DINOSAUR rEVOLUTION

SECRETS OF SURVIVAL

Presented by The Royal Society of Tasmania and the Tasmanian Museum and Art Gallery

7 Dec 2018 - 5 May 2019

Teacher Guide

Public Programs and Learning

Tasmanian Government

TASMANIAN MUSEUM & ART GALLERY

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Acknowledgements

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Disclaimer

TMAG does not accept any responsibility for the accuracy or availability of any information or services on websites listed in this guide.

Please note the TMAG exhibition may differ from the photographic images shown in this guide.

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Cover image: *Kosmoceratops* and *Triceratops* by Luis V. Rey

Introduction

Today we know a lot about dinosaurs, but there is still plenty we do not know that poses outstanding questions. For example, we know that dinosaurs are not all big and that they are not all extinct, but how do we know what dinosaurs looked like? How have recent discoveries not only provided more information on what dinosaurs actually looked like, but also provided evidence of the evolutionary link between one group of dinosaurs and modern birds?

For many years it was suspected that birds were linked to dinosaurs in some way. In recent years, exceptionally well preserved fossils found in China have shown dinosaur skin and soft tissue for the first time, including feathers and quills. Some discoveries have even shed light on the colour and shading patterns of dinosaurs as well as how they interacted with other dinosaurs and the environments in which they lived.

The *Dinosaur rEvolution: Secrets of Survival* exhibition at the Tasmanian Museum and Art Gallery, 7 December 2018 to 5 May 2019, explores a number of these new discoveries about dinosaurs. The exhibition also includes aspects such as nesting and eggs, the habitats of dinosaurs, the use of adaptations such as horns, long claws, armoured body coverings and insights into the ways palaeontologists analyse dinosaur fossils. Using animatronic models, fossil evidence, reconstructions and detailed images, the exhibition provides amazing learning opportunities across Years 1 – 6 of the Australian Curriculum: Science.

Prepare to meet armoured giants, clawed enigmas and that old favourite, the *Tyrannosaurus rex*.

Notes:
The exhibition activities are based around a class spending an hour in the exhibition (four galleries).

If possible, organise students into smaller groups, with adult supervision, during a visit to the exhibition.

The exhibition links to the Australian Curriculum: Science.

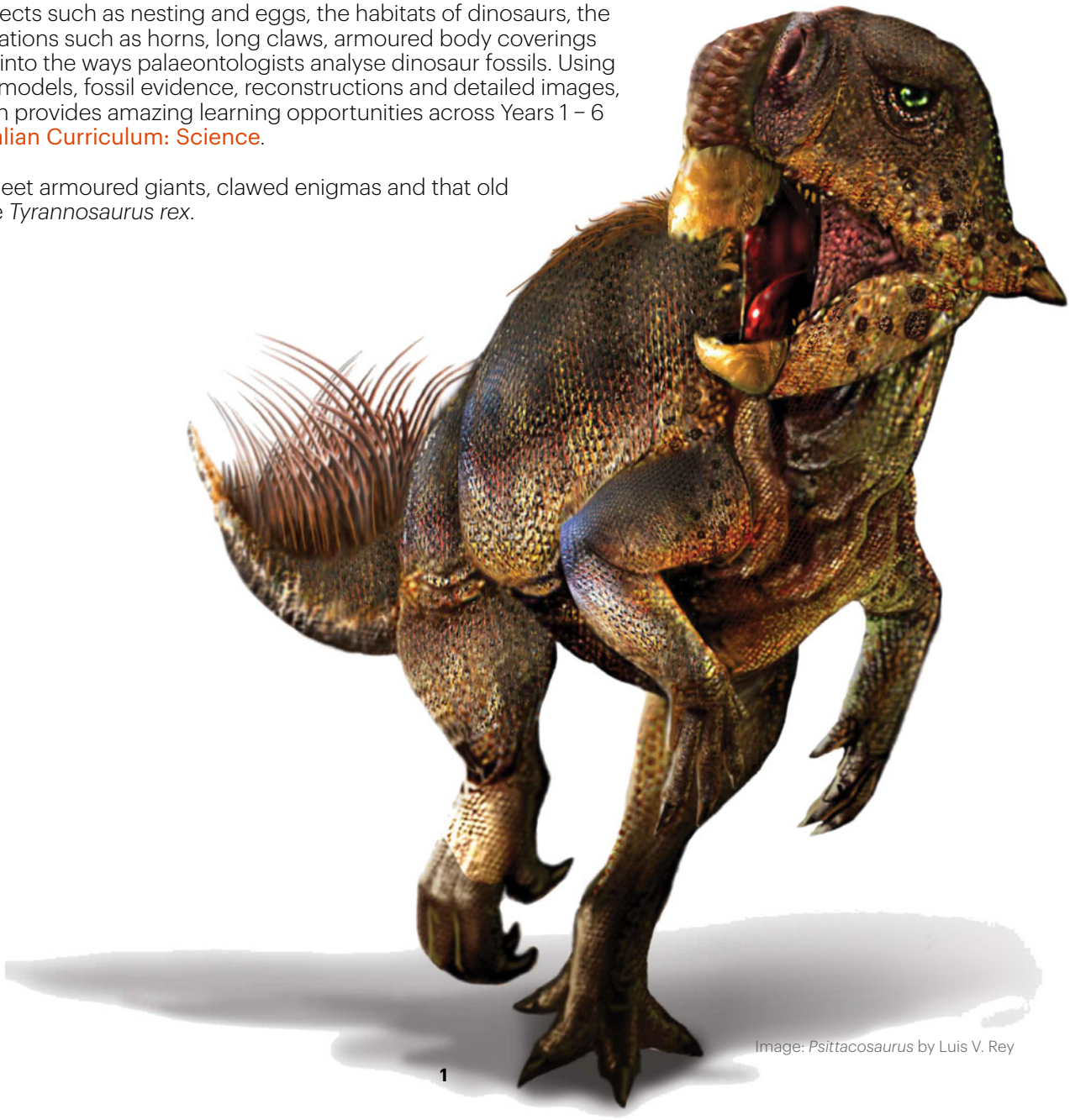

Image: *Psittacosaurus* by Luis V. Rey

Exhibition Teacher Guide

Relevant background information about dinosaurs

Dinosaurs are grouped based on their pelvic structure into two major divisions; **Ornithischia** and **Saurischia**. Each of these are further divided into additional subgroupings.

The Ornithischia are plant-eaters and includes dinosaurs such as *Stegosaurus*, *Anklyosaurus* and *Triceatops*. Features of the Ornithischia include beaks, quills, scales, horns and body armour.

Most notably the Saurischia includes the Theropoda, which includes the *Archaeopteryx* and *Tyrannosaurus rex*. Theropoda are the **bipedal** group of dinosaurs that we now think gave rise to modern birds. The other major subgrouping within the Saurischia is the **Sauropoda**. These are the long-necked herbivores such as *Diplodocus* that share a similar pelvis with the **Theropods** but have a very different body shape and are **quadrupedal**.

Good background information for teachers on dinosaurs and their classification can be found on the University of California Museum of Palaeontology website.

Most of what we know about dinosaurs is based on two types of fossil records and comparing the evidence in those fossils to what we can observe in contemporary animals and ecosystems. The first type of fossils are known as 'body fossils' and include things such as bones and teeth. The second type are trace fossils and include things such as footprints, eggs and fossilised faeces. For more information on body fossils and trace fossils see the Nova Scotia Museum of Natural History website or the Digital Atlas of Ancient Life.

Until recently most of what we knew about the way dinosaurs may have looked was through examination of fossilised bones and other hard structures such as teeth and horns. From examining bones it was sometimes possible to see where muscles and tendons attached to bones, which further helped with reconstructing the anatomy of those dinosaurs. Aspects such as colouration were down to imagination and, because of comparisons to modern reptiles, they were frequently portrayed as green, brown and grey.

What dinosaurs had in common with each other, as well as with modern animals, was a substance known as **keratin**. Keratin makes upscales, spikes, quills, **protofeathers** and feathers. Recent fossil finds in China have shown dinosaur skin, soft tissue, and even feathers and quills on some specimens. This evidence is providing new possibilities for how dinosaurs may have looked. For example, the *Psittacosaurus* was quilled and the *Sinosauropteryx* had feathers.

Recent research located the preservation of a substance called **melanin** in the fossilised remains of dinosaurs. At a microscopic level this melanin can be observed in structures called **melanosomes**. The shape and distribution of these melanosomes can be compared to those of living animals such as birds to provide evidence of the colour of dinosaurs such as in fossils of the *Psittacosaurus* and *Sinosauropteryx*.

*Please note that further background materials on dinosaurs and fossils can be found in the resources section of this teacher guide.

Dinosaur Glossary

bipedal
walks on two legs

keratin
fibrous structural protein of hair, nails, horn, feathers

melanin
the pigment that gives skin, hair and eyes their colour

melanosomes
an organelle found in animal cells and is the site for synthesis, storage and transport of melanin

Ornithischia (bird-hipped)
herbivorous dinosaur having a pelvis resembling that of a bird

protofeathers
precursors of bird feathers

quadrupedal
walks on four legs

Saurischia (lizard-hipped)
herbivorous or carnivorous dinosaur, having a three-pronged pelvis resembling that of a reptile

Sauropoda (lizard-footed)
herbivorous dinosaur with a long neck and tail, small head, and five-toed limbs

Theropoda (beast-footed)
carnivorous dinosaur of a group whose members were typically bipedal

Dinosaurs featured in the exhibition

The following dinosaurs are featured in the exhibition.

Archaeopteryx	*Anchiornis*	*Avimimus*
Caudipteryx	*Ceratopsians*	*Coahuilaceratops*
Compsognathus	*Conchoraptor*	*Confuciusornis*
Deinocheirus	*Diabloceratops*	*Falcarius*
Gallimimus	*Halticosaurus*	*Heterodontosaurus*
Jeholornis	*Jixiangornis*	***Kentrosaurus***
Kosmoceratops	*Microraptor*	*Nothronychus*
Oviraptor	***Pachycephalosaurus***	*Prenocephale*
*Psittacosaurus**	*Saichania*	*Scelidosaurus*
Sinosauropteryx	*Stygimoloch*	*Talarurus*
Tarbosaurus	*Tarchia*	***Therizinosaurus***
Tyrannosaurus rex	*Velociraptor*	

Table 1: Dinosaurs featured in the Dinosaur rEvolution exhibition
**Augmented reality component*
Animatronic models are listed in ***bold text***

Organisation of this teacher guide

This teacher guide complements a visit to the *Dinosaur rEvolution: Secrets of Survival* exhibition and will form part of a broader classroom inquiry into dinosaurs that meets relevant aspects of the Australian Curriculum: Science, from Years 1 – 6.

The pre-exhibition activities are designed to provide the teacher with information on prior-understanding and opportunities to explore some of the major focus areas of the exhibition. The activities will develop a range of questions that will become the focus of exploration of the exhibition.

The exhibition phase will provide opportunities to provide answers to those questions, to gather additional evidence through capturing images and to stimulate additional questions that may be answered in post-exhibition activities.

This guide uses key ideas from the Australian Curriculum: Science as conceptual lenses through which to address the *science understanding* content descriptors at various year levels within the Australian Curriculum: Science.

The key ideas combined with the content descriptors provide focus areas for inquiry for each year level, which are described as **Throughlines**. While suggested pre-exhibition and post-exhibition activities are outlined in the guide for each of the Throughlines, the teacher should use these as a stimulus to guide inquiry for their individual school and year level contexts. It is also not intended that every activity would be included for all year levels. The content descriptors should also be used to approach, amend and extend the activities appropriately for particular year levels. For example, Throughline 1 for Year 1 would be about identifying the external features of dinosaurs and relate to the key idea of form and function. Year 3 would use the external features of dinosaurs to look at how dinosaurs are grouped and so the focus would be on the first two key ideas. Year 5 would extend each of the first two to look at how different types of dinosaurs used those features to survive in their ecosystem.

While each year level needs to observe and understand something about the physical features of dinosaurs, they each do so for a different reason. This should be reflected in the way teachers select, adapt and utilise activities from the guide.

In addition teachers should consult the relevant year level curriculum in order to consider ways to best utilise and adapt specific learning activities to develop an inquiry with their students. The Science Inquiry Skills combined with the Science as a Human Endeavour content descriptors provide the structure around which inquiry might be developed for specific year levels. This is referred to in this guide as the inquiry Throughline.

Throughlines, key ideas and year level descriptors are outlined in **Table 2** on the next page.

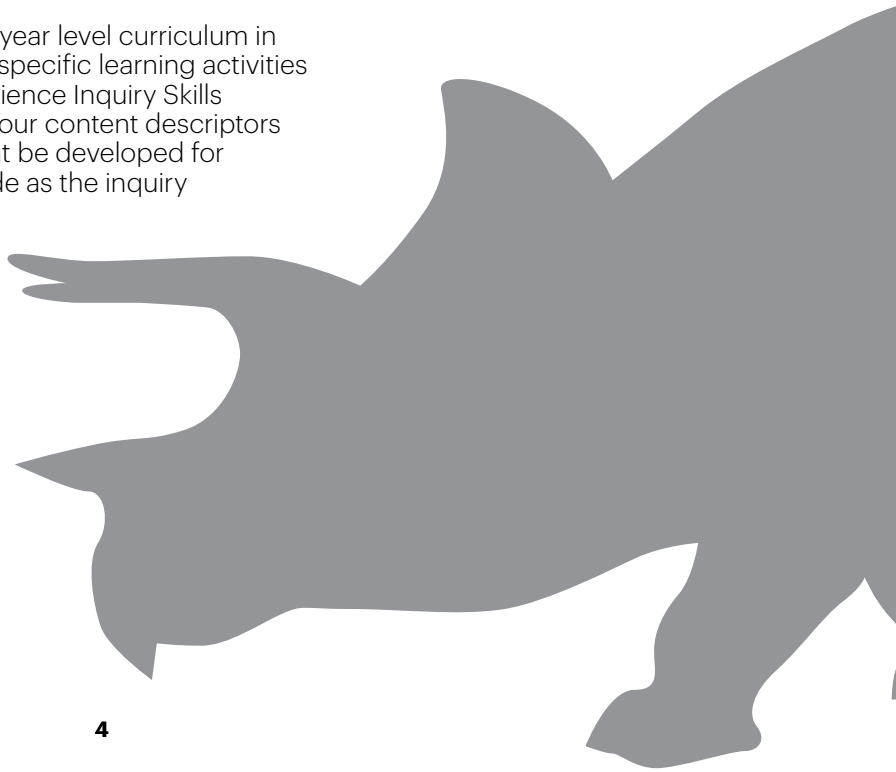

Table 2 below outlines the four major Throughlines, the related key ideas and content descriptors, and the inquiry Throughline. The numbers for Throughlines used in the table are also included in brackets for each learning activity in the guide. Each aspect is explicitly addressed in the *Dinosaur rEvolution* exhibition.

Throughline	Key ideas	Year level/content descriptor
1. Physical features of dinosaurs and their function	• Form and function • Patterns, order and organisation • Systems	**Year 1:** Living things have a variety of external features (ACSSU017) **Year 3:** Living things can be grouped on the basis of observable features and can be distinguished from non-living things (ACSSU044) **Year 5:** Living things have structural features and adaptations that help them to survive in their environment (ACSSU043)
2. Life-cycles and growth of dinosaurs	• Form and function • Matter and energy • Systems	**Year 2:** Living things grow, change and have offspring similar to themselves (ACSSU030) **Year 4:** Living things have life cycles (ACSSU072)
3. Survival	• Systems • Form and function • Matter and energy	**Year 4:** Living things depend on each other and the environment to survive (ACSSU073) **Year 5:** Living things have structural features and adaptations that help them to survive in their environment (ACSSU043) **Year 6:** The growth and survival of living things are affected by physical conditions of their environment (ACSSU094)
4. A changing Earth	• Stability and change • Patterns, order and organisation	**Year 4:** Earth's surface changes over time as a result of natural processes and human activity (ACSSU075) **Year 6:** Sudden geological changes and extreme weather events can affect Earth's surface (ACSSU096)
5. Inquiry Throughline: Relevant year level content descriptors for the Science Inquiry Skills and Science as a Human Endeavour.		

Table 2: Throughlines, key ideas and content descriptors

Before the Exhibition

Pre-exhibition learning activities

The suggested pre-exhibition learning activities should be seen as possibilities for inquiry rather than a fixed inquiry sequence. Teachers will need to select the most appropriate activities for their year level and also adapt them to suit the specific needs of their students. Some of the learning activities suggest example websites for online research and a number of additional websites. In addition relevant books that may support activities are provided in the resources section of this guide. The age of the students will determine the most suitable inquiry approaches and resources to use.

1. What are dinosaurs? – Dinosaur mind map and word wall (Throughlines 1, 2, 3, 4, 5)

Students create a mind map using the Generate, Sort, Connect, Elaborate visible thinking routine to indicate what they know about dinosaurs. This will be revisited following the exhibition and at the conclusion of the inquiry. Students identify key words from their mind maps to add to a whole class **Dinosaur Word Wall**.

2. What did dinosaurs look like? (Throughline 1, 5)

Ask students to close their eyes and make a picture in their head of what they see when you say the word dinosaur.

Ask them to think about one type of dinosaur and picture the:

- Outline (head, body, legs, etc ...)
- Face (jaws, teeth, eyes, nose, tongue, ears, ...)
- Colour
- Outer-covering (What is it covered in? What would it feel like if you could touch it?)
- Patterns
- Other features (Does it have a tail? Is there anything else on its head and body that wasn't already mentioned?)

Now ask students to draw their dinosaur in colour. Encourage them to get their ideas down without sharing or comparison as you want to know what they already know about dinosaurs. Let them know they will share with others when they have finished. If they know the name of their dinosaur they could record it on their picture.

As a whole class students can then share their drawings and the type of dinosaur it is if they know the name. Any known names can be added to the **word wall**.

Image: *Psittacosaurus sp* (skeleton with quills)

Image: *Sinosauropteryx prima* (skeleton)

3. Describe your dinosaur (Throughlines 1, 2, 3, 5)

Students create a written description of the dinosaur they have drawn. Depending on the age of students, as well as describing physical features they might describe other things they know about their dinosaur, including:

- Diet
- Habitat
- Use of features for hunting, defence or to attract a mate
- Prey and predators
- Differences between young and fully grown dinosaurs

These other aspects might be brainstormed as a class group prior to writing. Words that arise as a result of this should be added to the word wall, including the names of specific dinosaurs. After writing and sharing their descriptions students suggest additional words to add to the **word wall**.

4. What do other people think dinosaurs looked like? (Throughlines 1, 5)

Students undertake a range of online image searches for the names of specific dinosaurs either individually, collaboratively or as a class group. This would include all dinosaurs named in the initial activities and added to the word wall. Using the resulting images, encourage students to focus on the following questions:

- How is my drawing similar and different to those on the Internet?
- How are images of a specific dinosaur on the Internet similar and different? Use the same list of features from the first activity to scaffold this. As a result students may notice different colours, different features (e.g. *Diplodocus* with and without spines, *Tyrannosaurus rex* and *Velociraptor* with feathers and differing colours, *Stegosaurus* with multiple colour schemes and shading, *Brontosaurus* and *Apatosaurus* with differing tail lengths). Why might people have illustrated the same dinosaur differently?
- How do we know who is 'right' or if any of them are 'right'?

Alternatively you may wish to use the See Think Wonder visible thinking routine to allow students to develop their own observations and questions from the images they locate.

5. Who investigates dinosaurs? (Throughlines 1, 2, 3, 4, 5)

Students suggest what we might call a person who investigates dinosaurs. Students individually or as a class might investigate resources such as the University of California Museum of Palaeontology website to look at specific discipline branches that might be linked to dinosaurs. In particular the following are important for different reasons so students might be asked how they would each contribute to understanding dinosaurs:

- Vertebrate Palaeontology
- Palaeobotany
- Ichnology

These words could be added to the word wall and the etymology of each researched using and online etymology dictionary. Through investigating the definitions of each specialist it should be clear that each uses fossils to study past life. Add additional words to the **word wall**.

Images: Displays in the *Dinosaur rEvolution: Secrets of Survival* exhibition.

6. How do these scientists use fossils to investigate dinosaurs? (Throughlines 1, 2, 3, 4, 5)

All of these scientists use fossils to investigate life in the distant past, including some who specialise in studying dinosaurs. Students might investigate the two main categories of fossils; body fossils and trace fossils on the Nova Scotia Museum of Natural History website or the Digital Atlas of Ancient Life. Add additional words to the **word wall**.

Having looked at some preliminary information on fossils from these and other sources ask students to complete a Think Puzzle Explore to identify the things they think they know, things that puzzle them and things they would like to explore further.

From the Think Puzzle Explore students might develop a list of questions they would like to pursue during the exhibition and in follow-up research in the post-exhibition phase. You may wish to use Question Starts to scaffold this.

7. When did dinosaurs live? (Throughlines 4, 5)

Students research when dinosaurs lived through resources such as the London Natural History Museum website and *Australia: The Time Traveller's Guide*. Students are asked for ideas about how we know what lived and happened in a period so long before the present. Add additional words to the **word wall**.

Having looked at some preliminary information on geologic time scale from these and other sources ask students to complete a Think Puzzle Explore to identify the things they think they know, things that puzzle them and things they would like to explore further.

From the Think Puzzle Explore students might develop a list of questions they would like to pursue during the exhibition and in follow-up research in the post-exhibition phase. You may wish to use Question Starts to scaffold this.

8. What do we know about dinosaur babies and how they were raised? (Throughlines 1, 2, 5)

Students might use a website such as the American Museum of Natural History or Scholastic to investigate dinosaur eggs, dinosaur young and how the young were raised. Add additional words to the **word wall**.

Having looked at some preliminary information on dinosaur babies and how they were raised from these and other sources ask students to complete a Think Puzzle Explore to identify the things they think they know, things that puzzle them and things they would like to explore further.

From the Think Puzzle Explore students might develop a list of questions they would like to pursue during the exhibition and in follow-up research in the post-exhibition phase. You may wish to use Question Starts to scaffold this.

Images: Displays in the *Dinosaur rEvolution: Secrets of Survival* exhibition.

9. How might we sort and classify dinosaurs? (Throughlines 1, 4, 5)

How many ways can students find to sort and classify dinosaurs based on aspects such as:

- Physical features
- Period in which they lived
- Diet
- Habitat
- Prey and predators

Students might use a website such as the University of California Museum of Palaeontology website to research how scientists classify dinosaurs. This might also lead to the notion that dinosaurs are not extinct because of the evolutionary connection of birds to earlier dinosaurs. Add additional words to the **word wall**.

Having looked at some preliminary information on the classification of dinosaurs and the link between non-avian dinosaurs and modern birds from these and other sources ask students to complete a Think Puzzle Explore to identify the things they think they know, things that puzzle them and things they would like to explore further.

From the Think Puzzle Explore students might develop a list of questions they would like to pursue during the exhibition and in follow-up research in the post-exhibition phase. You may wish to use Question Starts to scaffold this.

10. What questions might we want to ask when we visit the exhibition and afterwards? (Throughlines 1, 2, 3, 4, 5)

The following questions are examples of those that might be developed but it is important for students to utilise questions developed during activities 6-9. There are no specific activities for the exhibit phase of the exhibition other than to take images and collect other evidence to answer these questions. The exhibition should also act as a stimulus for additional questions that students might develop both at the exhibition and as an initial post-exhibition activity. The exhibition should be a time for focussed experiential learning.

Possible questions that might be developed prior to, at, or after the exhibition:

- What new ways can I discover to find out about dinosaurs?
- What fossils might I see in the exhibition?
- What evidence can be found in the fossils?
- What evidence is missing from the fossils? (incomplete specimens and features that did not fossilise)
- What do we know now about what dinosaurs looked like?
- What do we still not know about dinosaurs?
- When and where did the dinosaurs in the exhibition live?
- How are dinosaurs named?
- What do the specific dinosaur names mean?
- How many eggs did a dinosaur lay?
- Where did they lay them?
- Did dinosaurs look after their young?
- When did non-avian (non-bird) dinosaurs become extinct and why?
- Are birds really dinosaurs?
- Why did dinosaurs have feathers?
- Did the Tyrannosaurus rex have feathers?
- What colours were dinosaurs really?
- Why did dinosaurs have scales, quills, feathers, spikes, armour, horns, beaks, long claws, etc.?
- What sounds did dinosaurs really make?

Image: *Caudipteryx* by Luis V. Rey

At the Exhibition

Exhibition learning activities

1. A major aim of the exhibition visit is for students to gather evidence through observation and through capturing digital images to answer questions developed prior to the exhibition. It is strongly advised that students bring devices to take photographs but this might be done in small groups with not every student requiring a device. They may wish to bring their list of questions as a prompt.
2. The exhibition will also introduce new information that might stimulate additional questions. Students should also capture images of this new information to share back in the classroom.
3. Tasmanian fossil records from the time of the dinosaurs are also included in the exhibition. This might stimulate questions on why dinosaur fossils have not been located in Tasmania. Information on Tasmanian fossils is provided in the Geologic timescale and extinction section of the resources for inquiry.

Take photos of the exhibits to refer to for the post-exhibition activities.

Images: Displays in the *Dinosaur rEvolution: Secrets of Survival* exhibition.

After the Exhibition

Post-exhibition learning activities

1. **Revisit mind map**
   Students revisit the mind map created in the pre-exhibit phase and create an updated mind map using the Generate, Sort, Connect, Elaborate visible thinking routine.

2. **Think pair share new learning**
   Students use a Think Pair Share process to share their mind maps.

3. **Questions for further inquiry**
   Students use their mind maps and Question Starts to develop questions for further inquiry. As a class students share questions and use the Question Sorts visible thinking routine to develop appropriate areas to follow-up on.

4. **Additional research**
   Additional research is determined for the class as a whole or individually. The resources section at the end of the guide has been organised to support inquiry in different focus areas.

5. **Revisit mind map**
   Students revisit the second mind map created and utilise their research to update their mind map or elaborate further on a specific aspect of the map related to the area researched.

6. **Conclusion**
   The *Dinosaur rEvolution: Secrets of Survival* exhibition provides a unique opportunity for Tasmanian students to investigate dinosaurs in a way that makes direct links to the Australian Curriculum. It is important that teachers utilise this Teacher Guide to plan an inquiry that considers the needs of their students and utilises their questions and areas of interest. The section that follows provides teachers with resources organised into a number of possible areas of inquiry.

Images: Displays in the *Dinosaur rEvolution: Secrets of Survival* exhibition.

School bookings for *Dinosaur rEvolution: Secrets of Survival* exhibition can be made at tmag.tas.gov.au/dinosaur.

Resources for Inquiry

Books

Clode, D., 2018, *From Dinosaurs to Diprotodons. Australia's Amazing Fossils*, Museum Victoria Publishing, Victoria

Hartland, J., 2011, *How the Dinosaur Got to the Museum*, Blue Apple Books

Hocknull, S. and Cook, A., 2006, *Amazing Facts about Australian Dinosaurs*, Queensland Museum, Steve Parish Pub, Australia

Hughes, C.D., 2011, National Geographic Little Kids First Big Book of Dinosaurs, National Geographic Society, U.S.A.

Judge, L., 2010, *Born to be giants*, Roaring Brook Press, Macmillan, U.S.A.

Judge, L., 2013, *How Big Were Dinosaurs?*, Roaring Brook Press, Macmillan, U.S.A.

Lambert, D., 2014, *Eyewitness Dinosaur*, DK Books, Britain

Levine, S. 2018, *Fossil by Fossil: Comparing Dinosaur Bones*, Millbrook Press, U.S.A.

Priddy, R., 2011, *My Big Dinosaur Book*, St. Martin's Press, U.S.A

Priddy, R., 2018, *Dinosaur ABC*, Priddy Books, U.S.A.

Strickland, P. and Willis, J., 2017, *Dinosaur Munch! The Diplodocus*, The Natural History Museum London, Pan Macmillan, Australia

Willis, J., 2017, *Dinosaur Boo! The Deinonychus*, The Natural History Museum London, Pan Macmillan, Australia

Willis, J., 2017, *Dinosaur Stomp! The Triceratops*, The Natural History Museum London, Pan Macmillan, Australia

Willis, J., 2017, *Dinosaur Roar! The Tyrannosaurus*, The Natural History Museum London, Pan Macmillan, Australia

In-text reference websites

- The University of California Museum of Palaeontology: The Dinosauria
  http://www.ucmp.berkeley.edu/taxa/verts/dinosauria/index.php
- Nova Scotia Museum of Natural History: What are trace fossils?
  http://www.virtualmuseum.ca/sgc-cms/expositions-exhibitions/fossiles-fossils/english/sections/whatare.html
- Digital Atlas of Ancient Life: Body fossils and trace fossils
  http://www.digitalatlasofancientlife.org/learn/nature-fossil-record/body-fossils-trace-fossils/
- University of California Museum of Palaeontology: What is Paleontology?
  http://www.ucmp.berkeley.edu/paleo/paleowhat.html
- London Natural History Museum: When did dinosaurs live?
  http://www.nhm.ac.uk/discover/when-did-dinosaurs-live.html
- Australia: The Time Traveller's Guide
  http://www.abc.net.au/tv/timetravellers/
- American Museum of Natural History: Dinosaur Eggs
  https://www.amnh.org/dinosaurs/dinosaur-eggs/
- Scholastic: Dinosaur Eggs and Babies
  https://www.scholastic.com/teachers/articles/teaching-content/dinosaur-eggs-and-babies/
- University of California Museum of Palaeontology - Dinosauria: Morphology
  http://www.ucmp.berkeley.edu/diapsids/dinomm.html

General websites on dinosaurs

- ABC Education: Dinosaur Age
  http://education.abc.net.au/home#!/digibook/1214969/dinosaur-age
- ABC Science Articles: Dinosaurs
  http://www.abc.net.au/science/tag/browse.htm?tag=dinosaurs
- American Museum of Natural History
  https://www.amnh.org/dinosaurs
- Melbourne Museum: Dinosaur walk
  https://museumsvictoria.com.au/website/melbournemuseum/discoverycentre/dinosaur-walk/index.html
- The World of Dinosaur Roar (for younger students)
  https://www.dinosaurroar.com/about

Australian dinosaurs

- Australovenator - Australia's T-rex?
  http://education.abc.net.au/home#!/media/661804/
- Complete fossil skeleton Minmi
  http://education.abc.net.au/home#!/media/661782/
- How big is Australia's largest dinosaur bone? (making replicas from fossil remains)
  http://education.abc.net.au/home#!/media/661518/
- Matilda, a giant diamantinasaurus dinosaur
  http://education.abc.net.au/home#!/media/661826/
- Meet muttaburrasaurus, a plant-eating Australian dinosaur
  http://education.abc.net.au/home#!/media/661716/
- Savannasaurus
  http://www.abc.net.au/news/science/2016-10-21/new-aussie-dinosaur-was-titanic/7950674

Detecting colour and shading in dinosaurs

- What colours were dinosaurs?
  https://youtu.be/vtpi7yUHNygb
- The colour of dinosaurs
  https://youtu.be/-tn2Nx_Ga3k
- How to bring a dinosaur to life in technicolour
  https://youtu.be/NLaNqtM8GOk
- 3D camouflage in an Ornithischian dinosaur
  https://www.sciencedirect.com/science/article/pii/S0960982216307060?via%3Dihub
  - Video on the above site: https://youtu.be/BEzguRJAuXE
- Dinosaur true colours revealed for the first time
  https://news.nationalgeographic.com/news/2010/01/100127-dinosaur-feathers-colors-nature/
- The science behind melanins and pigments in fossils
  https://theconversation.com/we-discovered-this-dinosaur-had-stripes-and-that-tells-us-a-lot-about-how-it-lived-86170
- Sinornithosaurus
  http://www.bbc.co.uk/nature/life/Sinornithosaurus
- Sinosauropteryx
  http://www.abc.net.au/news/science/2017-10-27/dinosaur-camouflage-cretaceous-feathers-fossil/9084558
- Sinosauropteryx facts
  https://kids.kiddle.co/Sinosauropteryx
- About Sinosauropteryx
  https://kidsdinos.com/dinos/sinosauropteryx/
- 'Parrot lizard' dinosaur's camouflage recreated from preserved skin
  http://www.abc.net.au/news/2016-09-15/dinosaur-recreation-camouflage-colouration/7846842
- Dinosaur colour prediction not so easy
  http://www.abc.net.au/science/articles/2014/02/13/3943142.htm

Dinosaurs, feathers and birds

- The link between dinosaur and birds
  https://museumsvictoria.com.au/website/melbournemuseum/discoverycentre/dinosaur-walk/Videos/deinonychus/index.html
- Birds - descendants of dinosaurs
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