



Science of Summer Family Activities

Build a Bug Observation Box

Overview

Build a bug box to catch, identify and release different bugs over the summer months. Keep a chart of what you've captured.

Materials

Cardboard Bug Box – Easy version

- cardboard shoe box
- ruler
- pencil
- plastic wrap
- Scotch™ Precision Scissors
- Scotch® Packaging Tape or Scotch® Home and Office Masking Tape
- magnifying glass
- string

Cardboard Bug Box - Advanced version

- 4 pieces of untreated lumber (2x4s or 2x6s)
- 3M™ Sanding Sponge or sand paper
- 2 eye bolts
- mesh wire screen
- staple gun
- hammer
- nails
- drill
- hole saw
- 3M™ Wood Glue
- string

Thought Starters

Ask these questions before you get started:

- *What is the most diverse form of life on earth?*
 - *A: Insects! They number in the quintillions.*
- *How many species of insects have been identified?*

- *A: More than a million species have been identified, and entomologists (bug scientists) estimate there could be 10 to 30 times that many. Though they come in a dizzying variety of species, all insects share common characteristics.*
- *What characteristics do insects share?*
 - *A: Along with a hard exoskeleton, they all have six legs, two antennae and three body sections--head, thorax and abdomen. Use a magnifying glass to see if you can pinpoint all the parts.*

Activity

Cardboard Bug Box - Easy version

- Take the lid off the box. Use a ruler and pencil to draw a rectangle in the center of the lid, about 4" wide x 6" long. Cut with scissors.
- Turn the lid over. Stretch a piece of plastic wrap over the hole. (If you have a helper, have one person hold the wrap tightly while the other tapes it down.) Tape all sides of the wrap securely to the underside of the lid.
- Use the tip of your scissors to poke a handful of tiny breathing holes into each side of the box. Be sure they're not big enough for the bugs to escape!
- Add some dirt, grass, twigs, etc to the box, sprinkle with water, and put the lid on tight. If you have a magnifying glass, tie it to a string and tape the string to the box.
- Now hunt for bugs to add to your bug box. Observe! After a day or so, release your bugs and hunt for some more!

Cardboard Bug Box - Advanced version

- First, grab one of the slats of wood (it can be one intended for the top or the side panels) and have an adult help you drill a hole in it. The hole should be at least an inch in diameter, if not large enough for a kid's fist to fit through -- depending on how much insect interaction they're hoping for. The cut-out hole is saved; it will be used as the plug.
- Again with an adult's assistance, drill starter holes into the plug and the adjoining wood so the eye bolts can be screwed in and a string tied between them. The eye bolts don't need to be large, they're just to secure the plug so it doesn't get lost. (An alternative is to create a hinged side enclosed by trim that can swing open and closed but shuts securely).
- Then take all four slats of wood, apply wood glue to the appropriate adjoining sides and nail them into a square to form the outside frame of the bug box. Once the glue has dried, ask your adult supervisor to help you use the staple gun and affix the mesh wire screen in place on each viewing side. It's a good idea to tuck over the edges of the screen as you go along, so no sharp edges are sticking out.
- Staple some string on the top for a handle, then it's off to find an insect inmate.

Links

Animal Planet's "Spiders & Insects" page

<http://animal.discovery.com/guides/atoz/spiders.html>

Amateur Entomologists' Society – "What Bug is This?"

<http://www.amentsoc.org/insects/what-bug-is-this/>

BugGuide.net – for identifying insects

<http://bugguide.net/node/view/15740>

Science Channel's "Top 10 Weird Bug Facts"

<http://science.discovery.com/nerdabout/top-ten/bugs/bugs.html>

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