WHISTLER NATURE CAMP

Pro-D Day Learning Series

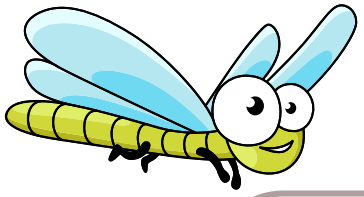
Land Invertebrates

Series 5 of 6

Whistler Community Foundation

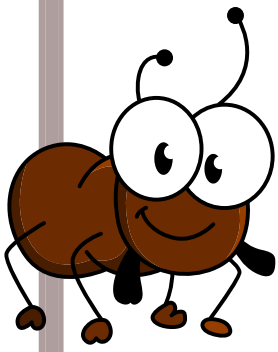
AWARE — Association of Whistler Area Residents for the Environment

CREEPY CRAWLIE WORD SEARCH



Look for the words listed below.
Hint: words may be vertical, horizontal, diagonal or even backwards!

S U N W I N G S X
L N B U G I P I C
U H A T W I F N X
G E N I D E Y S A
E A G E L O H E N
O D R B T E S C Z
W O R M L A I T Z
K O W L O L N C U
T H O R A X O T B



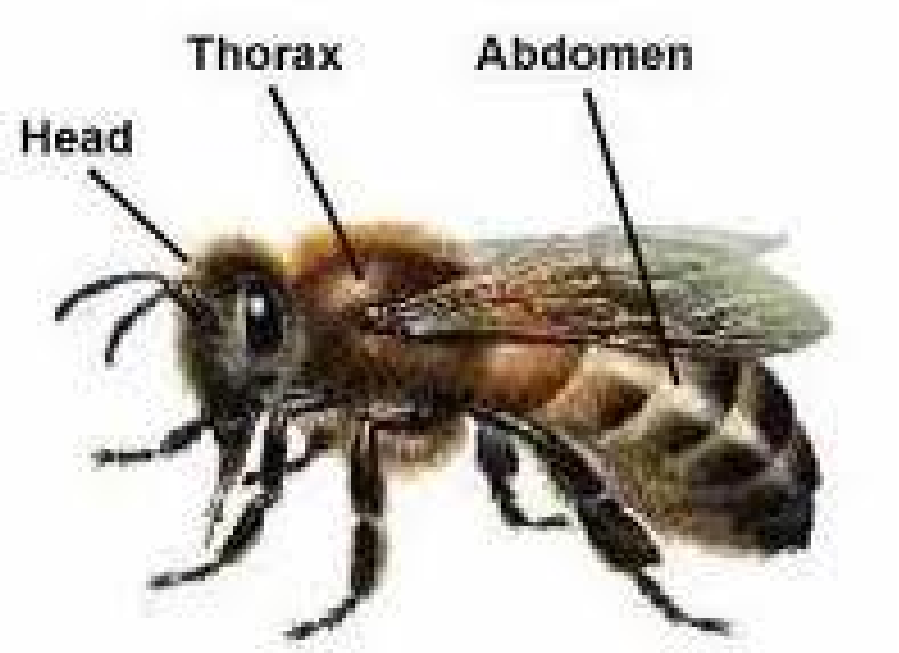
Bug	Wings	Shell	Slug
Insect	Head	Buzz	Ant
Spider	Thorax	Snail	Worm

CREATIVE CRITTERS

Many creepy crawlies are invertebrates, which means they have no spine. Some have bones on the outside instead of the inside (exoskeleton). Invertebrates include spiders, insects, slugs, and snails.

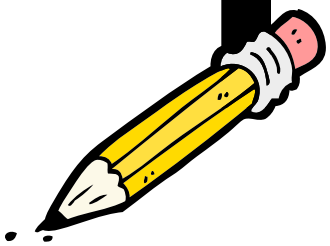
Spiders have eight legs, no antennae or wings, and two body segments. More info in the ‘Spider Sensations’ activity in this section.

Insects are invertebrates with six legs and a hard outer shell. Most insects have wings and antennae and an exoskeleton – a hard shell made of a substance similar to our fingernails and hair. All insects have three parts: the head, the thorax, which is the middle part, and the abdomen, or end part.



TIME TO DRAW!

Time to make your very own make-believe invertebrate.
Choose to draw a spider, insect, slug, snail, or create a new species altogether. How many legs will it have? Does it have antennae, wings? How about bones on the outside instead of the inside (exoskeleton). Draw and colour your creature below.

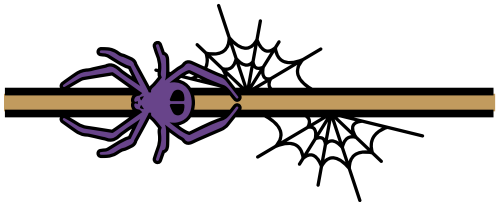


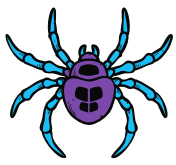
SPIDER SENSATIONS

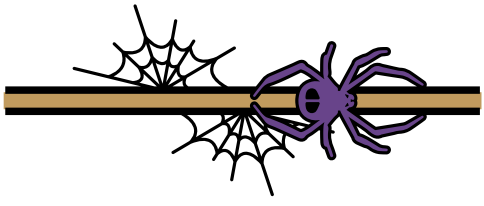
Spiders belong to a huge group of animals called arthropods (phylum Arthropoda), which means that they have jointed legs and a hard outer skeleton rather than a backbone. Arthropods also include insects, crustaceans, and centipedes. The portion of arthropods to which spiders belong are called arachnids (class Arachnida). This class also includes scorpions and mites.

All arachnids have four pairs of legs, no antennae or wings, and two body segments. The front section of a spider is called the prosoma, while the rear is its abdomen. Arachnids also have well-developed jaws that are tipped with fangs, and spiders' fangs are usually poisonous, though most spiders' venom is too weak to do much harm to people. Though many species have multiple eyes (often eight of them) most spiders do not see very well. They use sensory feelers directly in front of their mouths, called pedipalps, to feel and handle their prey. All spiders use silk in one way or another, spinning it from spinnerets at the rear of their abdomen.

Not all species make webs from their silk. Some make silk to protect their young, others make trapdoors, and some line their burrows with it. Of those that do spin webs to capture their prey, orb-weavers (family Araneidae) are the most numerous. Orb-weavers design amazingly intricate webs to catch insects. The strands of silk are also very strong; if a spider could make a one-inch thick silk strand, it would be stronger than a steel cable of the same thickness. Orb-weavers have a very developed sense of feel, and relatively weak vision. When something becomes entangled in the sticky strands of the web, the orbweaver finds the insect or other prey by feeling vibrations and tensions in different threads. The spider will then wrap its prey in silk, bite it to paralyze it, and eventually, eat it. Whistler has at least two orb weavers: silver long-jawed orb weaver (Tetragnatha laboriosa) and long-jawed orb weaver (Tetragnatha versicolor).







Find two spiders and write down the main differences you observe.

_____

_____

_____

How many different spiders can you find? Where were they?

_____

_____

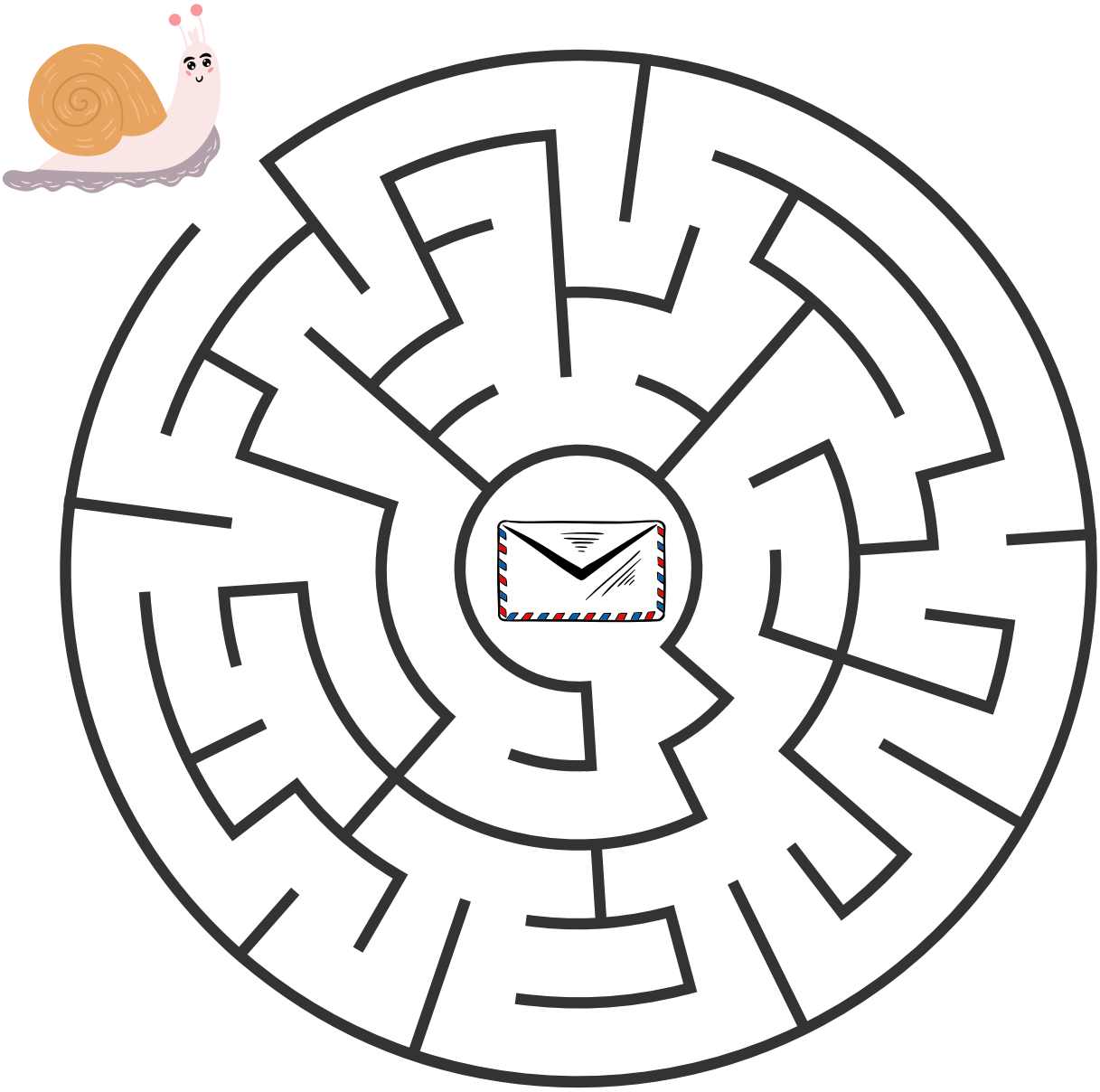
_____

SNAIL MAIL

The entire body of a slug or snail is one strong, muscular foot covered in slime that facilitates movement on the ground and prevents injuries. Slugs can safely move across rocks and other sharp objects including the blade of a razor.

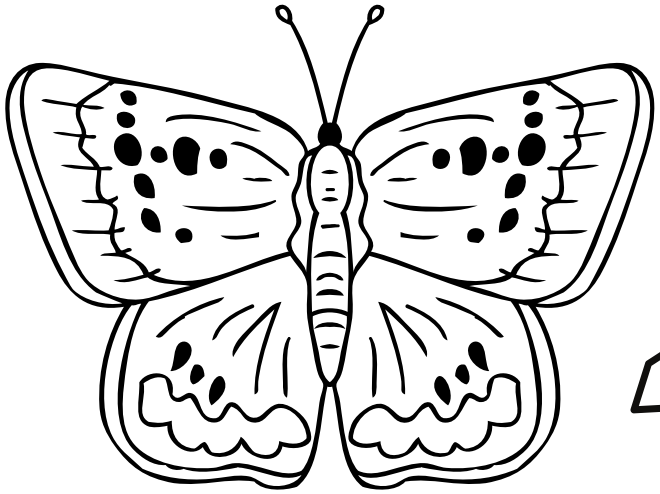
Most slugs have no skeleton at all, but snails have spiral-shaped shells on their backs, in which they can hide for protection. Slugs and snails belong to a larger group called mollusks, which also include shellfish, octopuses, and squid. Slugs, snails, and worms are important decomposers.

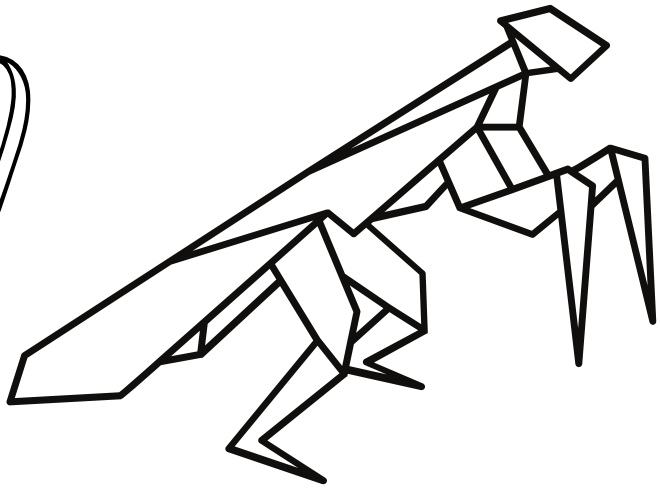
Complete the maze below and help this snail pick up their mail!

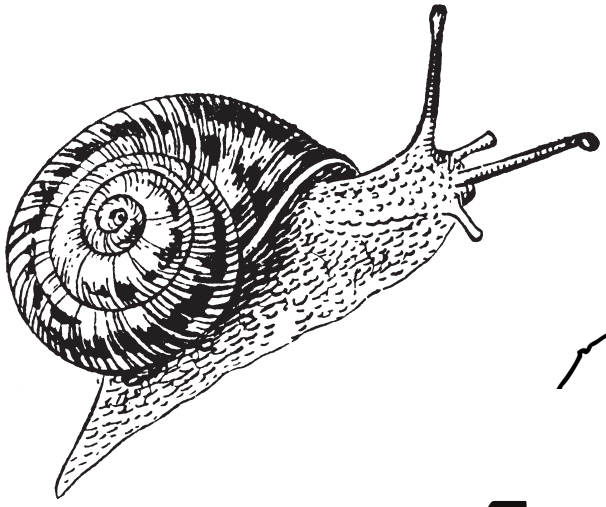


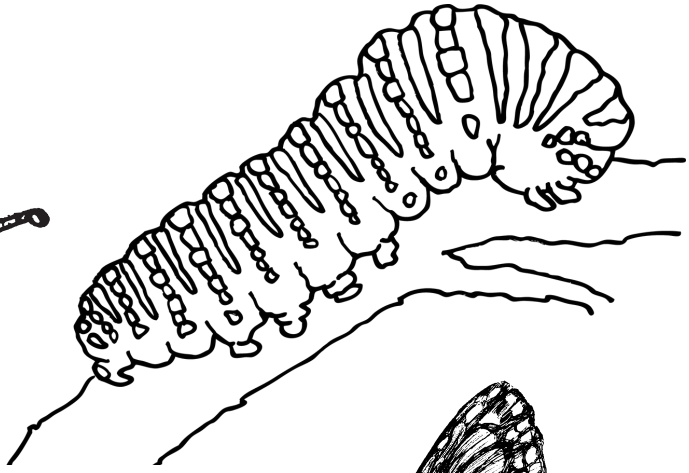
COLOUR ME

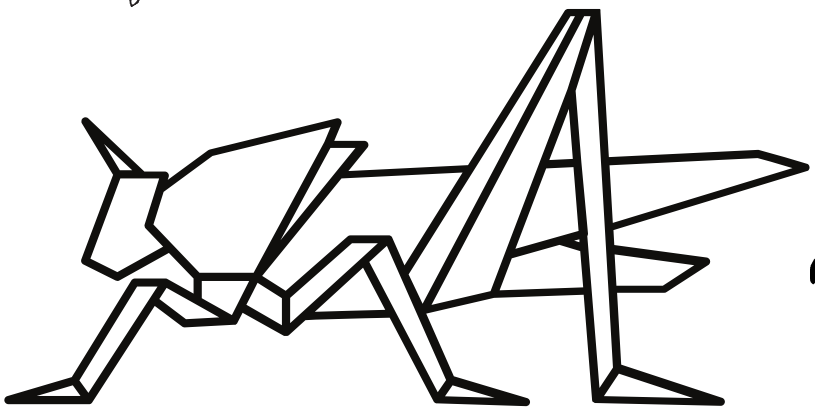
Bugs and other invertebrates and play a huge part in our world since 90% of all living things are bugs!











MEET MY FRIEND




Activity Instructions:

- Kids collect something from the natural environment to be their ‘friend’.
- Each person is given the opportunity to build a small home for their 'friend'.
- Ask participants to give their friends a name and to think of one way in which they can take care of their friend if it was still out in its natural environment.
- When everyone is ready, everyone will tour the small homes that have been created and meet each special friend. E.g. "This is my friend Twiggy. He is a small branch that I found lying on the ground. I've built him a house from soft leaves and moss that I found on the ground. If he was still on a tree, I could take care of him by protecting him from the wind. I could build a fence so the wind wouldn't snap him off from his tree. I could also make sure he doesn't catch diseases -I could check for termites and insects that might harm him."
- **Tips**: It may be helpful to set a pre-determined amount of time to create their homes (e.g. 10-15 minutes).

SNUG AS A BUG

Background: A great way to test observation skills while on a nature walk to and/or from a destination. Find out what likes to hide where. Many bugs hide among their favourite plants and others under the shade of rocks.

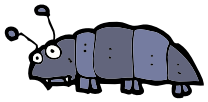
Materials: None.

Instructions:

- Pick a spot to stop on a nature walk.
- Before you can start moving again, tell kids they have to find a creepy crawler.
- Lift up anything on the ground and find little bug worlds "underneath".
- Try stopping in a variety of areas (for example near a wetland, by a sunny park, in a forested area - be creative)!







Observations:

What do you notice about the places you find the most bugs?

_____

_____

_____

Which spot had the busiest bug world? Why do think this was the case?

_____

_____

_____

Which spot had the least bugs? Did this surprise you?

_____

_____

_____

What was the most interesting bug you found? Why?

_____

_____

_____

Were there any bug worlds where you observed more than one type of bug?

_____

_____

_____

How many different bug worlds did you find?

_____

_____

_____

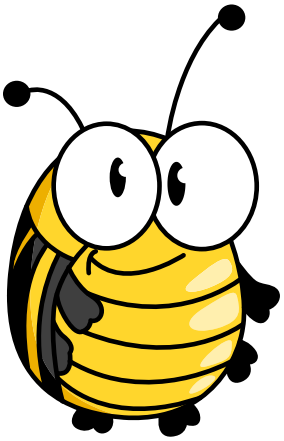
MAKE YOUR OWN POOTER

Background: Construct your very own pooter and use it to collect small bugs.

Materials: Clear plastic container with lid, hole punch, bendable straw, gauze, scissors, small rubber band, modeling clay or sticky tack.

Instructions:

- Punch holes in opposite sides of the container (one hole in the lid and the other on the bottom or lower side of the container).
- Cut one straw in half (or use two straws).
- Put gauze on straight half with a rubber band and feed up through hole in lid (the gauze end will be pointing down inside the container).
- Next, feed the bendy half through your bottom hole, this straw will be used for sucking up insects.
- Mold clay or sticky tack where the straws feed through the container so that the holes they're in are airtight.
- Find an insect small enough to fit in the straw, put your mouth on the top straw with gauze on it and place the other tube right up to the insect, and suck the air in hard.
- The insect will be vacuumed into the container, and the gauze will prevent the bug from going up into your mouth.



ALL ABOUT MY DAY

Use these sentence starters to write a journal. Complete one, two, or all of these lines below:

- My favourite part of the day was...

- The two most interesting things I learned were...

- I didn't expect to...

- Next time I'd like to...