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# FILL THE BILL

## Summary

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Different bird beaks associated with differing bird species evidence the significance of natural selection and evolutionary adaptation in helping organisms take on a specific niche. Scientists often use modelling techniques when conducting research, while it is also essential they are able to source information using online databases. In this activity, students are introduced to scientific modelling and an online resource Atlas of Living Australia (ALA) which contains data on Australian wildlife through citizen science and is used by people all over Australia to source information about Australian species.

The ALA demonstrates to students the importance of citizen science in data collection. Students in this activity are required to source information about different species from the ALA website, while also analysing the data that they have sourced and articulate a small report about conservation measures they recommend improving species richness in the Geelong area.

In this activity students are asked to identify which beak style best suits specific food sources using mostly everyday kitchen tools, educating students on evolutionary adaptations.

## Curriculum Outcomes: Victorian Curriculum F-10

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Levels 10

### Science Understanding: Biological sciences

- The theory of evolution by natural selection explains the diversity of living things and is supported by a range of scientific evidence (VCSSU120)

### Science Inquiry Skills:

- Planning and Conducting: select and use appropriate equipment and technologies to systematically collect and record accurate and reliable data, and use repeat trials to improve accuracy, precision and reliability (VCSIS136)
- Analysing: analyse patterns and trends in data, including describing relationships between variables, identifying inconsistencies in data and sources of uncertainty, and drawing conclusions that are consistent with evidence (VCSIS138)
- Evaluating: evaluate conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the data (VCSIS139)

### Target Audience

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Students in Year 9 and 10

### Duration of Activity

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It takes 2 x 45-minute lessons to complete the teaching materials

## Learning outcomes

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This activity is aimed to introduce students to the ways in which scientists use modelling, data generation and citizen science to obtain knowledge. Students will learn about evolutionary adaptations by working individually and will use different tools to determine what bird beak type works best to pick up different types of bird “food”. Using the Atlas of Living Australia, students will investigate the distribution of local bird species by becoming aware of the power of citizen science contribution to conservation.

## Acknowledgments

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Special thank you to Atlas of Living Australia (ALA) for allowing for their content to be used for this activity.

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