

# Burrowing Crayfish – General Biology

## 2. Engaeus crayfish



**What is a Burrowing Crayfish?**

**What does it look like?**

**What family does it belong to?**

**What is an exoskeleton? And how is it useful?**

### Lesson Overview:

In this session students learn about the Burrowing Crayfish. Discovering essential questions such as: What a Burrowing Crayfish looks like? What specific adaptations do they have? How they have changed overtime? Students learn about the appearance of the crayfish and the particular features that help them survive in their environment. Students complete two tasks; firstly they create their own burrowing crayfish out of paper. Secondly they develop a creature profile with a specific focus on the structural adaptations that have allowed them to live in specific habitats overtime.

**Key concepts:** appearance, observable features, life cycles, exoskeleton, evolution and natural selection.

**Teaching strategies:** F- class word wall or science vocabulary chart,

**Equipment & Resources:** Burrowing Crayfish profiles, paper, scissors, tape, science workbooks.

**AUSVELS Curriculum Linkages:** refer to the curriculum overview.

### Activity Sequence:

- Engage:** Show the class the Burrowing Crayfish pictures.
  - Hand out the burrowing crayfish paper model.
  - Ask students to begin cutting out the crayfish and putting the model together.
  - What parts are they putting together, How many legs? How many claws?
- Explore:** Use the information provided to develop a Burrowing Crayfish Creature Profile.
  - Exoskeleton:** What does it mean? Add the answer onto the science vocabulary chart.
  - What shape are the claws how do they hold them? Is this different from other crayfish species? Why would they hold them like this? Is it linked to where they live?
  - Explain and Elaborate:** Students are to share their Burrowing Crayfish Creature Profiles with each other and showcase their creature file with the others in their class.
  - Evaluate:** Reflection on the different types of information presented about the Burrowing Crayfish. Was their new information discovered and included? How can you share your knowledge wider? Students discuss ideas to share information about the Burrowing Crayfish to with wider audience (year level, school, community).

### **Teachers working example:**

*The first part of this session allows for student to create a model of the Burrowing Crayfish. This cognitive approach allows for time to reflect on what was shown in the previous session as part of the Bookend trust YouTube clip. It also provides time to think about and manipulate the specific structural features and adaptations that help the Burrowing Crayfish survive in their habitats (exoskeleton, forward facing claws, tail carapace etc). The informal nature of the activity is engaging for all students; please do not dismiss the hands on creation of the paper Burrowing Crayfish as it provides a tactile exploration of the anatomy of the crayfish.*

*The level of detail can be expanded to include technical anatomy structure and the evolution of the diversity of living things. As a guide the relevant information files have been recommended for each year level.*

<i>Year level</i>	<i>Relevant information files</i>	<i>Activities and links</i>
<i>3-6</i>	<i>General Burrowing Crayfish Bookend Trust Youtube clip</i>	<i>Paper burrowing crayfish Creature Profile</i>
<i>7-8</i>	<i>General Burrowing Crayfish</i>	
<i>9-10</i>	<i>Engaeus PDF</i>	<i>Burrowing Crayfish Profile</i>

### **Teaching strategies:**

*Take time to read the relevant The Burrowing Crayfish information with groups or as a whole class read through before beginning the activity.*

- Student in years 4 -6 focus on the structural features and adaptation that help them survive in their environment.
- Students in year 7-8 focus on the specialised structure of the burrowing crayfish exploring the differentiation of the claws.
- Students in years 9-10 use the Engaeus PFD file to develop a Burrowing Crayfish Profile. Focusing on the evolution of the species and its adaptation to environment-

*The aim of the session is to build on prior knowledge and provide and form a sound basis of knowledge about the burrowing crayfish.*

### **Developing a scientific vocabulary:**

*It is important to create a list of scientific words to help the students describe their creature and to develop scientific literacy. Continue to add to this list during the session as students ask questions. Invite students to add their own words to the list as the session proceeds. (I.e. Habitat, Niche, ecosystem, carapace, exoskeleton, hollow, attached, early stages, adult, juvenile, flips, skims, jumps, spins).*

*This example is for a Burrowing Crayfish: it can be used as a discussion piece to elaborate the information that students are offering.*

## **Burrowing Crayfish Creature File.**

**Name: What is the common and scientific name?**

Burrowing Crayfish Eugeaus spp.

**Appearance: Describe what the creature looks like? Spots, strips, colour?**

Small brown in colour.

Two claws carried forward.

**Life Cycle: Describe the life cycle of the creature? Adult or larvae?**

Eggs keep under the tail until hatches. Juveniles in burrows until reach maturity

Adult maintains burrows with small communities of crayfish in different chambers.

**Body size: Describe the physical features of the creature (i.e. length).**

Length 5- 10mm in total length from the antenna to the tail tip.

**Movement: How the creature moves?**

The burrowing crayfish walks on its 8 legs.

**Feeding methods: How does the creature eat? What does it eat?**

The Burrowing Crayfish is an omnivore. It eats decaying plant matter it is an opportunists feeder.

**Habitat: Where does the creature live? What is specific about this creature's home?**

The burrowing crayfish lives in freshwater meadows and wetland areas. The Burrowing Crayfish is a land dwelling creatures that makes burrow chambers under the earth. The chambers are interconnected and can have different aged Crayfish living in the different chambers.

**Breathing: Information on how does it breathe? Oxygen from water, air breathing.**

The Burrowing Crayfish has gills and requires a moist environment to live out its life.

**Protection: How does the burrowing crayfish protect itself?**

The Burrowing Crayfish has large claws that are held in a forward facing position to defend itself. Exoskeleton, the outer casing of the creature protects if from other crayfish and from drying out.

**Most interesting feature?**



**Burrowing Crayfish Creature File.**

**Name:** What is the common and scientific name?

**Appearance:** Describe what the creature looks like? Spots, strips, colour?

**Life Cycle:** Describe the life cycle of the creature?

**Body size:** Describe the physical features of the creature (i.e. length).

**Movement:** How the creature moves?

**Feeding methods:** How does the creature eat? What does it eat?

**Habitat:** Where does the creature live? What is specific about this creature's home?

**Defence:** How does the creature protect itself from threats?

**Most interesting feature?**



