

# Healthy Unhealthy

A waterway with many mayflies is:

Deduce

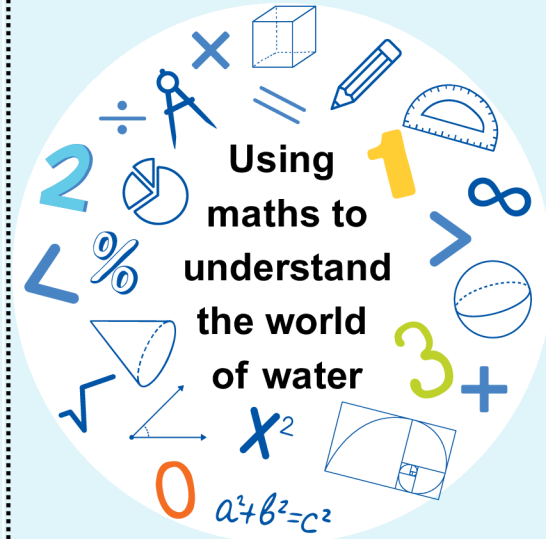
| Very Sensitive |   | Tolerant |   | Very Tolerant |   |
|----------------|---|----------|---|---------------|---|
| 10             | 9 | 8        | 7 | 6             | 5 |
| 4              | 3 | 2        | 1 |               |   |

Name: Mayfly larva  
Tolerance level: 9

WaterNSW studies them to measure the health of the water. Some are more sensitive than others to changes in water. Those that are very sensitive only live in healthy water.

Aquatic Macroinvertebrates

2



Using maths to understand the world of water

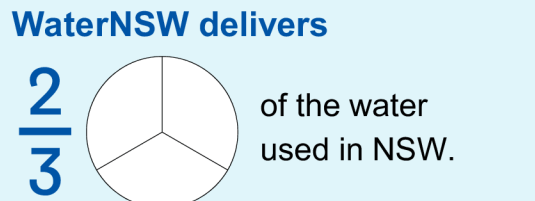
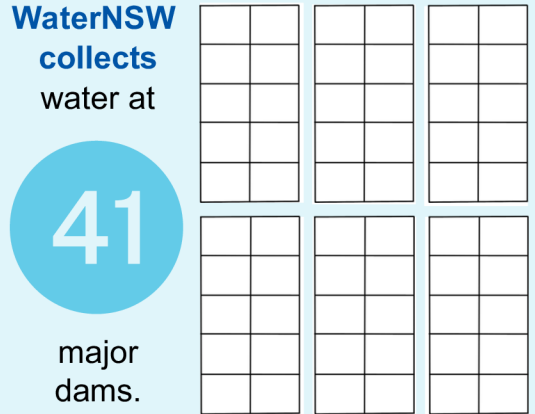
Calculate: WaterNSW put in \_\_\_\_\_ snag(s) per 1 km and will measure animals nearby a total of \_\_\_\_\_ times.

To see if the snags help the river, we will measure the fish and aquatic macroinvertebrates near the snags once a year for five years.

In the Peel River, WaterNSW put in 50 snags across 50 km

Snags are trees, branches and root masses in rivers. They create habitat for animals and plants that live in/near the water.

3



Directions: Colour the tens units to show 41. Colour the pie graph to show 2/3.

Calculate: How much water can Hume Dam hold in litres & pools? \_\_\_\_\_ litres of water \_\_\_\_\_ Olympic-sized pools

1 million litres = 1 megalitre  
2.5 megallitres = 1 Olympic-sized swimming pool

It can hold a maximum of 3,005,0156 megalitres (ML)

Hume Dam  
It is near Albury on the NSW/VIC border. It is one of the largest dams in the world.

4

Numbers

2.5m adult length

20kg adult weight

50 years time for females to reach breeding maturity

2,000km distance female adults travel from Warragamba Dam to Vanuatu to breed

1 year time taken for babies to travel to freshwater

12cm female elvers length on arrival home

# We used maths and science to keep platypus safe!

In 2024, just before nesting season, we released 7,850 ML of water over 8 days to raise the river height by 1m between two dams in NSW. As a result platypus chose nest sites just above the estimated peak river height during peak water transfer periods.

Protecting Platypus  
Platypus build their riverbank nests just above the water in early spring. Often we need to send a large amount of water later in the year for irrigators to use which can raise the river level above platypus nests, putting them underwater.

5

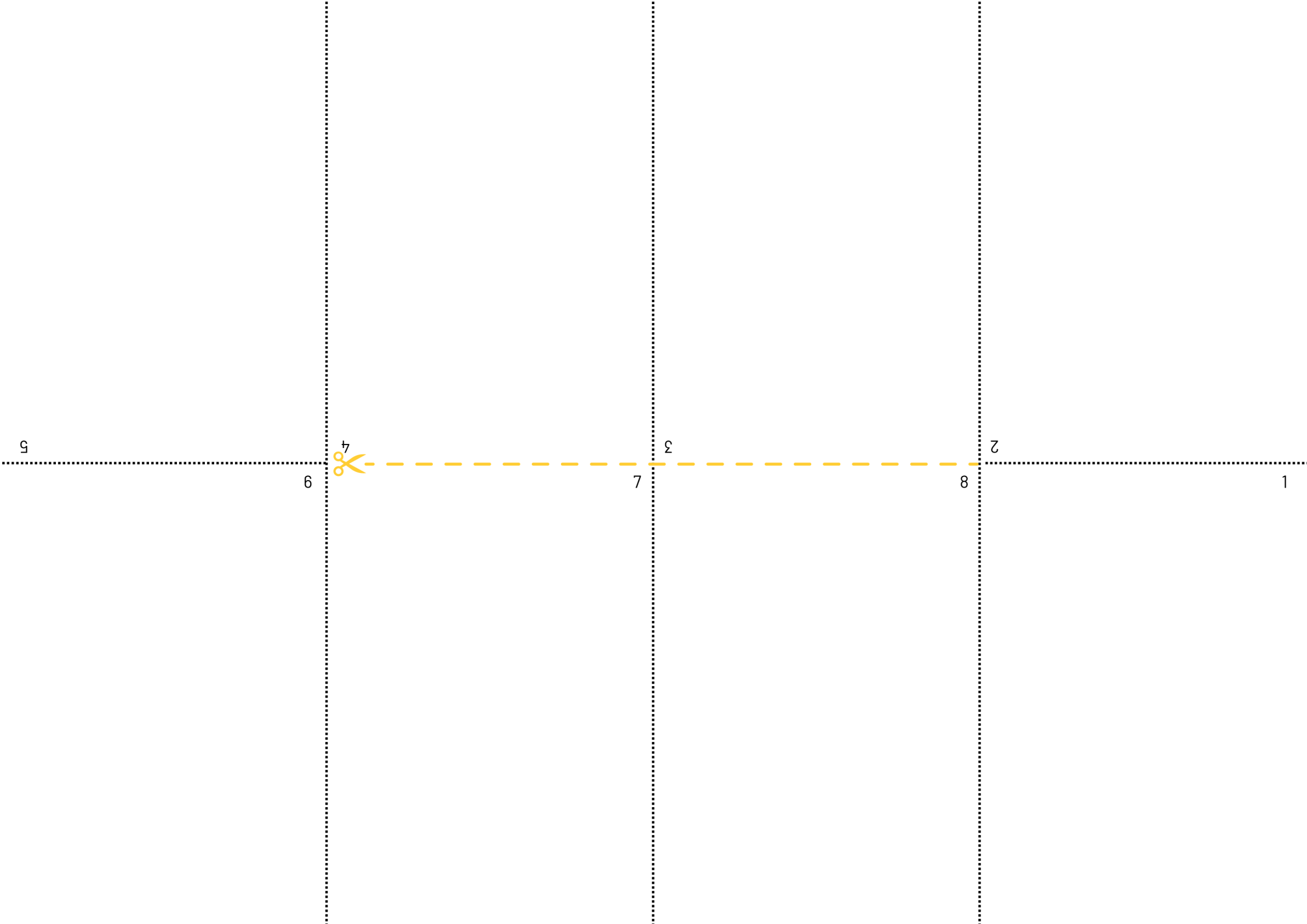


# Exceptional Eels

- Common name: longfinned eel
- Scientific name: *Anguilla reinhardtii*
- Gundungurra name: Jumba
- Darug name: Burra

# Calculate

How much do the eels grow (in length) from arriving at home as elvers to leaving as adults to breed?  
\_\_\_\_\_ cm



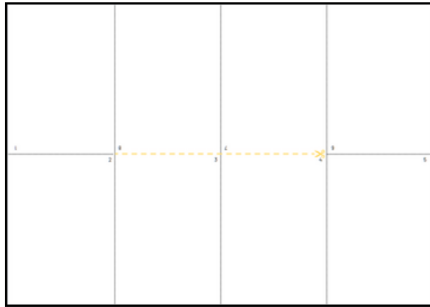


## Before you start!

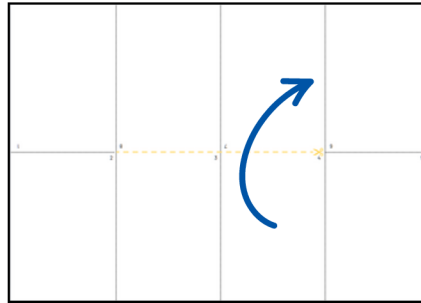
If you have a thin, white border on the edges of your paper, cut it off.

## How to make a zine

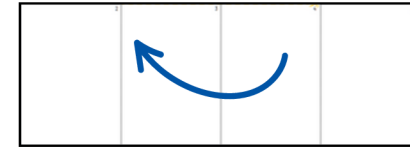
- 1 Arrange your A4 page in landscape position.



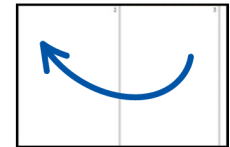
- 2 Fold it in half.



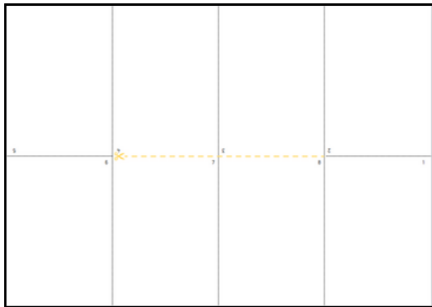
- 3 Fold it in half (again).



- 4 Fold it in half (again).



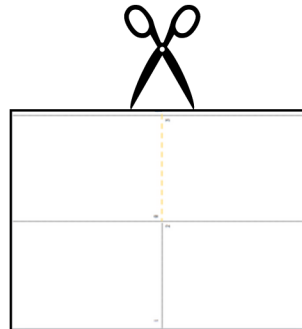
- 5 Unfold to find 8 mini pages.



- 6 Fold it in half.



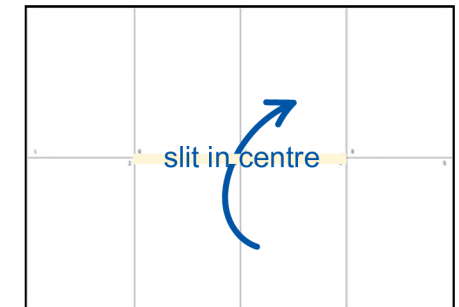
- 7 Cut the centre (on the yellow dashed line).



- 8 Unfold to find 8 pages and a slit in centre.



- 9 Fold it in half.



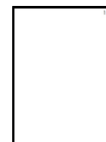
- 10 Push ends together until you close the slit. The centre fold on both sides will push out.



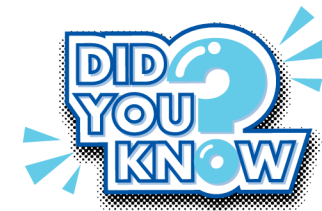
- 11 Fold page 2 towards page 3.



- 12 Rearrange the pages so that page 1 is at the front and page 8 is at the back.



**You have made a zine!**



Zine is pronounced zeen. Zine comes from magazine.

The first zines were created in the 1930s by lovers of science fiction.

**NEXT**

**Make your own zine!**

Use the blank template to create your own zine.