



## ADAPTATIONS OF ORGANISMS – VCE



### LITTLE PENGUINS

*Eudyptula Minor*

What is a little penguin?

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What research methods are we using to discover more about penguins?

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Why do penguins need land?

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What threats do penguins face on land?

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Why do penguins need the sea?

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What threats do penguins face at sea?

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# THERMOREGULATION!

Feathers:

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Surface Area: Volume Ratio

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Counter current heat transfer

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Behaviours

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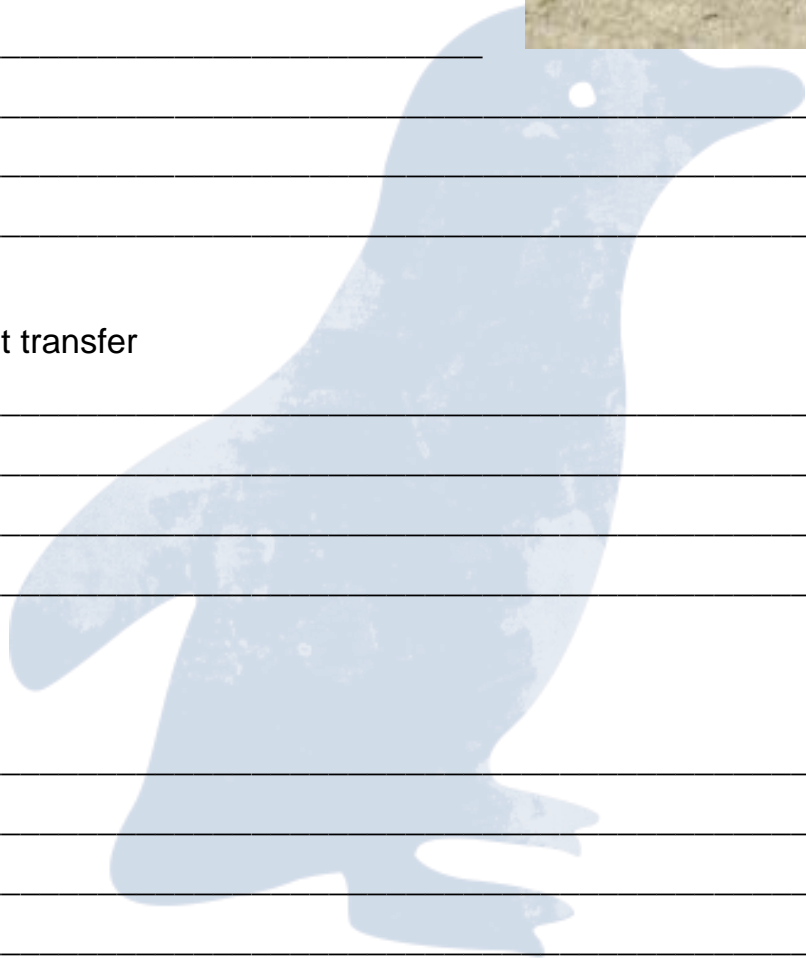
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## OSMOREGULATION!

On the picture to the right, identify where the nares are located.

How do penguins remove excess salt?

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## REPRODUCTION!

What structural adaptation do penguins have to help keep their eggs warm?

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What behavioural adaptation have penguin parents adopted during incubation?

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What structural adaptation do penguin chicks have to break through their egg shell?

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What behaviours have the parents adopted to protect and feed their chicks?

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What structural difference between parents is theorised to be an adaptation for chick rearing?

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## OUT AND ABOUT!

Where do penguins spend most of their time on land?

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What protection does this offer the penguins?

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What issues did the Summerland housing estate cause for penguins?

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How do penguins handle excretion issues while on land?

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How does a penguin's plumage provide them with camouflage?

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When does this camouflage fail them? How do they avoid this issue?

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What human created issues cause problems for the penguins that they have not adapted to?

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# AUSTRALIAN FUR SEALS

*Arctocephalus pusillus doriferus*

The Australian fur seal belongs to which family of seals?

Odobenidae

Phocidae

Otariidae

How can you distinguish between a true seal and an eared seal?

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## THERMOREGULATION!

How do seals stay warm?

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What problems would seals with alopecia face?

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How do seals cool down?

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## OSMOREGULATION!

How do seal intake water?

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How do they lose fluids?

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What adaptations do these seals have to minimise water loss?

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How do they handle high levels of salt?

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## REPRODUCTION!

What is unusual about the seal's gestation cycle?

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What advantage does this give to the seals?

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# SENSATIONAL!

Vision

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Taste

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Touch

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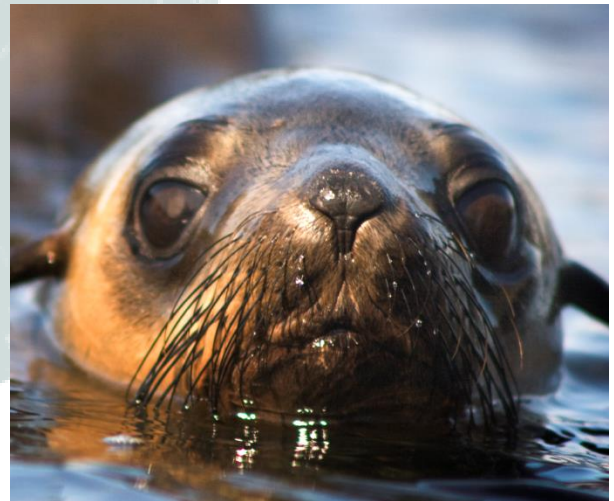
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# KOALAS

*Phascolarctos cinereus*

## LET'S GET PHYSICAL!

Use the table below to describe features you notice on your koala and to theorise about the advantages this adaption has. Use the additional information column during the whole class discussion to note down any additional points. Draw images if necessary.

Feature	Theory	Additional information



If any other adaptations were discussed, record them here.

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### OH BEHAV(IOUR)!

Note down behaviours observed and what challenges these behaviours address.

Behaviour	Cause

## MOTHERLY LOVE!

What advantages does pouch rearing young provide?

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Why does a female koala have two teats in her pouch?

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How does a mother koala induct microbial colonisation in her young?

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Why is this necessary?

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