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Number of lessons: Three

Year level(s): Year 7

Australian Curriculum content descriptions:

*   Classification helps organise the diverse group of organisms (ACSSU111)

*   Interactions between organisms, including the effects of human activities can be represented by food chains and food webs (ACSSU112)

*   Communicate ideas, findings and evidence-based solutions to problems using scientific language, and representations, using digital technologies as appropriate (ACSIS133)

Achievement standard:

By the end of Year 7, students describe techniques to separate pure substances from mixtures. They represent and predict the effects of unbalanced forces, including Earth's gravity, on motion. They explain how the relative positions of Earth, the sun and moon affect phenomena on Earth. They analyse how the sustainable use of resources depends on the way they are formed and cycle through Earth systems. They predict the effect of human and environmental changes on interactions between organisms and **classify and organise diverse organisms based on observable differences**. Students describe situations where scientific knowledge from different science disciplines and diverse cultures has been used to solve a real-world problem. They explain possible implications of the solution for different groups in society.

Students identify questions that can be investigated scientifically. They plan fair experimental methods, identifying variables to be changed and measured. They select equipment that improves fairness and accuracy and describe how they considered safety. **Students draw on evidence to support their conclusions.** They summarise data from different sources, describe trends and refer to the quality of their data when suggesting improvements to their methods. **They communicate their ideas, methods and findings using scientific language and appropriate representations.**

Lesson 1: Discovery

Context

This lesson has been designed in the context of a small class (10-15) of year 7's situated in the Adelaide Hills (a bushy area with pine forests, native parks, etc.)

Materials and equipment

- Worksheet (Bug Bingo [unique to the Adelaide Hills])
- Highlighters (for checking off the bingo

Safety Advice

Weather appropriate clothing and adult supervision.

Objectives

This first lesson is designed to hook students interests and develop their observational skills. This lesson's intentions are to engage students in observing their local environment so that they gain a greater appreciation for the things that go unobserved unless they take the time to look. The Bingo games will be interspersed through the unit to maintain engagement and ensure the practice of observation.

Introduction

This lesson is designed as a hook. Introduce students to the notion of observation and how integral it is to scientific discovery. Hand out the Big Bingo sheets and highlighters. Students should aim to mark off 5 up or across. Once someone calls bingo you may continue the game or head back to the class for a debrief.

Core

This lesson should not be too complicated. Head out of the classroom with the students and play the game with them. Leave 15 minutes at the end of the lesson to conclude the lesson meaningfully.

Conclusion

At the end of the lesson discuss the students' findings. Ask about what else they saw.
Tell them to glue their bingo into their books as they will use it next lesson to identify an insect or small creature to conduct further research on and perform an investigation.

Resources

Worksheet: Bug Bingo

Lesson 2: Investigate

Context

This lesson has been designed in the context of a small class (10-15) of year 7's situated in the Adelaide Hills (a bushy area with pine forests, native parks, etc.)

Materials and equipment

*   Worksheet (Bug Bingo [unique to the Adelaide Hills])

Safety Advice

nil

Objectives

In this second lesson students will be introduced to taxonomic classification and be refreshed in the notion of predator and prey, leading onto the food chain by the 3rd lesson.

Introduction

Students will work through a worksheet on classifications and begin their research project.

Core

Students can work through the MENSA Worksheet before choosing an invertebrate to research. Students will identify the invertebrate's prey OR predator and research that animal too.

Research Project: Once students have identified an invertebrate from their bug bingo they will need to begin research.

PART 1
Students will:
*   find picture examples of their invertebrate;
*   identify its classification for each level;
*   identify what it eats and establish its role in the food chain (predator or prey or both);
*   describe what it looks like and where it lives.

PART 2
Then, on a separate poster, students will:
*   choose one animal that is either predator or prey to their invertebrate to explore;
*   find picture examples of their invertebrate;
*   identify its classification;
*   Identify what it eats and establish its role in the food chain (predator or prey or both).

Conclusion

By the end of the lesson students should have a better understanding of the classification of animals. In the next lesson students will collate their final posters to create a food web on the classroom wall.

Resources

https://static.americanmensa.org/Assets/MFK2/assets/File/Teach/LessonPlans/Lesson_KingdomAnimalia.pdf

Lesson 3: Food Chain

Context

This lesson has been designed in the context of a small class (10-15) of year 7's situated in the Adelaide Hills (a bushy area with pine forests, native parks, etc.)

Materials and equipment

- Students' two posters.
- Bluetack/pins
- String (to make connections)
- Title card (Food Chain)

Safety Advice

nil

Objectives

This final lesson will collate all their posters to create a **Food Chain Wall.**

Introduction

Introduce students to **Omnivore, Carnivore, Herbivore** and have them identify who eats who by sticking their posters on a clear bit of classroom wall.

Core

Students will work together to identify the food chain of their research posters. An extension could include labeling each invertebrate with the title card: Omnivore, Carnivore, Herbivore.

Conclusion

Ask students to share answers to their class from these questions: what they found interesting, what was something new they have learned and what other questions do they have.

Resources

Nil