

Return to 1616 Boneheads 3D Scanned Models

Why do most animals have skulls? Why do skulls vary so much? What can we learn from the features of an animal skull? What do they tell us about animal habits and adaptations? Would you like a close up look at some real skulls in 3D? To learn more, explore the Boneheads activity (from the comfort of your screen). Find it on the *Return to 1616* education page or click [here](#).

Scientists rely on clues to solve mysteries. We can get clues about animals from their skulls. Examine nasal passages, teeth and ear holes to find out how an animal lived, hunted, or obtained food, what senses it relied on and whether it was a predator or prey. Use the Boneheads Activity Sheets to study carnivore and herbivore skulls particularly the teeth and eye sockets. Then look at each of the *Return to 1616* skulls and use the clues to determine whether the animal was predator, prey, or both. Can you match each skull to the correct *Return to 1616* animal?

BONEHEADS

Introduction

These skulls have been provided to give you some close up views of some of the animals involved in the Dirk Hartog Island National Park Restoration Project. Take a look at each of the *Return to 1616* skulls and find out more about each animal from these features.

The Return to 1616 Project

Dirk Hartog Island is Western Australia's largest island. When the island was in pristine condition with a rich marine and terrestrial environment. Since this first European landing on Australian soil, the island has degraded the island causing the local extinction of many species.

The *Return to 1616* Project is helping to restore the island by reintroducing sheep and goats have been removed because they are a pest and reduces the food and shelter available for native animals. Hunters and have been eradicated from the island as they are gradually being returned. These include brushtailed mulgara, greater sticknest bat, western quoll, woylie, boodie and western grasswren. Some are threatened and some are extinct. Banded harewallabies live on Dirk Hartog Island. They have been reintroduced to the island.

So how do we know which animal is a predator or prey? Explorers have helped by describing the animals they saw. Years ago. Most importantly, scientists have helped by describing the bones and skulls of the animals.

To find out more about the Dirk Hartog Island National Park Restoration Project, visit: sharkbay.org/restoration.

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Department of Biodiversity, Conservation and Attractions
DIRK HARTOG ISLAND RETURN TO 1616

PARTS OF THE SKULL

Teeth
Carnivores have large canine teeth that they use to catch and clamp onto their prey. They need strong jaw muscles to close their mouth and crush the skull on the small cones towards the back of the skull. A large attachment point means large muscles for gripping prey. Their molar teeth have knife-like, slicing cutting edges to help tear through flesh and bone.

Herbivores have forward facing incisor teeth that help to strip and rip off vegetation. Molar teeth are rectangular with two ridges or cusps separated by a deep groove. The ridges help them to grind up vegetation including grass seed heads, grasses, twigs, herbs and shrubs.

They have large muscle attachments at the back of their jaw that helps them to grind their teeth forwards and backwards as well as side to side.

Eyes
Day or night?
Mammals that are nocturnal and active between dusk and dawn need to have large eyes to allow more light into the eye to help them see at night. Animals that are active during the light of day, have smaller eyes.

Predator or prey?
Carnivores are hunters and need to be able to judge distance when catching food. Their eyes are positioned forward facing to help them judge how far away an animal is. This helps them to see food and catch it accurately because they get close enough.

Herbivores eyes are positioned on the side of the head so they can see forward AND to the side at the same time. This helps them to see food and watch out for predators at the same time, particularly when busy grazing.

BONEHEAD 1

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

BONEHEAD 3

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

BONEHEAD 5

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

BONEHEAD 2

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

BONEHEAD 4

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

BONEHEAD 6

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

BONEHEAD 7

Look at your skull in 3D here for clues to help you find out who this animal is.

Here are some things to observe

1. Look at the whole skull. How big do you think I am?
2. Look at my eye holes. Do you think I am a predator or prey animal?
3. Look at my teeth. What do you think I eat?
4. Do you think I am - a land, air or sea animal?
5. Do you think I have fur, feathers or skin on my body?

Who am I?

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