

**Science  
Literacy  
Week**

**Bug Hotel**

# Science Literacy Week - Bug Hotel



This activity will expose youth to the biodiversity of the most diverse group of animals through background research and a hands on activity involving creating a bug “hotel”.

Participants will build their own bug hotel from natural and household materials, creating a structure with a variety of habitats available for local insects. The activity has room for the creative freedom of participants along with some inspiration/guidance provided using examples. Observations should be made daily to record what species you find and the location in the bug hotel where they were found (inside on a specific substrate, on top, or underneath the structure). By the end of the week hopefully you will have been able to spot a few different species of insects in your own backyard and compile a list of species!

## Keywords

**Biodiversity:** The wide variety of life on earth. Biodiversity can be explored at the genetic, species, community, or ecosystem level.

**Ecological Niche:** The position or function of an organism in a community of plants and animals.

**Phylum:** The subdivision of a taxonomic kingdom, grouping together all classes of organisms that have the same body plan.

**Arthropoda:** The phylum comprising the arthropods.

**Species Richness:** The number of species within a community or area

**Urban Ecosystem:** The community of animals, humans, and plants that inhabit an urban environment. It is an area dominated by artificial structures like buildings, roads, sewers, and power lines.



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## Materials

- Ideas for the body of the “hotel”
  - Cleaned out tin cans (glue together)
  - Plastic 1L juice bottle (cut)
  - Milk jug (cut)
  - Wooden box
  - Crate
  - Bricks
- Ideas for materials inside the hotel
  - Sticks
  - Dead wood or soil
  - Leaves, stones
  - Drilled logs or bark with small holes
  - Pinecones
  - Moss
  - Toilet paper roll
  - Popsicle sticks
  - Plant pots
- Super glue or Hot glue to stick components together
- Magnifying glass (optional)

## Safety Considerations

- Cuts from scissors
- Ask assistance if using a hot glue gun (if applicable)
- Ask assistance if using super glue (if applicable)

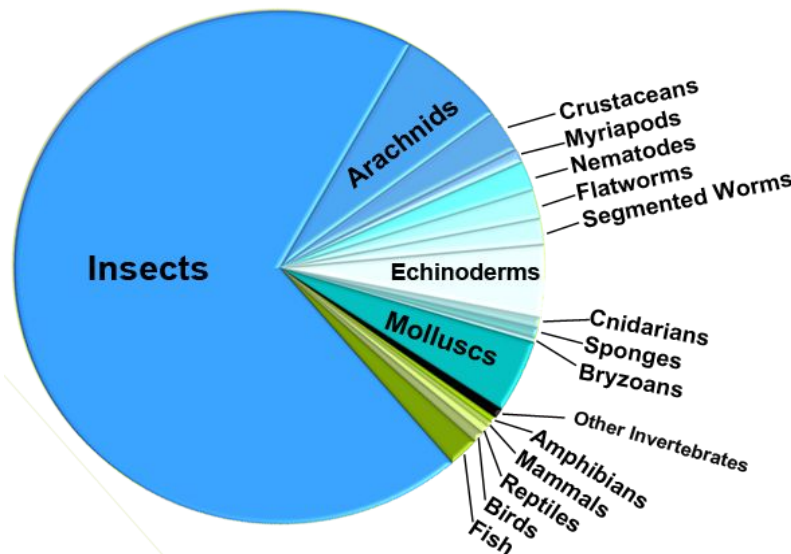


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## Background Information

This year's theme for Science Literacy Week is **B for Biodiversity**, so what better way to explore this topic than with bugs! Insects are the largest and most diverse group of organisms composing roughly 80% of known animal species. Insects have evolved to occupy a great diversity of ecological niches which allows them to live in almost every available habitat such as deserts, forests, rivers, ponds, soil, and so many more. Insects are found on all continents of the world (even in Antarctica!).



Global species diversity in the animal kingdom retrieved from :  
<https://www.inhs.illinois.edu/outreach/animals/>

Insects are known as arthropods and are in the Phylum Arthropoda. Arthropods are invertebrate animals with an exoskeleton, paired jointed appendages, and segmented body. Insects play an essential role in each ecosystem they reside in by cycling nutrients, pollinating plants, dispersing seeds, maintaining soil structure, managing soil fertility, controlling populations of other organisms, and are an important food source for other taxa.

Insect species richness is greatest at tropical latitudes like most species, however there is still a wide range of insect diversity all over the world, even in our own backyards! Roughly half of the estimated 66,000 insects in Canada have been described, and British Columbia is home to as many as 40,000 insect (arthropod) species, many have not been described and are associated with BC's ancient old growth forests. Backyard bugs are one of the easiest ways to observe the biodiversity of organisms that live with us in our urban ecosystem.

# Science Literacy

## Week - Bug Hotel



### Steps

- 1) Select a material/object to act as the supportive structure for your bug hotel. This can be one of the materials suggested above or of your own choice.
  - Remember your bug hotel will be outside rain or shine, so keep that in mind when choosing a material!
  - Make sure the object you have chosen has a large opening for insects to crawl in (this means if you're using something like a plastic juice bottle ask an adult to help you cut off a large portion of the side to create an opening).
- 2) With the permission or assistance from an adult, explore your surroundings outside and within the house.
  - Collect any materials you wish to fill the habitats within your bug hotel. This may be leaves, sticks, grass, chestnuts, fungi, berries, or whatever material you would like to experiment with. If you need some ideas, see the suggested materials list above! This will provide a variety of insect habitats.
- 3) After collecting materials to fill the inside of the hotel, it is time to construct your bug hotel.
  - Think about where bugs like to hide as inspiration for filling your bug hotel with hiding spots (places with little holes, in the dark, underneath things like rocks etc).
- 4) Place your bug hotel outside in a safe place such as your backyard.
  - Before leaving your hotel outside to open for business, can you think of some urban bugs that might inhabit our bug houses? What materials do you think would attract these bugs?



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## Steps

- 5) Check inside, around, and under your bug hotel daily for a week to find any new “guests” your hotel may have attracted. Make sure you look carefully and you may use a magnifying glass to enhance your vision! Many backyard insects are small or great at camouflaging in their environment!
- 6) Record the species of bugs you find daily in your hotel using photographs or a species list (provided below).
- 7) Think about the results recorded from the activity. What were the most common insects that visited your hotel? Were the bugs that came to your hotel ones you expected? Which habitat did you find them in? If you were to do this activity again, what changes would you make to your bug hotel?



Example bug hotel constructed by an SV Instructor

#SVatHome  
#SciLitWeek

Want to share your  
project or results with us?

Email or tag us  
@ScienceVenture



Have a question?

Reach us at  
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