

Bug's Eye View

**hands-on
exhibit**

exploring
science -- art
literature

605-773-5050

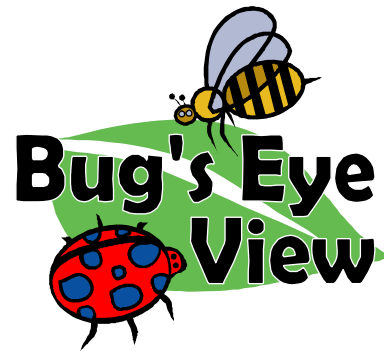


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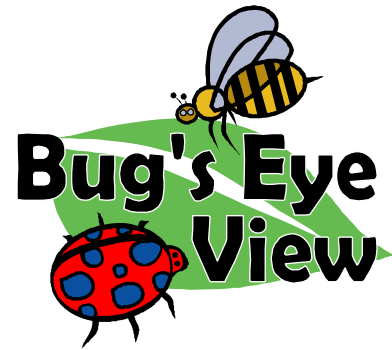


INTRODUCTION

Bug's Eye View

Unloading & Loading

Procedures for Unloading, Set-up and Reloading the Bug's Eye View Trailer



RECOMMENDATION:

Four people should load/unload the trailer

REMINDER: The person who picks up the trailer must have a valid driver's license and be at least 21 years of age. The vehicle must be a larger SUV or pickup that has a 2-inch ball hitch.

Trailer

1. Before removing the exhibits, be sure the trailer is in a stable position. As exhibits move from the back of the trailer, the balance of weight will shift to the front.
2. Open the trailer door in the back, which forms a ramp.
3. Once the trailer is unloaded, move the trailer to a location where the trailer signage can serve as a billboard for the exhibit.
4. Place the hitch, and any items that could get lost in the trailer and lock it.
5. Be sure the trailer is blocked and stabilized for the safety of people passing by.

The Kits

- The educational kits travel on the floor of the right side of the trailer. Remove these first.
- Four activity kits (four tubs) accompany the display. Unload the tubs and keep in a secure place until used by the volunteers or teachers.
- Keep the Exhibit Manual with the kits and refer to as needed.

The Exhibits

1. An Exhibit Manual is included with the display. It gives information on each display piece, plus other information that will lead to a great experience for you while the exhibit is in your location.
2. Before you begin to unload the display pieces, check to see how they are set in their places. This will be helpful when you reload the display.
3. Unlock all exhibit wheels.
4. Beginning at the back of the trailer (closest to the ramp), roll each display out of the trailer. Two people must move each piece. One person rolls the exhibit and the other stabilizes the display to prevent damage.
5. Please use handles to lift the exhibit when the wheels will not roll over something. The wheels will break if forced over rough terrain.
6. Before loading please wipe down and clean each exhibit.

Re-Loading the Exhibit

1. Reload the exhibit in the reverse order that you took the display pieces out of the trailer. Be sure the numbers on the display pieces correspond with the number on the trailer floor. Be sure all pieces are secure for safe travel to the next location.
2. Check and re-check that all display pieces (and parts), activity kits, exhibit manual, comment book pages, and Bugs Eye View sign, are back in the trailer.
3. **Fill out the evaluation, gather the volunteer sheets and comment book sheets and return to the HOP director within 5 days after if closes.**

**If you have any questions, please call
Kathleen Slocum, HOP Director
605-773-5050.**

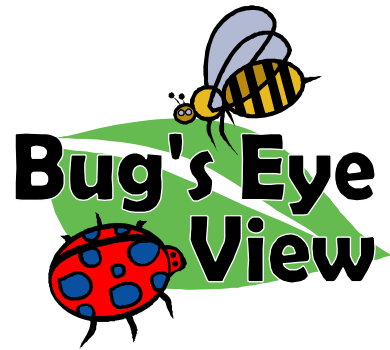
HAVE A GREAT EXPERIENCE WITH THE EXHIBIT!



Tools & Supplies in exhibit

Tools required for setup and maintenance of Bug's Eye View are:

- Phillips screwdriver
- Wrench
- pliers
- supply bucket



CLEANING KIT

Refer to your cleaning kit for the following:

- CABINET MAGIC CLEANSER:** For all wood surfaces.
- PLASTIC CLEANSER:** For all Plexiglas and plastic rubbing templates.
(Please use one of your cotton cloths)
- GOOF OFF CLEANSER:** For cleaning crayon off all surfaces.
- SOFT PAPER TOWELS:** Not included in your kit. Please be sure they are SOFT, not scratchy (buy two-ply paper towels only). Please spray/squirt cleansers onto the towel rather than directly onto the surface to be cleaned.
- LENS CLEANER AND PAPER:** For cleaning microscope lens.
 - Note: Only use a drop of cleanser and only use lens paper when cleaning. Be careful touching lens.

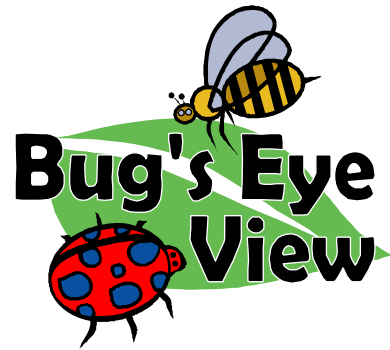
IMPORTANT NOTE: When cleaning clear Plexiglas on matching games, only spray a small amount of cleanser onto paper towel and then wipe Plexiglas. If cleanser leaks behind Plexiglas, it will ruin photo.



Inventory Checklist

Please photocopy and return a completed Inventory Checklist and Condition Report to HOP. Keep the original copy of the reports in the manual for the next user.

You will also find the Inventory Checklist and other forms concerning this exhibit on the HOP website at www.hopSD.org/exhibits/bugseyeview/.



Immediately upon unpacking/packing the exhibit, please complete this form noting the condition, especially any damage or wear. Promptly return the completed inventory and condition report to HOP as soon as possible. **THIS IS VERY IMPORTANT IN ORDER TO PREVENT YOUR ORGANIZATION FROM BEING HELD RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

EXHIBIT ARRIVES:

If you observe any damage or have any comments about the way the driver handles the exhibition, please:

- Call HOP at 605-773-5050
- Make notes on shipping documents before signing
- Take photographs (if damage is extreme)

Unpacking and Installing the Exhibit

If you observe any damage or note any missing items, call HOP immediately. Please do a thorough inspection, noting cosmetic damage due to wear and tear, broken or scratched Plexiglas, etc. Return this form to HOP 48 hours after you have completed this inspection. (This should be no later than three days after receiving the exhibition unless other arrangements have been made with HOP.)

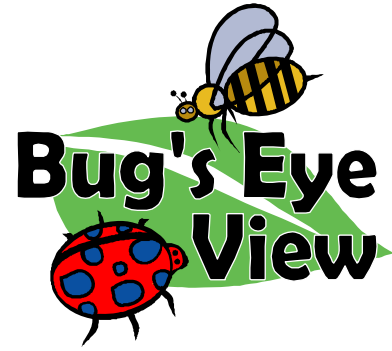
TWO BASIC GUIDELINES:

1. Notify HOP immediately if you observe damage at any point during unpacking and installation.
2. Do not repair anything without authorization from HOP

Exhibit Condition Report

Condition Report

As you load and unload the exhibit, please complete this Exhibit Condition Report. Return them along with your Evaluation to HOP as soon as possible after the exhibition leaves. (If necessary, you may photocopy this sample, but please be sure to return the original to the exhibit manual.



STEP ONE: CLEAN THE EXHIBIT

Use a soft cleanser on each exhibit when cleaning.

STEP TWO: INVENTORY PARTS

Inventory the exhibit components using the Inventory Checklist. Please search thoroughly for any missing components. If they cannot be located, note missing parts on the report and notify HOP immediately, especially if back-up parts are not included with the exhibit.

STEP THREE: DO A THOROUGH INSPECTION

Using the following list, examine each exhibit for excessive wear and/or any damage. Notify HOP immediately of damages.

Inventory Checklist

Bugs Eye View

Checklist Completed By:

Name and title of person:

Date:

Location: _____

Assemble an Ant

Condition/Comments: _____

- "Rock" structure (1)
- Display box with small ant puzzle
- Black ant puzzle (23 pieces)

The Bees Knees



CAUTION THIS WOODENBOX IS HEAVY (HANDLE WITH CARE)

Condition/Comments: _____

Build a Bug

Condition/Comments: _____

"Forest" table

- "Mushroom" stools (3)
- We have centipede, spider, & fly included here.

Honeycomb Construction

Condition/Comments: _____

- Honeycomb unit
- Movable cells (2)
- Cell caps (2)
- Bee eggs (2)
- Bee larvae (2)
- Bee pupae (2)
- Graphic panel with (2) standards

Introductory Panel

Condition/Comments: _____

The Good, the Bad and the Ugly / Magnification

Condition/Comments: _____

- Deadliest arthropods Q&A cabinet with specimens
- Microscope on cabinet base & specimen slide

Wing Mosaic

CAUTION THIS IS HEAVY (HANDLE WITH CARE)



Condition/Comments: _____

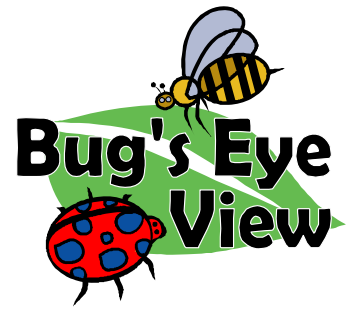
- Butterfly with mosaic wing on “rock”
- Viewer station “rock”

Thank you for your assistance in monitoring the condition of this exhibit.

Please send your completed within 48 hours: FAX: 605-773-6962

Microscope Unit

Of all the units, the microscope is the most likely to need some attention and care. To increase the longevity of the microscope, please unplug the unit each night and cover the microscope with the plastic hood. Periodically check the microscope to make sure it is functioning properly.



Things you should check:

1. Do the eyepieces move back and forth smoothly?
2. Does the focus knob move smoothly? Can you get an object in focus? Does the knob continue to spin after you hit the limit of the focus range (it has a slip clutch) allowing the knob to continue spinning?
3. Does the zoom knob operate effectively?
4. Is the light on? If not, first make sure the microscope is plugged in. If it is, you will need to check the light bulb. See directions below. If the light still does not work, remove the microscope from the table and check the fuse in the back of the microscope (see directions below).
5. Are there any loose screws or pieces of the microscope? There should be no removable pieces on the microscope except by using screwdrivers and Allen wrenches.
6. Gently clean the eyepieces with lens paper and lens cleaning solution in cleaning kit.

If a screw comes loose on the microscope itself and please tighten it down. You will need to use the metric Glen wrench. If you have difficulties, please call Kristie Maher, South Dakota Discovery Center, (605) 224-8295.

Specimen cartridges:

With extended use, some of the microscope specimens will begin losing legs etc. In most cases, the cartridges will still be useful. If wear is extreme switch the cartridge for one of the replacement cartridges.

Replacing the light bulb:

1. If the light bulb goes out you will first need to remove the microscope head.
2. Once off, you will see two Phillips head screws that need to be removed.
3. Then carefully remove the two alien head screws on either side of the bulb housing.
4. Once removed, the housing will fall free, allowing you to gently pull out the burned out bulb.
5. Replacement bulbs should be in the replacement parts kit. **DO NOT TOUCH THE NEW BULB WITH YOUR BARE HANDS.** The oils from your hands will severely shorten the new bulb's life span. Carefully pick up the bulb with a tissue or one of the gloves provided and install it.
6. Reverse the disassembling instructions to put it back together.
7. Be sure to make all screws snug but do not strip them.

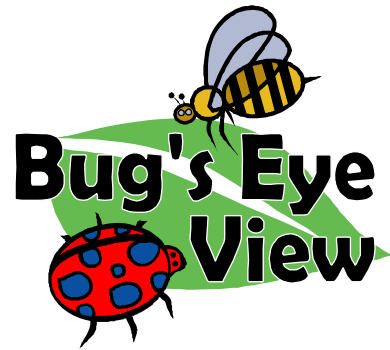
To remove the microscope from the table:

1. Unscrew and remove the four screws holding down the cartridge track using the multipurpose screwdriver and appropriate bit.
2. Remove the four screws on the underside of the table securing the base of the microscope to the table.
3. You also may need to completely free or make slack the electrical cord. To do so, simply unscrew the clips securing the cord. The microscope should now be free to lift up.



HOP Committee Responsibilities

Each community will form a local HOP committee that will be responsible for planning for the exhibit. The committee can be an existing group or form a new group. The more diverse the participants you have the greater your HOP experience will be. This committee will be responsible for:



- Selecting a contact person who will maintain communication with the HOP Coordinator.
- Selecting a sponsoring organization that will sign the contract with HOP.
- Securing a date and location for the HOP exhibit and reserve that with the HOP coordinator.
- Picking up the exhibit trailer from the previous location.
 - The exhibit travels in a 16 foot trailer and must be pulled by a larger pickup or larger SUV. The vehicle must have a 2 & 5/16 inch ball hitch and the driver must be 21 or older.
- Unloading the exhibit at library or other designated location.
 - The exhibit is a turn-key operation needing approximately three people to set up the display pieces. The pieces are on wheels and can be carefully rolled into your venue. An Exhibit Manual accompanies each exhibit.
- Volunteers to work with the activities and programs provided in the activity kits.
 - It is recommended that you schedule weekly (or more) activities/story times for local children and families. Consider offering programs for scout groups, after school programs, schools and preschools. The activities and books in the kit should make it simple for volunteers to lead these activities.
- Maintaining simple volunteer and attendance records. These, plus some basic evaluation comments are requested at the end of your exhibit time.
 - All forms are provided in the manual.
- Checking the exhibit daily for cleanliness and proper operations.
- Cleaning exhibit before packing into trailer.

- Loading exhibit back into trailer, ready for the next location.
 - This should take four people approximately 1 to 1 ½ hours.
- Promoting the exhibit's visit and related activities at least a week prior to exhibit opening date.
 - It is possible that a member of the local media will join your committee and serve this role.
 - A sample press release, PSA and poster are in the Exhibit Manual.
- Design additional Backpack Loan Programs for the library.
 - Each venue will be given a backpack which includes science, literature and art activities that are appropriate for at-home use. This can be a start of a permanent HOP Backpack Loan Program in your community. The Exhibit Manual contains directions on how to develop HOP Backpacks.
- Securing funding in the form of sponsorship fees for the exhibit and program. Check with the HOP coordinator, grant funding is often readily available from statewide sponsors to help bring the exhibit to your community.
 - All sponsors should be noted as often as possible in your publicity. A sign to use to acknowledge your local sponsors is provided with the exhibit.



Project Partners: South Dakota State School of Mines & Technology, South Dakota State Library, South Dakota Discovery Center & Aquarium, Dahl Arts Center & Rawlins Municipal Library



Grant Funding Provided by: Institute of Museum & Library Services

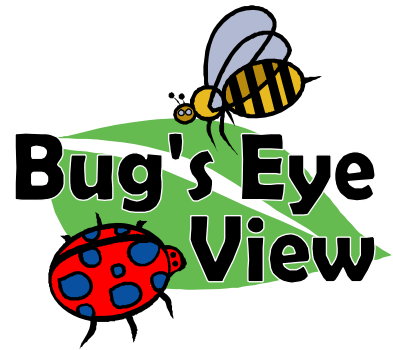


Exhibits at a Glance

What is in Bug's Eye View?

Core Concept-

- **Build a Bug**
Work with an assortment of different legs, body parts, antennae and wings to make insects, spiders and centipedes. Pieces are large, interchangeable and brightly color-coded for each kind of arthropod.
- **Assemble an Ant**
Play with a series of wooden shapes labeled with numbers which fit together to make a giant ant. Identify parts of the insect with the puzzle pieces.
- **The Bee's Knees**
Find a match between giant honeybee body parts (such as stinger, antennae, antenna cleaner, wing, etc.) and dramatic electron micrographs. Use this information to identify each part's location and function.



What is an Insect?

Identifying Characteristics and Classifications

Core Concept-

- **Honeycomb Construction**
Visit a "construction site" where the hexagonal cells of a honeycomb are assembled. Fill the honeycomb with more than just honey. Soft sculpture bee bread, eggs, larvae, pupa and workers fit into the appropriate cells.
- **Wing Mosaic**
Arrange the individual scales of a giant butterfly wing to create patterns. Scales are on blocks which rotate to show different colors on each side. Observe amazing examples from real butterflies. Look through a viewer to see your wing pattern reduced to butterfly size.

Why are insects so successful?

Identify the adaptation of insects

- **The Good, the Bad and the Ugly**
Put aside your phobias and examine dangerous or dangerous-looking insects from around the world. Choose the deadliest specimen and rank the others according to danger.

How do insects affect people?

Identify inter-relationships and interactions between insects and humans.