Module 6: Bugging Out!

engage, express, evaluate, exhibit
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### Objective
Whether you love them or hate them, bugs are an essential part of our ecosystem. Often the prey, this small but mighty crew contributes a lot to the sustenance and maintenance of most plants and animals. Insects live in all habitats and occupy any microhabitat you can imagine. They can be predators, prey, parasites, hosts, herbivores, or decomposers.

### Driving Questions
- What are the characteristics of an insect?
- What role does the insect play in our ecosystem?

### Products of the Week
Papier Mache’ Bugs

### Community Sharing Event
Papier Mache’ Bugs, Spider Handprint, Worms in Dirt

### Introduction
Members will see insects for the miniature marvels that they are! Insects are a part of our ecosystem and have been around for many, many years. This module won’t be able to tell you everything but we sure will try!! There is still a lot to learn about these little creatures of the, earth, sea and sky!!
### Academic Vocabulary

<table>
<thead>
<tr>
<th>Word</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mollusk</td>
<td>Any one of a large group of animals (such as snails and clams) that have a soft body without a backbone and that usually live in a shell (ex. Octopus, Leech, Crab, Jellyfish)</td>
</tr>
<tr>
<td>Larva</td>
<td>A very young form of an insect that looks like a worm</td>
</tr>
<tr>
<td>Abdomen</td>
<td>The third and last section of the body of an insect.</td>
</tr>
<tr>
<td>Chrysalis</td>
<td>The hard, unmoving stage between a caterpillar and a butterfly.</td>
</tr>
<tr>
<td>Hive</td>
<td>The place that bees live in.</td>
</tr>
<tr>
<td>Insect</td>
<td>A small animal with three pairs of legs and a body with an outer shell that is jointed and divided into three parts.</td>
</tr>
<tr>
<td>Pollen</td>
<td>A yellow, dust like substance produced by flowers.</td>
</tr>
<tr>
<td>Pollination</td>
<td>The transfer of pollen from one flower to another.</td>
</tr>
<tr>
<td>Thorax</td>
<td>The part of an insect’s body between the head and the abdomen.</td>
</tr>
<tr>
<td>Invertebrate</td>
<td>Animals that do not have backbones</td>
</tr>
</tbody>
</table>
Module 6: Bugging Out!!

Required Materials

Note: Facilitator Resource materials and handouts are included at the end of the day and should be printed in advance.

Facilitator
- Butterfly Life Cycle Recording Sheet
- Life Cycle of a Butterfly
  http://www.kidsbutterfly.org/life-cycle
- Book: *On Beyond Bugs by Dr. Seuss*
- Facts about Invertebrates
  http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm
- Bug Guide
  http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetic-list-of-bugs/american-cockroach
- Song: Head, Thorax, Abdomen

Team
- Facts about Invertebrates
  http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm
- Bug Guide
  http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetic-list-of-bugs/american-cockroach
- Butterfly Life Cycle Recording Sheet
- Life Cycle of a Butterfly
  http://www.kidsbutterfly.org/life-cycle

Member
- Butterfly Life Cycle Recording Sheet
- Life Cycle of a Butterfly
  http://www.kidsbutterfly.org/life-cycle
- Paper plate
Leaves & twigs collected from the yard
Dried white beans
Dried rotini, shells, and bowtie pasta
White craft glue
Life cycle labels
Ziploc baggies
Googly eyes (2)
Clothespin (1)
Pipe cleaner (1)
Markers or paint pens

Facts about Invertebrates
http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm

Bug Guide
http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetic-list-of-bugs/american-cockroach

Song: Head, Thorax, Abdomen
Newspapers
Non-toxic wheat paste (purchase in an art supply store)
Masking tape
Liquid tempera paints
Paint brushes
Water containers for rinsing brushes
Sponges for drying brushes
20-gauge steel wire
Thin coated wire such as Twisteez, telephone wire, or 32-gauge cloth floral wireWire cutter
Non-flexible plastic drinking straws
Stapler
Cheesecloth
White craft glue
Twisted coils of aluminum foil
Black permanent ink markers
Paper and pencils

Water-based polyurethane
Clay needle tool (for holes to attach antennae)
Watercolor markers (optional)
Pictures of bugs

A Bug’s Life
http://www.imdb.com/title/tt0120623/
Ritz Crackers
Half an apple
Cheerios
Peanut Butter
Chocolate Chips
Scrap construction paper
Scissors
Glue
Paper plate
Black construction paper
Scissors
Glue
Googly eyes
Do-A-Dot-Art
Yarn
Styrofoam Plate
Black Paint
Googly Eyes
Paper
Pencil
Computer with Internet Access
Goldfish
Grapes
### Event Planner

**Note:** Complete the following table early during the week to prepare for the Community Sharing event. Share the answers with the CPO for approval.

<table>
<thead>
<tr>
<th>Type of Event on Friday</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Name</td>
<td></td>
</tr>
<tr>
<td>Who’s Invited</td>
<td></td>
</tr>
<tr>
<td>Publicity to Use</td>
<td>Fliers</td>
</tr>
<tr>
<td></td>
<td>Invitations</td>
</tr>
<tr>
<td></td>
<td>Ads</td>
</tr>
<tr>
<td>Event Location</td>
<td></td>
</tr>
<tr>
<td>Display Area for Projects</td>
<td></td>
</tr>
<tr>
<td>Supplies Needed</td>
<td>Chairs</td>
</tr>
<tr>
<td></td>
<td>Tables</td>
</tr>
<tr>
<td></td>
<td>Signs</td>
</tr>
<tr>
<td></td>
<td>Tape</td>
</tr>
<tr>
<td></td>
<td>Cups</td>
</tr>
<tr>
<td>Refreshments</td>
<td></td>
</tr>
<tr>
<td>(Try to select items that tie into the theme)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Task</th>
<th>Assigned to:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Due Date:</td>
</tr>
<tr>
<td>Task</td>
<td>Assigned to:</td>
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<tr>
<td></td>
<td>Due Date:</td>
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<td>Task</td>
<td>Assigned to:</td>
</tr>
<tr>
<td></td>
<td>Due Date:</td>
</tr>
</tbody>
</table>
Monday: Bugs, Anyone?

<table>
<thead>
<tr>
<th>Monday</th>
<th>Warm-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Learning Center or Multipurpose Center</td>
<td><strong>Estimated Time:</strong> 15min</td>
</tr>
</tbody>
</table>

**Steps to Follow**

Facilitator will say:

*Today we will begin our discussion on insects and the many, many different kinds that there are. Let’s look at this video to get an overview of what we will be doing this week...*

In With The In-Crowd: Invertebrates & insects (Animal Atlas)

https://www.youtube.com/watch?v=rGmjHxN8VOs (22:34)

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**Activity 1: What is an Insect? –Papier Mache’ Bugs (Part 1)**

| Location: Art Room or Computer Lab | **Estimated Time:** 30-45min |

**Description:**
Members will recognize invertebrates and insects and create a Papier Mache’ bug.

**Objective:**
By the end of this activity, members will:
- Recognize that an invertebrate has no backbone.
- Compare and contrast various invertebrates.
- List five facts about an invertebrate.
- Building three-dimensionally
### What You Need

- **Book:** *On Beyond Bugs by Dr. Seuss*
- **Facts about Invertebrates**
  - [http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm](http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm)
- **Bug Guide**
  - [http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetical-list-of-bugs/american-cockroach](http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetical-list-of-bugs/american-cockroach)
- **Song:** Head, Thorax, Abdomen
- **Newspapers**
- **Non-toxic wheat paste (purchase in an art supply store)**
- **Masking tape**
- **Liquid tempera paints**
- **Paint brushes**
- **Water containers for rinsing brushes**
- **Sponges for drying brushes**
- **20-gauge steel wire**
- **Thin coated wire such as Twisteex, telephone wire, or 32-gauge cloth floral wire**
- **Wire cutter**
- **Non-flexible plastic drinking straws**
- **Stapler**
- **Cheesecloth**
- **White craft glue**
- **Twisted coils of aluminum foil**
- **Black permanent ink markers**
- **Paper and pencils**
- **Water-based polyurethane**
- **Clay needle tool (for holes to attach antennae)**
- **Watercolor markers (optional)**
- **Pictures of bugs**

### How to Prepare

- **Cut opened newspaper sheets in half.**
- **Set out the cut newspaper and tape.**
- **Have available pictures of bugs.**
Set out the cut newspaper and tape.

Have available pictures of bugs.

**Steps to Follow**

**Invetebrate Information**
http://www.ducksters.com/animals/invertebrates.php
- Facilitator will read the book, “On Beyond Bugs” by Dr. Seuss
  1. *Read the title.*
  2. *Take a picture walk. Choose various pictures in the book and discuss with the members what is happening on that page.*
  3. *Have members make predictions on what they think the book will be about.*

Facilitator will say:
You will be making giant, three-dimensional bugs (viewable from all sides) with papier mâché, a process using paper and paste. When the paste-soaked paper dries, it becomes very hard and can then be painted. Today we will be forming the bugs’ bodies with wadded newspaper.

Members will look at pictures of bugs, and discuss the following:

- three main sections of their bodies – head, thorax, and abdomen
- Compound eyes are located on the sides of the heads
- Two antennae that protrude from the front of the head
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- Six legs that extend from the thorax
- Some bugs have stingers

**Demonstrate** how to make the foundations for the bugs’ bodies by first pulling several strips of tape. Then squeeze tightly wadded newspaper into a shape for the head, holding it together with tape. Repeat this for the thorax and abdomen, connecting the three shapes securely with more tape. (Details such as wings, antennae, and legs will be added later)

Members will make the foundations for the bug of their choice.

Members will sing the song below to acclimate themselves to the characteristics of bugs.

**Say:**
_In the next session, they will be applying the papier mâché._

**Song: Head, Thorax, Abdomen**

*Head, Thorax, Abdomen*  
*(Tune: Head, Shoulders, Knees and Toes)*  
*by Cedric Wesley, Toni Casarez and Wendy Garrett*
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Head, Thorax, Abdomen... Abdomen
Head, Thorax, Abdomen... Abdomen
6 legs 2 Antennae
And Compound Eyes
Don't forget the ones with wings... Ones with wings!

Motions:
Head: point to head
Thorax: point to stomach area
Abdomen: point to rear and shake
6 legs: show 6 fingers
2 Antennae: with index finger wiggling above head
Compound Eyes: hands cupped like "c" around eyes
Wings: interlock hands at thumbs and wiggle fingers in flying motion
Tuesday | Activity 2: What is an Insect? – Papier Mache’ Bugs (Part 1)

<table>
<thead>
<tr>
<th>Location: Art Room or Multipurpose Room</th>
<th>Estimated Time: 30-45min</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description:</td>
<td></td>
</tr>
<tr>
<td>Members will recognize invertebrates and insects and create a Papier Mache’ bug.</td>
<td></td>
</tr>
<tr>
<td>Objective:</td>
<td></td>
</tr>
<tr>
<td>By the end of this activity, members will recognize that an invertebrate has no backbone, compare and contrast various invertebrates, list five facts about an invertebrate, building three-dimensionally, painting on a three-dimensional surface</td>
<td></td>
</tr>
</tbody>
</table>

Materials:
Book: *On Beyond Bugs by Dr. Seuss*
Facts about Invertebrates
http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm
Bug Guide
http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetical-list-of-bugs/american-cockroach
Song: Head, Thorax, Abdomen
Newspapers
Non-toxic wheat paste (purchase in an art supply store)
Masking tape
Liquid tempera paints
Paint brushes
Water containers for rinsing brushes
Sponges for drying brushes
20-gauge steel wire
Thin coated wire such as Twisteez, telephone wire, or 32-gauge cloth floral wire Wire cutter
Non-flexible plastic drinking straws
Stapler
Cheesecloth
White craft glue
Twisted coils of aluminum foil
Black permanent ink markers

What You Need
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<table>
<thead>
<tr>
<th>Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper and pencils</td>
</tr>
<tr>
<td>Water-based polyurethane</td>
</tr>
<tr>
<td>Clay needle tool (for holes to attach antennae)</td>
</tr>
<tr>
<td>Watercolor markers (optional)</td>
</tr>
<tr>
<td>Pictures of bugs</td>
</tr>
</tbody>
</table>

### How to Prepare

- Cover the work area with newspaper
- Mix the wheat paste to a creamy consistency and put into bowls, planning one for every two children.
- Tear newspaper into approximately 1 x 3-inch strips.
- Set out wheat paste and newspaper strips.
- Prepare a space with a non-stick surface, such as waxed paper, for drying the bugs.

### Steps to Follow

The Facilitator will say:

*Today you will be putting two to three coats of papier mâché on your bugs and then adding the eyes.*

2. **Demonstrate** the papier mâché process by dipping strips of torn newspaper into the prepared paste. Pull the wet strips between two fingers to remove the excess paste. This step is important to avoid having the bugs become too wet. Lay dampened strips on the bug foundation, *overlapping* (laying each piece slightly over the previous one) and smoothing the edges as you cover the entire body with one layer. Eyes can be made by dipping a small piece of newspaper into the paste, wadding it into an eye shape, and attaching it to the sides of the heads.

3. Ask members to cover the bugs with papier mâché and attach the eyes.
Facilitator and Junior Staff will put member’s names on a piece of paper and attach the paper to the bug.

**Note:** Warn members that the first coat is the hardest and that the second and third coats are easier because the paste-soaked paper will stick to itself. Also to keep the bugs from developing a flat side or sticking to the surface, balance them on twisted coils of aluminum foil to dry.
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<table>
<thead>
<tr>
<th>Monday</th>
<th>Activity 3: What is an Insect? --Papier Mache’ Bugs (Part 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong>: Art Room or Multipurpose Room</td>
<td><strong>Estimated Time</strong>: 30-45min</td>
</tr>
</tbody>
</table>

**Description:**
Members will recognize invertebrates and insects and create a Papier Mache’ bug.

**Objective:** By the end of this activity, members will:
- Recognize that an invertebrate has no backbone.
- Compare and contrast various invertebrates.
- List five facts about an invertebrate.
- Building three-dimensionally
- Painting on a three-dimensional surface

**Facts about Invertebrates**
http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm

**Bug Guide**
http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetic-list-of-bugs/american-cockroach

**What You Need**
- Newspapers
- Non-toxic wheat paste (purchase in an art supply store)
- Masking tape
- Liquid tempera paints
- Paint brushes
- Water containers for rinsing brushes
- Sponges for drying brushes
- 20-gauge steel wire
- Thin coated wire such as Twisteez, telephone wire, or 32-gauge cloth floral wire
- Wire cutter
- Non-flexible plastic drinking straws
- Stapler

---

**engage** | **express** | **exhibit** | **evaluate**
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<table>
<thead>
<tr>
<th>Cheesecloth</th>
</tr>
</thead>
<tbody>
<tr>
<td>White craft glue</td>
</tr>
<tr>
<td>Twisted coils of aluminum foil</td>
</tr>
<tr>
<td>Black permanent ink markers</td>
</tr>
<tr>
<td>Paper and pencils</td>
</tr>
<tr>
<td>Water-based polyurethane</td>
</tr>
<tr>
<td>Clay needle tool (for holes to attach antennae)</td>
</tr>
<tr>
<td>Watercolor markers (optional)</td>
</tr>
<tr>
<td>Pictures of bugs</td>
</tr>
</tbody>
</table>

Cover the work area with newspaper.

To prepare the foundations for the bugs' legs, overlap two drinking straws about one inch and staple them together. Cut two pieces of wire the same length as each straw and slide them into the straws. Two attached straws will make two legs.

Steps to Follow

1. Facilitator will say:
   In this session, members will be attaching legs to the bugs and covering them with papier mâché.
   Facilitator will show the children how to securely tape the stapled center of three straws to the thorax of the bug and then bend the legs into the desired positions, balancing the bug so it is free-standing or able to stand on its own.

2. Members will wrap the legs and the areas where they are connected to the bug with a layer of papier mâché, making sure to cover all of the tape. Remind the children to overlap and smooth the surface.

3. **Note:** Straws need to be flattened where they are attached to the bugs so they won't roll around after the papier mâché dries.
<table>
<thead>
<tr>
<th>Exit Ticket:</th>
</tr>
</thead>
<tbody>
<tr>
<td>What three characteristics does every insect possess?</td>
</tr>
</tbody>
</table>

### Monday

<table>
<thead>
<tr>
<th>Facilitator Resource: T-Chart</th>
</tr>
</thead>
</table>

### Tuesday: A Bug’s Life

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Warm-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location: Art Room or Multipurpose Room</td>
<td>Estimated Time: 15min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Steps to Follow</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitator will say:</td>
<td><em>Let’s spend some time with our winged invertebrates as continue our Papier Mache’ project.</em></td>
</tr>
<tr>
<td>Wings and Butterflies</td>
<td><a href="https://www.youtube.com/watch?v=-ClRydpUbXo">https://www.youtube.com/watch?v=-ClRydpUbXo</a></td>
</tr>
</tbody>
</table>
## Activity 1: What is an Insect?--Papier Mache’ Bugs (Part 4)

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Activity 1: What is an Insect?--Papier Mache’ Bugs (Part 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Art Room or Multipurpose Room</td>
<td><strong>Estimated Time:</strong> 30-45min</td>
</tr>
<tr>
<td><strong>Description:</strong> Members will recognize invertebrates and insects and create a Papier Mache’ bug.</td>
<td></td>
</tr>
<tr>
<td><strong>Objective:</strong> By the end of this activity, members will recognize that an invertebrate has no backbone, compare and contrast various invertebrates, list five facts about an invertebrate, building three-dimensionally, and painting on a three-dimensional surface.</td>
<td></td>
</tr>
</tbody>
</table>

### What You Need

- **Facts about Invertebrates**
  - [http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm](http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm)
- **Bug Guide**
  - [http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetical-list-of-bugs/american-cockroach](http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetical-list-of-bugs/american-cockroach)
- Newspapers
- Non-toxic wheat paste (purchase in an art supply store)
- Masking tape
- Liquid tempera paints
- Paint brushes
- Water containers for rinsing brushes
- Sponges for drying brushes
- 20-gauge steel wire
- Thin coated wire such as Twisteez, telephone wire, or 32-gauge cloth floral wire
- Wire cutter
- Non-flexible plastic drinking straws
- Stapler
- Cheesecloth
- White craft glue
- Twisted coils of aluminum foil
- Black permanent ink markers
- Paper and pencils
- Water-based polyurethane
- Clay needle tool (for holes to attach antennae)
- Watercolor markers (optional)
### Module 6: Bugging Out!!

#### How to Prepare
- Set out the dried bugs.
- Set out tempera paints, brushes, water containers, and sponges.
- Have available the pictures of bugs.

#### Steps to Follow

<table>
<thead>
<tr>
<th></th>
<th>Facilitator will say:</th>
</tr>
</thead>
</table>
| 1 | *Today you will be painting a first layer of paint on your bugs. In the next session, we will be adding details.*  
Members will look at the pictures of their bugs and discuss the colors and patterns they see. |
| 2 | Facilitator will explain that members may use the designs of a specific bug or create their own. |
| 3 | Facilitator will show the members how to paint the rough edges of the dried papier mâché by loading the brush with paint and dabbing it into the crevices. Smooth over the area so as not to leave puddles of paint that tend to chip off when dried. |
| 4 | Members will paint the entire surface of their bugs with a first layer of paint. |
| 5 | *Note: Allow the bugs to dry. The Facilitator or Junior Staff will apply a coat of polyurethane to the dried bugs.* |
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**Module 6: Bugging Out!!**

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Activity 2: What is an Insect?--Papier Mache’ Bugs (Part 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong></td>
<td>Art Room or Multipurpose Room</td>
</tr>
<tr>
<td><strong>Description:</strong></td>
<td>Members will recognize invertebrates and insects and create a Papier Mache’ bug.</td>
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<td><strong>Objective:</strong></td>
<td>By the end of this activity, members will recognize that an invertebrate has no backbone, compare and contrast various invertebrates, list five facts about an invertebrate, building three-dimensionally, painting on a three-dimensional surface.</td>
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**What You Need**

- Facts about Invertebrates
  - http://animals.about.com/od/invertebrates/a/tenfactsinvertebrates.htm
- Bug Guide
  - http://www.landcareresearch.co.nz/resources/identification/animals/bug-id/alphabetic-list-of-bugs/american-cockroach
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- Thin coated wire such as Twisteez, telephone wire, or 32-gauge cloth floral wire
- Wire cutter
- Non-flexible plastic drinking straws
- Stapler
- Cheesecloth
- White craft glue
- Twisted coils of aluminum foil
- Black permanent ink markers
- Paper and pencils
- Water-based polyurethane
- Clay needle tool (for holes to attach antennae)
- Watercolor markers (optional)
- Pictures of bugs
Cheesecloth dipped in glue will achieve the light, translucent effect of bug wings. It usually comes folded in four layers which will make stiff enough wings without losing transparency. Thin the white glue just enough to fully immerse the cheesecloth - the thicker the glue, the stronger the wings will be. Gently squeeze out extra glue and hang the cloth to dry over newspaper to catch the drips. When the cheesecloth dries, cut it into pieces that are large enough for two wings.

Set out the bugs, stiffened cheesecloth, paper, pencils, scissors, thin wire for the antennae, and glue.

Have available the clay needle tool and optional markers.

Facilitator will say:

In this last session you will complete your bugs by attaching wings and antennae.

With the help of the Facilitator and the Junior Staff. Members will cut the wire for the antennae and use the needle tool to poke holes in the papier mâché. Dip one end of each antenna into the glue and push it into the hole.

Members will draw a template for a wing on paper; cut the template out; and trace it two times onto the stiffened cheesecloth. Cut out the wing shapes and attach them with white glue to the back of the thorax. Use a piece of masking tape to hold the wings in place until the glue dries.

Members who finish early, or do not need wings for their bugs, can use markers to draw the bugs, duplicating them as much as...
Tuesday | Activity 3:  
---|---

**Location:** Art Room or Multipurpose Room  
**Estimated Time:** 30-45min

**Description:**  
Members will create the life cycle of a butterfly.

**Objective:**  
By the end of this activity, members will recognize that metamorphosis, as it pertains to the insect, means to change, recognize stages in a butterfly’s life cycle, analyze and organizing scientific information about insects.

| What You Need |  
|---|---
| Butterfly Life Cycle Recording Sheet  
Life Cycle of a Butterfly  
Paper plate  
Leaves & twigs collected from the yard  
Dried white beans  
Dried rotini, shells, and bowtie pasta  
White craft glue  
Life cycle labels  
Ziploc baggies  
Googly eyes (2)  
Clothespin (1)  
Pipe cleaner (1)  
Markers or paint pens  
Goldfish  
Grapes |  
---|---

| How to Prepare |  
|---|---
| Have the noodles separated and on the tables.  
Have the goldfish and grapes ready for distribution prior to the activity. |  
---|---
Module 6: Bugging Out!!

<table>
<thead>
<tr>
<th>Steps to Follow</th>
<th>The Facilitator will read the book, <em>The Very Hungry Caterpillar</em>.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>To introduce the book the Facilitator will:</strong></td>
</tr>
<tr>
<td></td>
<td>• Display the book and invite children to describe the caterpillar. Ask: <em>Does he look happy? How do you think the artist made this caterpillar?</em> Read aloud the title and ask: <em>Why do you think the caterpillar is so hungry?</em></td>
</tr>
<tr>
<td></td>
<td>• Take a picture walk and ask: <em>What do you notice that's different about this book?</em> Talk about the holes in the pages and the different sized pages. Tell the class that the author made the book this way on purpose. Ask children to think about why as they read the story.</td>
</tr>
<tr>
<td></td>
<td>• Ask children what they know about caterpillars. Have they ever seen one? Held one? How did it feel? What happens to caterpillars?</td>
</tr>
<tr>
<td></td>
<td><strong>After reading the book, the Facilitator will say:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Facilitator will say:</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Now we are going to make the life cycle of a butterfly using noodles.</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Members will take a plate and divide it into fourths.</strong></td>
</tr>
<tr>
<td>2</td>
<td><strong>Members will get a leaf and glue three dried white beans on it and glue it in the first quadrant of the plate.</strong></td>
</tr>
<tr>
<td>3</td>
<td><strong>Members will label that quadrant “Eggs”.</strong></td>
</tr>
<tr>
<td>4</td>
<td><strong>Members will get a leaf and glue one rigatoni on the leaf then glue that leaf in the second quadrant of the plate.</strong></td>
</tr>
<tr>
<td>5</td>
<td><strong>Members will label that quadrant “caterpillar”.</strong></td>
</tr>
<tr>
<td>6</td>
<td><strong>Members will get a stick and glue the shell pasta to it.</strong></td>
</tr>
<tr>
<td>7</td>
<td><strong>Members will place this in the 3rd quadrant of the plate and label it “chrysalis”.</strong></td>
</tr>
<tr>
<td></td>
<td>Members will get bowtie pasta and place it in the fourth quadrant of the plate and label it “butterfly”.</td>
</tr>
<tr>
<td>---</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td><strong>Facilitator will say:</strong></td>
</tr>
<tr>
<td></td>
<td><em>Let’s make a delicious Butterfly Snack...</em></td>
</tr>
<tr>
<td></td>
<td>Color the clothespin with either markers or paint pens.</td>
</tr>
<tr>
<td></td>
<td>Embellish with 2 googly eyes and a pipe cleaner antenna.</td>
</tr>
</tbody>
</table>
### Wednesday: Insect or Arachnid?

<table>
<thead>
<tr>
<th>Wednesday</th>
<th>Warm-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Learning Center or Multipurpose Room</td>
<td><strong>Estimated Time:</strong> 15min</td>
</tr>
</tbody>
</table>

**Steps to Follow**

1. Spiders vs Insects  
   [https://www.youtube.com/watch?v=NGFDAA4g8Ew](https://www.youtube.com/watch?v=NGFDAA4g8Ew) (4:03)

---

<table>
<thead>
<tr>
<th>Wednesday</th>
<th>Activity 1: Easy Paper Plate Butterflies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Art Room or Multipurpose Room</td>
<td><strong>Estimated Time:</strong> 30-45min</td>
</tr>
</tbody>
</table>

**Description:** Members will create paper plate butterflies.

**Objective:**  
By the end of this activity, members will create butterflies using paper plates.

**What You Need**

- Paper plate
- Black construction paper
- Scissors
- Glue
- Googly eyes
- Do-A-Dot-Art
## How to Prepare

<table>
<thead>
<tr>
<th>Steps to Follow</th>
<th>1</th>
<th>Members will decorate the plate.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>Cut out a body and antennae.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Cut plate in half in a back and forth pattern.</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>Glue on all parts to the body.</td>
</tr>
</tbody>
</table>
Module 6: Bugging Out!!

### Activity 2: Hand Print Spider Craft

**Location:** Learning Center or Multipurpose Room  
**Estimated Time:** 30-45min

**Description:**

**Objective:**
By the end of this activity, members will recognize the differences between spiders and insects list five facts about spiders and provide researched facts about spiders.

**What You Need**
- Black Paint
- Googly Eyes
- Paper
- Pencil
- Computer with Internet Access

**How to Prepare**
Prepare the paint prior to the activity.

**Steps to Follow**

1. **Facilitator will say:**
   Today you will work as teams to research spiders and insects. Some of you will research insects and some of you will research spiders. You will need to find out the following things about your animals.
   - The name
   - The size
   - Where it is found
   - Characteristics

   You will write down the facts on paper and then draw the spider or insect. Each of you will need to research two spiders and two insects.

   Members will work in teams to research their perspective bugs or arachnids.

2. **Members will make a Hand print Spider as they finish.**
   - Members will dip their hands in the black paint.
Module 6: Bugging Out!!

- Members will press their hands down, fingers facing outward and spread apart.
- Members will glue googly eyes to their spider.
# Activity 3: Oh, What Tangled Webs We Weave...

**Location:** Learning Center or Multipurpose Room

**Estimated Time:** 30-45 min

**Description:** Members will make a spider’s web.

**Objective:**
By the end of this activity, members will create a spider’s web by weaving.

| What You Need          | Yarn  
|------------------------|-------
|                        | Styrofoam Plate |

| How to Prepare         | Cut little triangles into the Styrofoam plates. |

<table>
<thead>
<tr>
<th>Steps to Follow</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Poke a hole in the center of the plate.</td>
</tr>
<tr>
<td>2</td>
<td>Thread the yarn through and pull.</td>
</tr>
<tr>
<td>3</td>
<td>Wrap the yarn around the plate securing it in one of the cut out triangles.</td>
</tr>
<tr>
<td>4</td>
<td>Continue with the process until the yarn is used up.</td>
</tr>
</tbody>
</table>
Thursday: Bug-o-tastic!

<table>
<thead>
<tr>
<th>Thursday</th>
<th>Warm-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Learning Center or Multipurpose Room</td>
<td><strong>Estimated Time:</strong> 15min</td>
</tr>
</tbody>
</table>

**Steps to Follow**

1. Facilitator will say:
   Let’s look at some rare bugs that aren’t widely known.

2. Amazing Bugs You Probably Didn’t Know Existed
   [https://www.youtube.com/watch?v=pTQZAiuDoTg](https://www.youtube.com/watch?v=pTQZAiuDoTg)

---

<table>
<thead>
<tr>
<th>Thursday</th>
<th>Activity 1: Edible Spiders</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Learning Center or Multipurpose Room</td>
<td><strong>Estimated Time:</strong> 30-45min</td>
</tr>
</tbody>
</table>

**Description:** Members will create edible spiders for a delicious snack.

**Objective:**
By the end of this activity, members will create edible spiders.

**What You Need**
- Oreos
- Skittles (for the eyes)
- Licorice (Black)
## Module 6: Bugging Out!!

<table>
<thead>
<tr>
<th>How to Prepare</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Steps to Follow</strong></td>
<td>1</td>
</tr>
<tr>
<td>Members will use the ingredients and create their spiders.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thursday</th>
<th>Facilitator Resource:</th>
</tr>
</thead>
</table>
### Activity 2: Paint Strip Dragon Fly

**Location:** Art Room or Multipurpose Room  
**Estimated Time:** 30-45min

**Description:** Members will create a colorful dragon fly.

**Objective:** The students will create a Dragonfly.

#### What You Need
- Various colored paint strips
- 4 white cupcake liners
- googly eyes
- glue
- glitter glue

#### How to Prepare

<table>
<thead>
<tr>
<th>Steps to Follow</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Start by gluing two of your cupcake liners in half. Then add a small amount of glue in one corner and glue the other cupcake liner on top of it to make a dragonfly wing. Repeat this step again for your other two cupcake liners.</td>
</tr>
<tr>
<td>2</td>
<td>Glue your wings onto the dragonfly on the second and third paint swatch and then glue your googly eyes on the top of the paint strip.</td>
</tr>
<tr>
<td>3</td>
<td>Finish your dragonfly by decorating the wings with glitter glue.</td>
</tr>
</tbody>
</table>
Thursday | Activity 3: Bug Hunt

| Location: Learning Center or Multipurpose Room | Estimated Time: 30-45min |

**Description:** Members will be scientists as they look for bugs in their natural habitat.

**Objective:**
By the end of this activity, members will

<table>
<thead>
<tr>
<th>What You Need</th>
<th>Plastic Bugs (2 bags)</th>
</tr>
</thead>
</table>

| How to Prepare | Junior Staff will hide the plastic insects outside. |

<table>
<thead>
<tr>
<th>Steps to Follow</th>
<th>The Facilitator will say:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The following insects will be hidden:</td>
</tr>
<tr>
<td></td>
<td>- Roach</td>
</tr>
<tr>
<td></td>
<td>- Fly</td>
</tr>
<tr>
<td></td>
<td>- Ladybug</td>
</tr>
<tr>
<td></td>
<td>- Ant</td>
</tr>
<tr>
<td></td>
<td>- Praying Mantis</td>
</tr>
<tr>
<td></td>
<td>- Bee</td>
</tr>
<tr>
<td></td>
<td>- Beetle</td>
</tr>
</tbody>
</table>

2. Members will be allowed to find one insect. When he or she has found the insect, he or she will go sit in the designated area.

3. When all insects have been found, the member takes in the insect he or she has found. Members will have an opportunity to point out each body part on the insect and tell where he or she found the insect in the garden. He or she will tell the group if it was hard to find the insect or if it was easy and why.

4. Facilitator will write results on a chart tablet.

4. Exit Ticket:
| Members will write 3 facts about the bug they found. |

engage | express | exhibit | evaluate
Module 6: Bugging Out!!

Friday: Insect Creation Station!

<table>
<thead>
<tr>
<th>Friday</th>
<th>Warm-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Learning Center or Multipurpose Room</td>
<td><strong>Estimated Time:</strong> 15min</td>
</tr>
</tbody>
</table>

**Steps to Follow**

1. Let's get some background on some of the biggest and baddest bugs! (20:00) – **stop the video at this point**

   **Worlds Biggest and Baddest Bugs**
   https://www.youtube.com/watch?v=GtqV5Ghdkmw

---

<table>
<thead>
<tr>
<th>Friday</th>
<th>Activity 1: Create a Buggy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location:</strong> Art Room or Learning Center</td>
<td><strong>Estimated Time:</strong> 3hours</td>
</tr>
<tr>
<td><strong>Description:</strong> Members will create a bug of their own.</td>
<td></td>
</tr>
</tbody>
</table>

**What You Need**

- Scrap construction paper
- Scissors
- Glue

**How to Prepare**

None

**Steps to Follow**

1. Members will use scraps to create a bug.
**Module 6: Bugging Out!!**

**Friday**  | **Activity 2: A Bug’s Life (The Movie - Part 1)**
---|---
**Location:** Multipurpose Room or Art Room  | **Estimated Time:** 3 hours
**Description:**
Members will watch the movie, *A Bug’s Life* and feast on a tasty worm desert.

**Objective:**
By the end of this activity, members will create a tasty treat and identify bugs found in the movie, *A Bug’s Life*.

<table>
<thead>
<tr>
<th>What You Need</th>
<th>A Bug’s Life</th>
</tr>
</thead>
</table>

**engage** | **express** | **exhibit** | **evaluate**
Module 6: Bugging Out!!

<table>
<thead>
<tr>
<th>How to Prepare</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps to Follow</td>
<td>Members will watch the movie A Bug’s Life and identify all of the bugs they see in the movie.</td>
</tr>
</tbody>
</table>

**Friday**

**Activity 3: A Bugs Life (The Movie-Part 2)**

**Location:** Multipurpose Room or Learning Center  
**Estimated Time:** 30-45min

**Description:**
Members will watch the 2nd half of the movie, *A Bug’s Life* and feast on a lady bugs and flying insects.

**Objective:**
By the end of this activity, members will create a tasty treat and identify bugs found in the movie, *A Bug’s Life*.

| What You Need | A Bug’s Life |

---

http://www.imdb.com/title/tt0120623/
Chocolate sandwich cookies (like Oreos): 1 15-ounce package
Chocolate Pudding
Whipped topping (like Cool Whip): 8 ounces
Gummy worms: 24
**Module 6: Bugging Out!!**

<table>
<thead>
<tr>
<th>Ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>[]</td>
</tr>
<tr>
<td><a href="http://www.imdb.com/title/tt0120623/">http://www.imdb.com/title/tt0120623/</a></td>
</tr>
<tr>
<td>Ritz Crackers</td>
</tr>
<tr>
<td>Half an apple</td>
</tr>
<tr>
<td>Cheerios</td>
</tr>
<tr>
<td>Peanut Butter (You can also use cheese spread.)</td>
</tr>
<tr>
<td>Chocolate Chips</td>
</tr>
</tbody>
</table>

**How to Prepare**

None

**Steps to Follow**

1. Members will watch the remainder of the movie.
2. Members will create bugs using food.