ERA	***PERIOD***	***EPOCH***	***MILLION YEARS AGO***
CENOZOIC	Quaternary	Recent	0.01
		Pleistocene	1.8
	Tertiary	Pliocene	5
		Miocene	24
		Oligocene	38
		Eocene	54
		Palaeocene	65
MESOZOIC	Cretaceous		141
	Jurassic		210
	Triassic		250
PALAEOZOIC	Permian		290
	Pennsylvanian		320
	Mississippian		360
	Devonian		410
	Silurian		440
	Ordovician		500
	Cambrian		543
PRECAMBRIAN			4,500-540

Activity 4 How the earth has changed over time

The earth is not the same now as it was at the time of the dinosaurs.

Even during the time of the dinosaurs it changed greatly.

Walking With Dinosaurs is a snapshot of six periods of time. Here is the time shown in each episode.

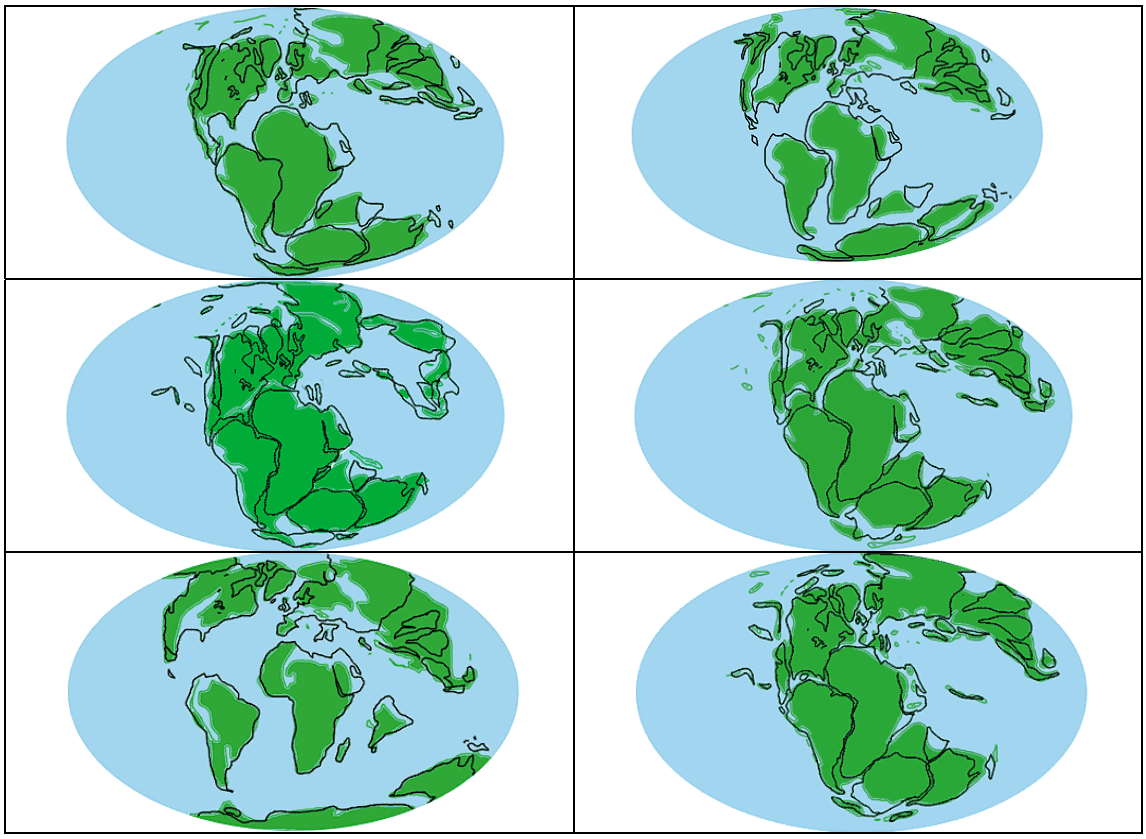
The six illustrations of the earth match these periods – but they are not in the correct chronological order.

1 Cut the earth illustrations out and paste them with the correct time periods.

2 You can then add these to the timeline.

220 million years ago Late Triassic	All land was joined in one continent, Pangaea.	
152 million years ago Late Jurassic	Pangaea was splitting into two, called Laurasia and Gondwanaland.	
149 million years ago Late Jurassic	There were still the two continents, but the sea level was higher.	
127 million years ago Early cretaceous	Splitting into five main areas.	
106 million years ago Early cretaceous	Higher sea levels, and Africa and South America starting to separate.	
65 million years ago Late cretaceous	Australia now separating from Antarctica.	

http://internt.nhm.ac.uk/jdsml/nature-online/dino-directory/region.dsml?disp=gall&perID=1&regionID=&sort=Genus



Activity 5 Dinosaur names

In *Walking With Dinosaurs* you will hear many dinosaur names – many of which seem strange.

But they do make good sense, if you know how to 'decode' them.

Here is a list of Greek and Latin words that are used to create dinosaur names, and their English meaning.

allo	strange	don, dont	tooth	pacro	ridge
anato	duck	drypto	wounding	ped	foot
ankylo	crooked	echino	spiked	plateo	flat
anuro	no tail	elasmo	plated	proto	first
apato	deceptive	gnathus	jaw	raptor	robber
baro	heavy	lana	wooly	rex	king
bi	two	lepto	slender	rhino	nose
brachio	arm	macro	large	saur, saurus	lizard
bronto	thunder	maia	good mother	stego	roof
canthus	spiked, spined	mega	huge	stereo	twin
cerat, ceros	horned	micro	small	super	superior
cephalo	head	mimus	mimic	tri	three
compso	pretty	mono	one, single	tyranno	tyrant
cory	helmet	nano	dwarf	ultra	extreme
di	two	nodo	lumpy	urus	tail
dino or deinos	terrible	ops	face	veloci	speedy
diplo	double	ornitho	bird	xeno	strange
docus	beam	pachy	thick	xero	dry

1 Here are the names of seven different dinosaurs. What do they mean? Use the 'code' to find out what they mean.

Brachiosaurus	
Ankylosaurus	
Compsognathus	
Stegosaurus	
Triceratops	
Allosaurus	
Pachycephalosaurus	

2 Look at an illustration of each and decide if they are good names.

You can find illustrations of dinosaurs at http://internt.nhm.ac.uk/jdsml/nature-online/dino-directory/

As you come across other dinosaur names you can refer back to this list to work out what they were like.

EXPLORING ISSUES AND IDEAS IN THE SERIES

To the teacher

Walking With Dinosaurs covers six different periods in the long history of dinosaurs on earth.

Classes might like to:

- view the whole series

  OR

- have a group of students introduce and report on one of the episodes

  OR

- select a number of dinosaurs for individuals to research further using the series and other resources. The results of research into dinosaurs can be added to the timeline developed in the introductory activities in this study guide.

1 Create a summary of episodes

Walking With Dinosaurs is a series of six episodes, each of which looks at a set of dinosaurs at a particular time.

Here is a good way of summarizing each episode.

Episode number and name	
The time period is it set in	
The nature of the world at this time	
The main events in the episode	
The main dinosaurs featured	
What you learn about dinosaurs from this episode	

2 Exploring key ideas

Here are some key questions from each episode that will help you create a summary, and also think about the main ideas that are presented to us.

3 Researching dinosaurs

Walking With Dinosaurs shows us many dinosaurs. But it does not tell us all about them. We need to do some more research.

Here is a list of some of the main dinosaurs in each episode.

Research one or more of these, using the Dinosaur Research Page that follows as a guide. You can then add your research finding to your class timeline.

Those marked * will be a feature of the Docklands Dinosaur park that is being developed in Melbourne, so you may like to make a special study of them, then visit and see if the animal appears and behaves as you have worked out it will.

1	3	5
*Coelophysis	Cryptoclidus	Dwarf allosaur
*Plateosaurus	Eustreptospondulus	Koolascuchus
Cynodont	Hybodus	Leaellynasaura
Peteinosaurus	Liopleurodon	Muttaburrasaurus
Placerias	Othalmosaurus	
Postosuchus	Rhamphorynchus	

2	4	6
*Stegosaurus	*Ornithocheirus	*Ankylosaurus
*Allosaurus	*Utahraptor	*Torosaurus
*Brachiosaurus	Iguanadon	*Tyrannosaurus Rex
Diplodocus	Polacanthus	Anatotitan
Anurognathus	Tapejara	Quetzalcoatlus
Ornitholestes		

Dinosaur Research Page

1 Name (Greek/Latin and its meaning, and the family or main group of dinosaurs it came from)	Include the image here
2 Appearance (Size, shape, skin, movement, colour, noise made, behaviour)	
3 Environment (Type, how this animal was adapted to it or able to make use of it to its advantage)	
4 Survival (Food sources, skills, protective devices)	
5 Dangers faced (Main predators or problems it faced)	
6 Advantages/Strengths	
7 Disadvantages/Weaknesses	

To find a picture of dinosaurs go to the Dino Directory at http://internt.nhm.ac.uk/jdsml/nature-online/dino-directory/

How do we know? Using evidence to come to conclusions

Most of what we know about dinosaurs comes from fossils and bones.

A fossil is the mineralized remains of animals or plants or other traces such as footprints.

Here are some exercises from the American Museum of Natural History that show you how scientists use evidence to come to conclusions about what dinosaurs looked like, and how they behaved.

Activity 1 What do dinosaur teeth tell us about their lives?

You can do this activity at home or in class if you have all the elements needed.

1 Look at the teeth on these dinosaurs and complete the following table.

A

B

C D

Dinosaur	*1* *Describe its teeth*	*2* *Would it eat meat or plants?*	*3* *Your reasons for deciding this:*
A			
B			
C			
D			

For the next part you need:

- A staple remover – to represent one type of teeth
- 2 flat surfaced rocks – to represent another type of teeth
- A cotton ball – to represent meat
- 1 or 2 leaves – to represent plant food
- A hand mirror
- A piece of carrot

2 'Eat' the 'meat' using the first type of teeth, then the second type. Which are the best teeth for this food source? Why?

3 'Eat' the plants using the first type of teeth, then the second type. Which are the best teeth for this food source? Why?

4 Look in a mirror at your own teeth. Do you have sharp teeth, or blunt teeth, or both? What conclusion do you come to about what food humans can eat?

5 In fact humans have three different type of teeth: Incisors, canine and molars. Identify these in your mouth.

6 Now use your teeth to:
a. grate or rake off the carrot's outer layer
b. slice or bite off a piece of the carrot
c. grind up a piece of the carrot.
Which teeth are best for each activity?

What you are seeing is that there are four different activities associated with teeth: chopping, stripping, grinding, ripping.

7 Which two of these would be most useful for meat eaters, and which two for plant eaters?

8 Look at the dinosaur skulls below. Look carefully at the teeth.

- Write 'chopper' under the skull of the dinosaur that used its teeth to chop up plants.
- Write 'stripper' under the skull of the dinosaur the used its teeth to strip leaves off branches.
- Write 'grinder' under the skull of the dinosaur that used its teeth to grind up plants.
- Write 'ripper' under the skull of the dinosaur that used its teeth to rip meat off its prey.

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- Write *ripper* under the skull of the dinosaur that used its teeth to rip meant off its prey.

9 What can fossil teeth tell us about dinosaurs?

http://www.amnh.org/education/resources/rfl.php?set=b&topic_id=5&subtopic_id=80

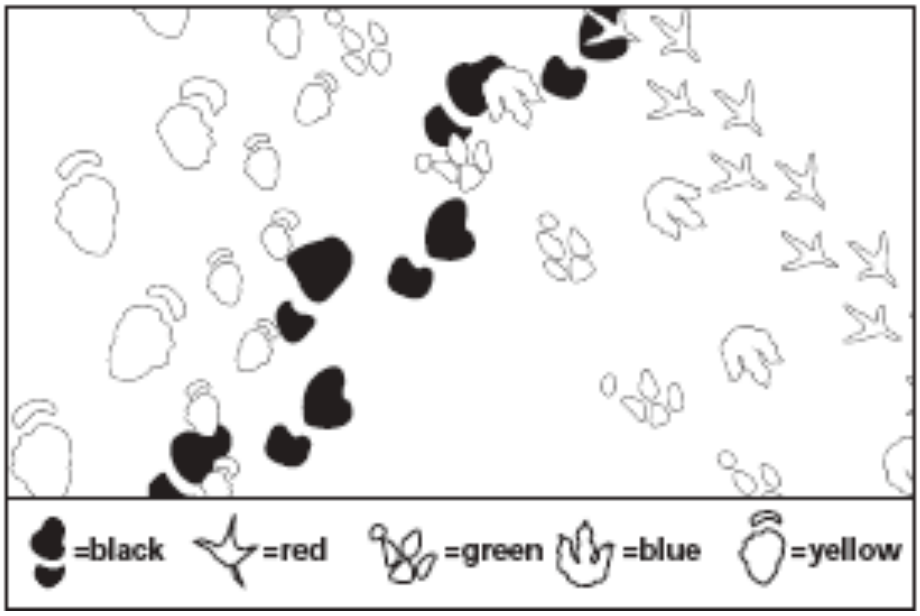
Activity 2 What do fossil dinosaur tracks tell us about their lives?

Palaeontologists often discover dinosaur tracks.

These tracks can help us understand not only which dinosaurs were there, but also what happened.

Here is an exercise from the American Museum of Natural History:

1 Here is an illustration of a set of fossilised dinosaur tracks. Colour in the different tracks in the way suggested.



2 How many different kinds of animals were here?

3 Did the animal that left the red tracks walk on two or four legs?

4 Was it walking or running?

5 Did the animal that left the yellow tracks travel alone?

6 Which dinosaur walked across the area first?

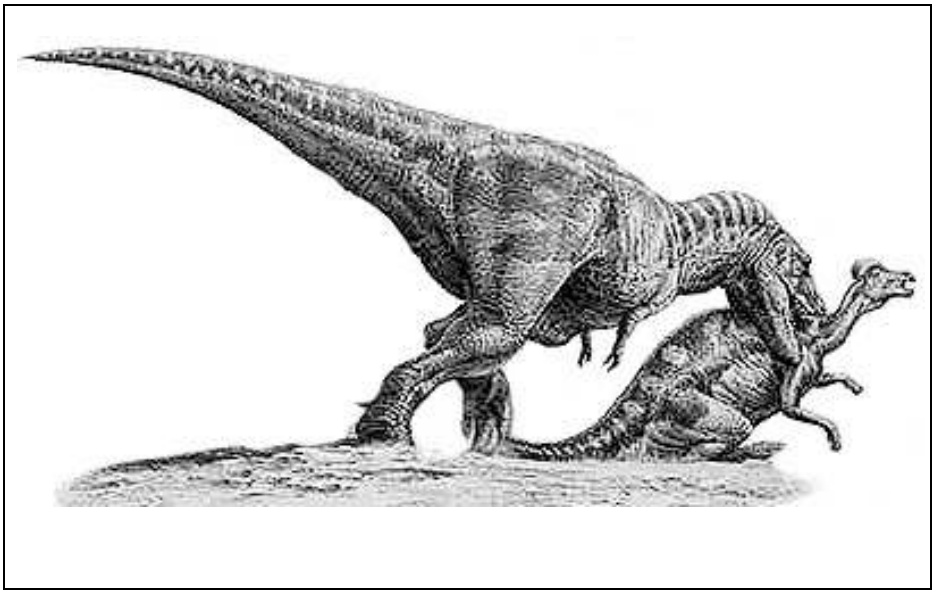
7 How many individual animals were here?

8 If these animals were here at the same time, why were they here?

You can find some interactive exercises on fossils at:
http://www.nmnh.si.edu/paleo/dinosaurs/interactives/dig/main.html
http://www.amnh.org/education/resources/rfl.php?set=b&topic_id=5&subtopic_id=80

Activity 3 How do we know? The case of T Rex – 'warrior or wimp'?

One of the dinosaurs featured in Episode 6 of *Walking With Dinosaurs* is Tyrannosaurus Rex, one of the best-known and most famous dinosaurs.



1 What do you know about Tyrannosaurus Rex? Brainstorm and list all the aspects you raise.

The general image is that it was a fierce and efficient killing machine, possibly the greatest predator ever.

This idea has, however, recently been challenged. An alternative theory has been put forward – that T Rex was in fact a scavenger rather than a hunter and predator, and lived off dead animals that it had not itself killed.

Which theory is correct, predator or scavenger?

2 Your task is to look at the evidence, decide which theory it fits, tick that box (or boxes if the evidence fits both), and then come to your own conclusion. One example has been done to help you.

Evidence	Predator theory	Scavenger theory
T Rex was a huge animal, about six tonnes in weight and twelve metres in size, two metres high at the hips, and with the largest and most powerful jaws ever seen.	✓	
T Rex had enormously powerful jaws that could easily crush whatever was in them.		
T Rex's tiny arms would have been useless for holding on to its prey. They were just too short and too immobile.		
T Rex has huge teeth.		
The teeth of most predators (like Velociraptor) are sharp and serrated (like a steak knife blade). T Rex's teeth are more banana-shaped, good for pulverising but not for cutting.		
A Triceratops fossil shows evidence of a frenzied attack, matching the teeth of a T Rex.		
The marks are located at a place under the armour of the animal that a predator would never have been able to bite while the animal was still alive.		
A scavenger relies on finding more dead meat than the energy		

needed to find that meat. Large bodies generally use a lot of energy.		
Experiments and tests suggest that in fact T Rex only needed to eat something the size of a human every five or six days.		
A fossilised Hadrosaur had a bite mark in it that perfectly matched a T Rex tooth shape. But bone had re-grown around the bite mark, meaning that the bite did not kill it.		
A predator needs good eyesight, to spot prey at a long distance. A scavenger needs good eyesight to locate dead animals in its territory. T Rex probably had good eyesight.		

http://www.bbc.co.uk/science/horizon/2004/trextrans.shtml

3 What is your conclusion: was T Rex a predator, or a scavenger, or perhaps both?

4 Why is there doubt about how T Rex behaved?

Activity 4 How do we know? Why did dinosaurs become extinct?

There have been many different ideas put forward to explain why the dinosaurs died out. Read the following article and answer the questions that follow.

Gradualist theory
The gradualist hypothesis points to declines in the numbers and diversity of different groups of land and marine animals.

It suggests that the extinction of these groups was due to climate change. The climate at the end of the Cretaceous was cooling – and a fall in sea level reduced dinosaur and shallow water marine animal habitats.

Impact theory
The impact hypothesis gets a lot of press coverage because it is spectacular. There is good geophysical evidence for the occurrence of an asteroid impact at the end of the Cretaceous.

A band of clay rich in the mineral iridium was deposited at the end of the Cretaceous and has been found at many places in the world. This mineral is rare on Earth but more common in meteorites.

It has been suggested that the impact would have triggered a nuclear winter scenario that would have caused the death of the dinosaurs as well as the pterosaurs, several families of birds and mammals and also marine animals such as the plesiosaurs and ammonites.

Volcano
At the end of the Cretaceous there were a lot of volcanic eruptions, at least in some parts of the world.

The Deccan Traps, huge flood basalts, were deposited at this time, and the dust and gases erupted at the same time would have caused environmental changes over a wide area.

Will we ever know?
Unfortunately, while these hypotheses are plausible and they can both explain how many animals went extinct, neither can explain why certain animals died out while others survived. Why did the dinosaurs, which were so successful, die out, while other animals such as frogs, which we know are environmentally sensitive, survive?

Although it is usually assumed that the dinosaurs all went extinct at the same time all over the world, the truth of the matter is that we only have high resolution data for North America. In other parts of the world there is either no terrestrial record or we do not have good enough age resolution. It is likely that as China and other countries outside of Europe and the US are studied more intensively we will be able to gather more data and build up a more comprehensive picture of what was going on in the world at the end of the Cretaceous period.

This article was written to accompany episode six of *Walking with Dinosaurs*.
http://www.bbc.co.uk/sn/prehistoric_life/dinosaurs/chronology/65mya1.shtml

1 What is the reason that all theories have in common to explain why dinosaurs became extinct?

2 What are the three alternative causes suggested for creating that situation?

3 What sorts of evidence are these theories based on?

4 What are the limitations on the evidence available?

5 Is this question likely to be debated more in the future? Why?

FILM STUDY

Walking With Dinosaurs is a famous series because it combined such sophisticated and scientifically accurate information about dinosaurs with footage shot in real environments.

But it has many other interesting features about it that are designed to have an impact on the viewer.

Watch any 10-minute sequence and comment on the following features. You might watch a sequence with the special feature turned on (so that you will see examples of how an effect was created), or you might watch *The Making Of Walking With Dinosaurs* DVD and then look at a segment from a matching episode.

Narrative: Does the narrative give us facts only, or does it tell a story?

What effect does this have on the viewer?

Emotions: Does the narrator treat the dinosaurs as animals, or does it give them human characteristics and emotions? For example, is it accurate to talk of a 'merciless ambush predator', or is that giving it human characteristics that help to engage the viewer?

Sounds: What sounds are used in the segment you watch?

There is no record of any dinosaur sounds, so the filmmakers have guessed on the basis of fossil evidence and current animals what the sounds might have been like. Is this acceptable?

Music: How is music used to create atmosphere and emotion, and to add to the narrative? Is it effective?

Cinematography: Different film genres have accepted styles. Discuss the way in which a nature documentary is typically filmed. Is that style also used with these animated dinosaurs? Justify your conclusions.

There are also typical devices used in the horror or suspense genre for their sudden and powerful impact on the audience. Discuss what these are. Do you see any of these in *Walking With Dinosaurs*? Give specific examples if you think they are there.

Characterization: One way of helping to promote effective storytelling is to focus on individuals, to show them as likeable or unlikeable individuals. Does *Walking With Dinosaurs* use this type of characterization with its dinosaurs? Refer to specific examples to support your view.

Realism One of the aims of the creators of the series is to make it realistic, make it seem as though you are watching real events. How do they try to achieve this? Consider such aspects as the use of shadows, the integration of the animated figures with the background, etc. You can explore this in detail on *The Making of Walking With Dinosaurs* DVD. Do you think it is successfully done? Justify your answer.

What is your evaluation or assessment of the series?

FURTHER RESOURCES

BBC SITE
http://www.bbc.co.uk/sn/prehistoric_life/dinosaurs/

SMITHSONIAN NATIONAL MUSEUM OF NATURAL HISTORY INTERACTIVES
http://www.nmnh.si.edu/paleo/dinosaurs/interactives/main/index.html

AMERICAN MUSEUM OF NATURAL HISTORY
http://www.amnh.org

ABC SITE
http://www.abc.net.au/dinosaurs/

AUSTRALIAN MUSEUM DINOSAUR SITE
http://www.lostkingdoms.com

EPISODE SUMMARIES

Episode 1 *New Blood*	220 Million Years Ago – Upper Triassic; Arizona Filming location: New Caledonia Conditions: semi-desert with short rainy season. In the year of the episode, the rains are late. The episode mainly focuses on the Coelophysis and the fight for survival during the dry season. A female Postosuchus is injured by a Placerias' tusks and the wound gets infected; she is beaten out of her territory by a male Postosuchus and then is killed by the Coelophysis. The Thrinaxodon's home is invaded by Coelophysis and they have to eat their own young, to deprive the Coelophysis of their prey, before fleeing to find a new home. The Placerias are slowly dying out due to droughts and the remainder wander off into the desert trying to find water, and into extinction.
Episode 2 *Time of the Titans*	152 Million Years Ago – Upper Jurassic; Colorado Filming locations: Redwood National Park, Chile, Tasmania, New Zealand Conditions: warm with mixture of forest and fern-prairies. This episode starts with a Diplodocus laying eggs, and then focuses on a female hatchling Diplodocus and her siblings as they grow through the years. Some are eaten by Allosaurus and Ornitholestes. Some are speared by a Stegosaurus's tail-spikes. A forest fire drives them onto open land. By the end of the episode, only the female Diplodocus and one of her brothers remain and they join a herd of adult Diplodocus. The episode ends with the female Diplodocus mating and breeding. Also, an adult Allosaurus tries to hunt her, but the tail of a larger Diplodocus knocks the Allosaurus off her. She returns to the herd, with deep wounds on her side.
Episode 3 *Cruel Sea*	149 Million Years Ago – Late Jurassic; Oxfordshire Filming locations: Bahamas, New Caledonia Conditions: shallow tropical sea with small islands. The Ophthalmosaurus breeding ceremony is the main event of the episode, but sharks and other predators, including Liopleurodon are on the hunt. In the end of the episode, a typhoon kills many Rhamphorhynchus, and washes the Liopleurodon ashore and it dies suffocated by its weight. Most of the Cryptoclidus survive and manage to make it back into the ocean.
Episode 4 *Giant of the Skies*	127 Million Years Ago – Early Cretaceous; Young Atlantic Ocean (Brazil, Cantabria) Filming locations: New Zealand, Tasmania Conditions: Sea and coastlands. It stars an elderly male Ornithocheirus, a big pterosaur like a Pteranodon, who is on his way back from South America to the island of Cantabria in Europe to mate. He passes a nesting colony of Tapejara. He reaches the north tip of South America and crosses sea to North America. He passes a herd of Iguanodon who were migrating along a beach. He travels from America to Europe across the young Atlantic Ocean. He reaches a European island, which in the book of the series is named Cornubia. He passes a herd of Iguanodon bernissartensis, who

	are being preyed on by a pack of Utahraptor. Eventually, the Ornithocheirus reaches his breeding site, but fails to get a mate as he cannot land in the best place in the middle of the breeding site, because on the way he had been delayed (by having to shelter from a storm under a cliff overhang) and the site was taken. In the end, he perishes on a beach of hunger, exhaustion, heat stress and old age.
Episode 5 *Spirits of the Ice Forest*	106 Million Years Ago – Early Cretaceous; in the rift valley where Australia is beginning to separate from Antarctica. Conditions: Forest dominated by podocarps, very near South Pole (the sun did not rise for five months in the winter). The lopsided arrangement of the continents keeps ocean currents and strong monsoon winds blowing across the polar area, keeping it free of icecap and warm enough for forests to grow. Filming location: New Zealand This episode focuses on a flock of Leaellynasaura who are trying to survive the freezing winter and breed in the summer. The episode runs from end of winter to the next end of winter. At the beginning a Koolasuchus eats a Leaellynosaura which had died in the winter. During the summer a Allosaurus hunts the Leaellynasaura and the Muttaburrasaurus. The Leaellynasaura usually escape, but during the noise and trampling and confusion caused by the Muttaburrasaurus migrating away north for the winter, the Allosaurus catches and eats the female of the Leaellynasauras' alpha pair. Other predators like Koolasuchus are on the hunt for the Leaellynasaura.
Episode 6 *Death of a Dynsaty*	65.5 Million Years Ago – Late Cretaceous; Montana Conditions: Areas of low herbaceous plant cover, and forest, affected by volcanism. The episode shows some effects of the end-of-Cretaceous asteroid impact. Filming locations: Chile, New Zealand This episode starts several months before the extinction of the dinosaurs. The forests were shrinking and the Pierre Seaway between Laramidia and Appalachia was slowly drying up from the north. The first Tyrannosaurus seen is male. The main character is a female Tyrannosaurus, who abandons her nest because all the eggs in it were infertile or dead-in-shell. She mates and nests again, lays 12 eggs, of which three hatch. One of the babies disappears, most likely eaten by the other two. The mother is wounded by a blow from an Ankylosaurus's tail-club and dies later of internal injuries and a broken femur. Her babies die when all the dinosaurs are destroyed by the Cretaceous-Tertiary extinction event.

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