Lesson: Lolly bags

Phase of learning
Years 7 - 8

WA Curriculum
K-10 Science

Region
North Coast, Gascoyne Coast, West Coast, South Coast, Indian Ocean Territories

Summary
Students will identify similarities and differences between objects and learn how to construct a simple dichotomous key.

Outcomes

- Students will identify similarities and differences between objects.
- Students will learn how to construct a simple dichotomous key.

Duration
30 minutes

Preparation
Background information on classification and dichotomous keys can be found in the Fact Sheet:
[Classification](#).

This is an introductory lesson on dichotomous keys.

The lesson requires students to each have a collection of similar objects (minimum 4, maximum 8). Lollies have been used in the example in the lesson however you could substitute the lollies for a range of items – pasta, regular household items, blocks, stationery, kitchen utensils, sports equipment etc.

Each student will require copy of the associated worksheet for the number of objects they have been provided. We recommend printing the required worksheet at A3 size to allow students room to write their identifying features.

Student Worksheet: [Dichotomous key diagram (4 objects)](#)

Student Worksheet: [Dichotomous key diagram (6 objects)](#)

Student Worksheet: [Dichotomous key diagram (8 objects)](#)

You may also find Teacher Resource Sheet: [Example of a Lolly Bag Dichotomous Key Diagram](#) useful as a guide and/or teaching tool.

Western Australian Curriculum

LEARNING AREA	STRAND	SUB-STRAND	CODES
Science	Science Understanding	Biological sciences	ACSSU111
Science	Science Inquiry Skills	Processing and analysing data and information	ACSIS129

Steps

1. Engage students in a discussion about the term classification – have they previously heard the term? What does it mean? Students may think about the term in relation to movie classification.

Discuss its meaning and relevance to science – if we were to communicate with someone in another country about a particular animal, how do we know we are speaking about the same animal? Many organisms have common names, but many different organisms have the same common name, for example a Dhufish (Glaucosoma hebraicum) in Western Australia is different to a Jewfish (Argyrosomus hololepitotus) on the east coast of Australia. On paper we can see they are spelt differently, but verbally they sound the same.

Classification is the process of grouping organism based on their similarities and differences which therefore allows us to name them. This also allows us to create guides – dichotomous keys – to assist with identifying organisms.

2. Discuss features (similarities and differences) that students could use to distinguish themselves from one another. Ask students to think about what features might be better than others to use. Things to consider:
   - Use features that are constant rather than variable.
   - Use measurements rather than terms such as 'large' and 'small'.
   - Use features that are easily available to the person trying to identify the object rather than something that may only be seen at a particular time of the year.
   - Use positive terminology – something 'is' instead of 'is not'.

3. Use the features discussed to start drawing a dichotomous key to show students how they may be grouped based on similarities and differences.
4. Provide students with their collection of objects. Ask them to write down features of each object. E.g. for a lolly bag, items may be
   - Wrapped
   - Chocolate coated
   - Hard or soft
   - Sugar coated
   - Colour
   - Shape
5. Provide students with Student Worksheet: Dichotomous key diagram (for your chosen number of objects) and allow time to complete their dichotomous key for their bag of objects. Suggest that students focus on one object at a time.
6. Discuss student dichotomous keys – did all students use the same features to describe the objects. Were any of the features variable or ambiguous. What better terminology or features could have been used?

Related resources

Fact Sheet: Classification
Student Worksheet: Dichotomous key diagram - 4 objects
Student Worksheet: Dichotomous key diagram - 6 objects
Student Worksheet: Dichotomous key diagram - 8 objects
Teacher Resource Sheet: Example of Lolly Bag Dichotomous Key Diagram

Keywords

Classification, features, dichotomous key