The Microscopic Big Five (Intermediate)

# Observing a tardigrade

Connect with nature
Promote microscopy
Inspire STEM

## You have found a tardigrade

**You have found a tardigrade!**

Tardigrades (waterbears) are microscopic invertebrates. They can be pale or red in colour. Under bright light, you may see green or brown food inside it.

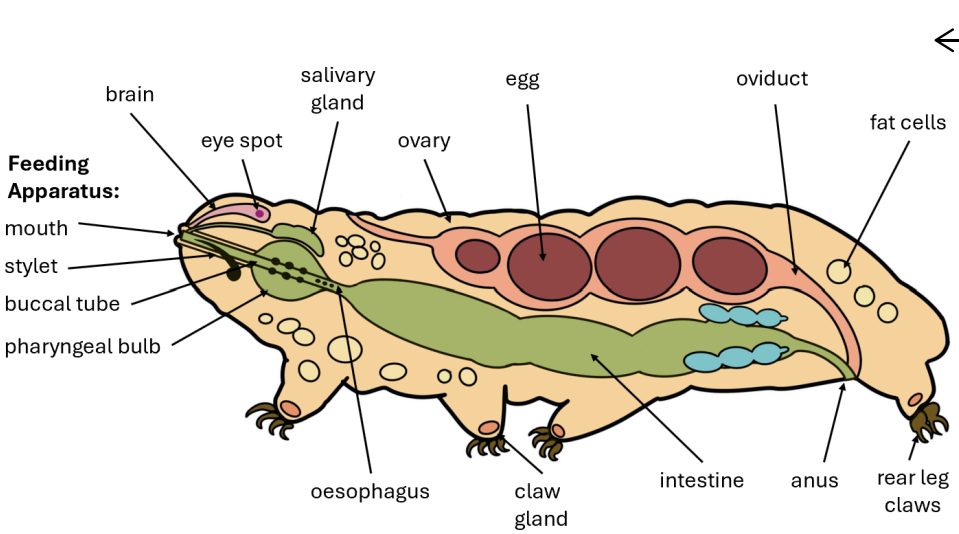
**What to look for at x40**

- Observe the legs and claws
- Look for the pointed mouth
- Sometimes there are dark oval shapes – these are eggs.

**What to look for at x100**

- Look for red or black eye spots on the head
- Look inside the head end for the feeding apparatus

**Draw your tardigrade and label the features you can see. Use a scale bar. Describe what it is doing.**



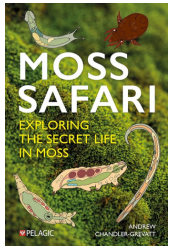




**Diagram from**
www.mosssafari.com
A.Chandler-Grevatt (2025) *Moss Safari. Exploring the secret life in moss.* Pelagic Publishing

**What is it doing?**
Tardigrades use their claws to grip onto the moss.
They walk using their eight short legs.
Although they live in water they cannot swim.
They feed on algae, bacteria and fungi, but some eat larger animals such as nematodes, rotifers and even other tardigrades!

**So what?**
Tardigrades are the most resilient animals on Earth. They can survive extreme conditions including very low temperatures, high pressure and radiation. They do this by turning into a protective ball called a tun. Tardigrade cells produce unique proteins that protect cells from damage. These proteins are being investigated by researchers to use in medicine.