Creepy Crawlies

A Tacoma Nature Center Field Investigation for Grades K-2
Aligned for Common Core for Grades 1-2

The Tacoma Nature Center at Snake Lake
An Educational Facility of Metro Parks Tacoma
Contents

Program Overview ............................................................................................................. 3
Directions to TNC .................................................................................................................. 4
TNC Background Information ................................................................................................. 5
Plants and Animals found at TNC ......................................................................................... 6

Pre-Field Trip
Vocabulary ............................................................................................................................. 7
Pre-Visit Lessons ...................................................................................................................... 8-10

Field Trip
Guided Tour Overview .......................................................................................................... 11-12

Post-Field Trip
Post-Visit Lessons .................................................................................................................. 13-16
Evaluation ................................................................................................................................ 17

Appendices
Appendix A .............................................................................................................................. 2
Appendix B ............................................................................................................................... 3
Appendix C ............................................................................................................................... 4
Appendix D ............................................................................................................................... 5
Appendix E ................................................................................................................................ 6
Appendix F ................................................................................................................................ 7
Appendix G ................................................................................................................................ 8
Appendix H ............................................................................................................................... 9-10
Appendix I ................................................................................................................................ 11

Field Journal .......................................................................................................................... 12-15
Thank you for scheduling a guided “Creepy Crawlies” tour at the Tacoma Nature Center. Our 70-acre nature preserve and interpretive center provides an excellent study site right in the middle of Tacoma. Education staff and volunteers are eager to provide your children with a positive experience. Together we will learn about invertebrates, animals without backbones, and their role in the ecosystem through explorative walks, interactive programs, hands-on lab experiences and self-guided discovery.

The $6.00 per child fee includes 2 hours of activities led by staff and/or volunteers. Our tours will go rain or shine, so please advise your group to dress for the weather. In case of inclement weather, there is a designated area inside the building to eat lunch. Otherwise, there are many picnic tables to enjoy an outdoor lunch. Restroom facilities are available inside.

We accept checks, cash or credit cards as well as purchase orders. If possible, please provide a single form of payment for the entire group. We require payment at the time of the program. Groups that arrive more than twenty minutes late cannot be guaranteed a program. If the program is cancelled due to tardiness, you may still be charged for your program.

We hope you enjoy your upcoming field trip to the Tacoma Nature Center. Please remember:

*Common Core aligned pre-visit vocabulary words and activities and post-visit activities are included in this packet in order to prepare your students for the field trip, and to continue the application of field trip discovery.

*Have at least one chaperone per every 7 children. Our field trips work best when chaperones are prepared to participate in activities and be in charge of necessary discipline.

*Be prepared to divide your class into small groups. Each small group of no more than 15 will be led by a staff and/or volunteer in order to provide the best experience for the students. Check the confirmation form to see how many groups we will need to have you divide into.

*Dress for the weather; we will go outside even if it rains. This includes appropriate footwear – no flip flops or sandals.

*Bring special medications/allergy treatments your child may need.

Included is a master for a student field journal (Handout Pages 12-15). If you would like to use these during your visit, please copy one for each student and bring them along. For students using journals, we do have pencils and clipboards available. Please let us know ahead of time if you would like to use them.

Your input is important. Please complete the enclosed evaluation after the field trip and help us improve. An evaluation is also included in the field journals for your students.

If you have any questions, please feel free to call the Tacoma Nature Center at (253) 591 – 6439.
1919 South Tyler Street
Tacoma, WA 98405
(253) 591-6439
Hours: Mon-Sat 9-4; Closed Sundays
tnc@tacomaparks.com

From Northbound or Southbound I-5, take the Gig Harbor/Bremerton exit – Highway 16 West
Exit Highway 16 West at 19th St. East, which is just past Cheney Stadium.
Go to the first light which is Tyler/Stevens Street.
Turn right onto Tyler Street.
The Nature Center driveway is immediately on the left-hand side.
The Tacoma Nature Center and preserve is a remnant of the habitats that once existed more abundantly in the Tacoma area. Within this 70 acre preserve is an emerging Douglas fir forest, which reflects historical influences by humans, logging and fire. The wetland is the dominant feature in the lower area of the park. Snake Lake, a long serpent-shaped body of water, is part of both a swamp and a marsh habitat.

Located geographically in the center of Tacoma, The Tacoma Nature Center preserve is a refuge for many species of wildlife. Although the wetland around Snake Lake is important for urban wildlife, it is the combination of several habitats and the edge areas between them, which is vital to their survival. For example, the red fox may find small mammals, amphibians, and other prey species in the wetlands but the terrain and plant cover in the forest habitat provide better shelter, protection from humans, and cooler temperatures during the summer months. Thus, the Tacoma Nature Center should be viewed as an ecosystem providing all the requirements to sustain life rather than 70 acres of different habitats.

Over 20 different species of mammals live within the boundaries of the preserve. Including both migrants and residents, over 100 species of birds have been identified here. In addition, several species of reptiles and amphibians live in the area. While most species are native, a number of exotics also inhabit the preserve.

The Tacoma Nature Center is open to the public year round. Pets, bicycles and motorized vehicles are not allowed in the park. The Visitor Center offers hands on displays and exhibits that focus on wetlands, watersheds and wildlife. The center is open 9am to 4pm Mondays through Saturdays. Membership opportunities are also available.
Plants and Animals seen at the Tacoma Nature Center

**Trees**
- Sitka Alder
- Oregon Ash
- Cascara Buckthorn
- Black Cottonwood
- Douglas Fir
- Pacific Madrone
- Scouler Willow
- Garry Oak

**Shrubs/Groundcovers**
- Red Elderberry
- Clustered Wildrose
- Indian Plum
- Oceanspray
- Tall Oregon Grape
- Douglas Spirea
- Black Twinberry
- Evergreen Huckleberry
- Orange Honeysuckle
- Baldhip Rose
- Beaked Hazelnut
- Common Snowberry
- Red Huckleberry
- False Lily-of-the-Valley
- Salal
- Trailing Blackberry
- Dwarf Oregon Grape
- Sword Fern
- Creeping Snowberry
- Bracken Fern

**Mammals**
- Red fox
- Coyote
- Raccoon
- Virginia Opossum
- Eastern Cottontail
- Douglas Squirrel
- Eastern Gray Squirrel
- Townsend’s Chipmunk
- Norway Rat
- Deer Mouse
- Vagrant Shrew
- Townsend’s Mole
- Black-tailed Deer

**Amphibians/Reptiles**
- Pacific Tree Frog (Chorus Frog)
- Bullfrog
- Long-toed Salamander
- Northwest Salamander
- Rough-skinned Newt
- Western Painted Turtle
- Common Garter Snake
- Northwestern Garter Snake
- Northern Alligator Lizard

**Birds**
- Canada Goose
- Wood Duck
- Gadwall
- American Wigeon
- Mallard Northern Shoveler
- Bufflehead
- Common Goldeneye
- Hooded Merganser
- Pied-billed Grebe
- Great Blue Heron
- Osprey
- Bald Eagle
- Cooper’s Hawk
- Sharp-shinned Hawk
- Red-tailed hawk
- Glaucous-winged Gull
- Rock Pigeon Barn Owl
- Barred Owl
- Anna’s Hummingbird
- Belted Kingfisher
- Downy Woodpecker
- Northern Flicker
- Olive-sided Flycatcher
- Western Wood-Pewee
- Pacific-slope Flycatcher
- Warbling Vireo
- Cassin’s Vireo
- Hutton’s Vireo
- Steller’s Jay
- American Crow
- Common Raven
- Violet-green Swallow
- Barn Swallow

**Black-capped Chickadee**
- Chestnut-backed Chickadee
- Bushtit
- Red-breasted Nuthatch
- Brown Creeper
- Bewick’s Wren
- Pacific Wren
- Golden-crowned Kinglet
- Ruby-crowned Kinglet
- Swainson’s Thrush
- Hermit Thrush
- American Robin
- Varied Thrush
- European Starling
- Cedar Waxwing
- Yellow-rumped Warbler
- Black-throated Gray Warbler
- Wilson’s Warbler
- Yellow Warbler
- Spotted Towhee
- Fox Sparrow
- Song Sparrow
- White-crowned Sparrow
- Golden-crowned Sparrow
- Dark-eyed Junco
- Western Tanager
- Black-headed Grosbeak
- Red-winged Blackbird
- Brown-headed Cowbird
- Purple Finch
- House Finch
**Vocabulary**

**Vertebrates**– An animal with a backbone.

**Invertebrates**– An animal without a backbone.

**Insect**– An animal, with a body divided into three parts (head, thorax, and abdomen), and that has three pairs of legs (six legs total).

**Metamorphosis**-A change in form from one stage to the next in the life history of an organism.

**Thorax**-The part of the body between the head and the abdomen on an insect.

**Abdomen**- The part of the body below the thorax on an insect.

**Habitat**- the natural environment of an animal (home).
To be sure your students get the most out of their visit to the Tacoma Nature Center, we suggest you prepare them with the lessons below. Each is designed to complement 1st-2nd grade Common Core Standards. 30-45 minutes (or more) each lesson.

### Science

<table>
<thead>
<tr>
<th>Learning Target</th>
<th>I can explain how I use my senses to make observations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next Generation Science Standards</td>
<td>Science Models, Laws, Mechanisms, and Theories; Explain Natural Phenomena</td>
</tr>
<tr>
<td>Do Now/ Warm Up</td>
<td>Discuss what an observation is. Press students to think about how we can use our senses to learn more about the world around us. We call these observations, and scientists learn more about the world by observing it very closely. Brainstorm a list of ways that scientists may observe the world.</td>
</tr>
<tr>
<td>Tools</td>
<td>Handouts for each student</td>
</tr>
<tr>
<td></td>
<td>Crayons, pencils</td>
</tr>
<tr>
<td></td>
<td>Clipboard for each student (optional)</td>
</tr>
<tr>
<td></td>
<td>Natural space to observe such as the playground, either by going outside or looking outside (if weather is poor)</td>
</tr>
<tr>
<td>Activities</td>
<td>Gather students and explain that they are going to practice their observations skills just like scientists. Distribute Outside Observations and a pencil (and optional clipboard) to each student to record their observations (Handout Page 2-Appendix A) . Go over any rules or procedures you believe are necessary to keep students together while outside.</td>
</tr>
<tr>
<td></td>
<td>Find a space outside for observing. Allow students to spread out a bit and instruct them to sit quietly for 5 minutes. Tell them that each minute you will challenge them to use one of their senses to make observations about the playground (or wherever you have taken them). They are to write words or pictures on their data sheet about what they observe next to each sense as you call them out.</td>
</tr>
<tr>
<td></td>
<td>At the end of the observation period you may want to have students share some of their observations before returning inside.</td>
</tr>
<tr>
<td></td>
<td>Distribute My Five Senses for students to work on independently or with a partner (Handout Page 3-Appendix B). Early finishers may want to color the pictures. As students are working on their 5 senses handout, walk around and formatively assess for understanding. Collect and assess.</td>
</tr>
</tbody>
</table>
| Assessment | Summative: completed assignment  
Formative: walk around observations |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice/ Homework</td>
<td>On your way home from school, use as many of your senses as you can to make observations. When you get home, record what you observe on On My Way Home (Handout Page 4-Appendix C)</td>
</tr>
</tbody>
</table>

**Science/ Language Arts**

<table>
<thead>
<tr>
<th>Learning Target</th>
<th>I can explain key details in a book.</th>
</tr>
</thead>
</table>
| Common Core Standards | 1.RL.1 Ask and answer questions about key details in a text.  
2.RL.1 Ask and answer such questions as who, what, where, when, why and how to demonstrate understanding of key details in a text. |
| Do Now/ Warm Up | Show the cover of the "Around One Log" by Anthony D. Fredricks. Ask students to predict what the book will be about. Will it be a true to life story or a made up story? Will it be fact or fiction? How can you tell? What is the title? Who is the author? The illustrator? |
| Tools | Copy of “Around One Log” by Anthony D. Fredricks (available on loan from Tacoma Nature Center)  
Creepy Crawlies handout |
| Activities | Read aloud the book. Discuss key vocabulary as necessary.  
Relate to the upcoming field trip to the Tacoma Nature Center.  

After reading the book, have students write and draw 3 things that live in or around the log on the handout. Collect and assess (Handout Page 5-Appendix D).  

Other great books about invertebrates:  
Are you a Spider? by Judy Allen and Tudor Humphries (also available- Are you an Ant?, Are you a Bee?, Are you a Grasshopper? And others!)  
Bug Off! Creepy Crawly Poems by Jane Yolen and Jason Stemple  
Animals without Backbones by Bobbie Kalman |
| Assessment | Summative: completed assignment  
Formative: class discussion |
| Practice/ Homework | Find a library book about an invertebrate. Read to an adult at home or have an adult at home read it to you. |
### Science/ Math

<table>
<thead>
<tr>
<th>Learning Target</th>
<th>I can explain how I find how many animals live in the pond.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Core Standards</strong></td>
<td>1. OA.A.1 Represent and solve problems involving addition and subtraction.</td>
</tr>
<tr>
<td></td>
<td>2.OA.1 Use addition and subtraction within 100 to solve one- and two- step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.</td>
</tr>
<tr>
<td><strong>Do Now/ Warm Up</strong></td>
<td>To get students thinking about the vast numbers of invertebrates on our planet, challenge students to estimate how many spiders are in the world. Write the estimates on the board, emphasizing how the number looks as it gets bigger and bigger. One estimate is 2,943,539,200,000,000 actual spiders on the planet (that’s 80,000 per acre)! If you would rather discuss ants, the estimate is that there are 321,035,624,829,901,000 ants on the planet.</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td>Copies of the handout for each student</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
<td>With so many invertebrates on our planet, it gives us a great opportunity to add and subtract some big numbers! Scientists do this all the time when deciding whether a habitat is healthy. Discuss why knowing about invertebrates would help scientists understand the habitat.</td>
</tr>
<tr>
<td></td>
<td>Distribute the handout (Handout Page 6-Appendix E). Have students work independently or in pairs to complete the handout. Have students share their thinking once everyone has had a chance to work the problems.</td>
</tr>
<tr>
<td></td>
<td>Challenge students to think about how they might use what they learn while on the field trip to the Tacoma Nature Center.</td>
</tr>
<tr>
<td><strong>Assessment</strong></td>
<td>Formative: class observation</td>
</tr>
<tr>
<td></td>
<td>Summative: completed handout</td>
</tr>
<tr>
<td><strong>Practice/ Homework</strong></td>
<td>Write a math story problem that involves adding or subtracting invertebrates. Be prepared to trade with a partner in class tomorrow and solve someone else’s problem.</td>
</tr>
</tbody>
</table>
Objectives
To understand the difference between vertebrates and invertebrates
To understand the role of invertebrates in the ecosystem, and their importance to humans
To encourage scientific exploration and discovery
To provide first hand experience with native terrestrial and/or freshwater invertebrates

Schedule of Activities
1. Upon arrival, students gather on the wooden seats in the center of the building. Children are encouraged to find a seat quickly and quietly so that we can begin. A Naturalist will then spend a few minutes providing an orientation to the Tacoma Nature Center. Information will include:

- Rules, etiquette and expected behavior
- General outline of the day’s activities
- An introduction to wetlands

We will spend approximately 10 minutes discussing the above. After this, we will split into groups for the rest of the tour. We ask teachers to assign the groups, as they are familiar with the number of kids per chaperone, students' names and the like. Groups will contain no more than 15 students. Use the following as a guide to the number of groups you should assign prior to the trip:

- If you make a reservation for 10-15 students, you will have 1 group.
- If you make a reservation for 16-30 students, you will have 2 groups.

2. Once the students are divided into groups, each leader will rotate their groups through the various activities. Once on the walking tour, leaders will stop along the trail to look for invertebrates and discuss their life histories. An emphasis will be placed on the role of these tiny creatures in the ecosystem. As students see invertebrates, they are encouraged to cross them off the bingo sheet in their field journal. This will serve as a record.
3. While in the lab, students will use the microscopes to investigate insect parts and/or freshwater invertebrates. They may have an opportunity to see a spider as well. There is a page in their field journals to record what they see under the microscopes.

4. In the classroom, students will learn about the body parts of insects through a fun and interactive program. We may also discuss metamorphosis, the process of change for many insects. A page in the field journal corresponds to this lesson.

The exhibit area is where students have the opportunity to explore on their own. There are a wide variety of topics presented in the displays, but the checklist in the field journal keeps them thinking about invertebrates.

A sample schedule may look like this:

<table>
<thead>
<tr>
<th>First Hour</th>
<th>Second Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>Lab</td>
</tr>
<tr>
<td>Walking tour</td>
<td></td>
</tr>
<tr>
<td>Group B</td>
<td>Walking tour</td>
</tr>
<tr>
<td>Lab</td>
<td></td>
</tr>
</tbody>
</table>

The activities in this packet are designed to use in the classroom before or after your visit. The Tacoma Nature Center has videos, kits and materials available for loan. Call for more information.
To be sure your students get the most out of their visit to the Tacoma Nature Center, we suggest you follow up your field trip experience with the lessons below. Each is designed to complement 1st-2nd grade Common Core Standards. 30-45 minutes (or more) each lesson.

**Science**

<table>
<thead>
<tr>
<th>Learning Target</th>
<th>I can explain why invertebrates are important.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Next Generation Science Standards</td>
<td>Science Models, Laws, Mechanisms, and Theories; Explain Natural Phenomena</td>
</tr>
<tr>
<td>Do Now/ Warm Up</td>
<td>Did you ever wish there were no more mosquitoes in the world? Or no more spiders? Or flies? Imagine what would happen if there were no more mosquitoes. Allow some private time to think about a world without an invertebrate. Have some students share their thoughts. Press students to think about the role the invertebrates play, such as decomposing or providing food for birds or frogs. Hold a class discussion about the role of invertebrates in the ecosystem.</td>
</tr>
<tr>
<td>Tools</td>
<td>Completed field journals from the field trip Paper Markers, crayons or colored pencils</td>
</tr>
<tr>
<td>Activities</td>
<td>On our field trip we learned about invertebrates and why they are important. Living things depend on each other and having a healthy home to survive. Have students draw a simple food chain or web. Be sure they include invertebrates! Press students to think about where the food chain begins (sun) and where it ends (decomposers). Walk around and direct as necessary. You may want to display the drawings in the room.</td>
</tr>
<tr>
<td>Assessment</td>
<td>Summative: completed assignment Formative: walk around and evaluate drawings for accuracy</td>
</tr>
<tr>
<td>Practice/ Homework</td>
<td>Draw another habitat near you. It may be a school yard, park, your yard or a patch near your home. Identify the invertebrates.</td>
</tr>
</tbody>
</table>
## Science/ Language Arts

<table>
<thead>
<tr>
<th>Learning Target</th>
<th>I can write a story about an invertebrate.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Common Core Standards</strong></td>
<td></td>
</tr>
<tr>
<td>1.W.3 Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.</td>
<td></td>
</tr>
<tr>
<td>2.W.3 Write narratives in which they recount a well-elaborated event or short sequence of events, include details to describe actions, thoughts and feelings, use temporal words to signal event order, and provide a sense of closure.</td>
<td></td>
</tr>
<tr>
<td><strong>Do Now/ Warm Up</strong></td>
<td>Discuss the field trip to the Tacoma Nature Center. What were our favorite things? What things are most memorable? What did we learn? Make a class list. (Optional) Read “Be Nice to Spiders” by Margaret Bloy Graham. Discuss how important spiders are and that even invertebrates have an important part to play in an ecosystem.</td>
</tr>
<tr>
<td><strong>Tools</strong></td>
<td>(Optional) Copy of “Be Nice to Spiders” by Margaret Bloy Graham (available on loan from Tacoma Nature Center) Writing paper Optional illustrating supplies Copies of graphic organizer (optional)</td>
</tr>
</tbody>
</table>
| **Activities** | Explain that we will be writing our own story about why invertebrates are important. Provide an appropriate prompt to help students begin writing. Consider:  
  I visited a planet that had no worms.  
  I wished on a star and all the mosquitoes disappeared.  
  An evil wizard cast a spell and all the flies vanished. | |
| | Distribute the optional graphic organizer to get students thinking about their writing (Handout Page 7-Appendix F). Use the writing process to continue their writing over the next few days as needed. You may want to have students illustrate and publish their stories! | |
| **Assessment** | Summative: completed story Formative: rough drafts | |
| **Practice/ Homework** | Retell your story to someone at home. Explain the beginning, middle and ending of your story. | |
# Science/ Math

<table>
<thead>
<tr>
<th>Learning Target</th>
<th>I can explain how I make sense of my data.</th>
</tr>
</thead>
</table>
| Common Core Standards | 1.MD.4 Organize, represent and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.  
2.MD.9 Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units. |
| Do Now/ Warm Up | Show the “pets” pictogram on the document camera (Handout Page 8-Appendix G). Ask questions about what they see. For example, how many people have rabbits? How do you know? Do more people have cats or dogs? How do you know? Check for understanding. Compare the pictogram to the line plot (below it on the same page). Which number has the most? The least? Check for understanding. |
| Tools | Pets pictogram and line plot page  
Creepy Crawly Data handouts for pairs  
rulers |
| Activities | Tell students they will be like scientists collecting data. They will measure worms and arrange the data they find in a line plot.  
NOTE- you may want students to measure actual worms (available as bait in many stores) or you may use the worm pictures provided (Handout Pages 9-10-Appendix H).  
Have students work in pairs to measure the worm pictures (or worms) and record the lengths on the handout.  
Next distribute the data handout (Handout Page 11-Appendix I). Have students work in pairs to create a line plot of the measurements they made. Once students have had a chance to work, allow pairs to share their results. |
| Activities | Have a whole class discussion about what the line plots show. What length was the most common? Least common? What is the difference between the longest length and the shortest length? What was the difference between the most common length and the least common length. Why would this information be important to a scientist studying worms? |
| Assessment | Summative: completed handout  
Formative: class discussion |
| Practice/ Homework | Find a line plot in a newspaper, magazine or on the internet. Print it and bring it to class. Be prepared to explain what the line plot shows. |
School

Grade level

Date of visit

How did you hear about us?

Please rate the following by circling the appropriate number from 1 (lowest) to 5 (highest).

The packet contains clear and useful information. 1 2 3 4 5

The field trip met my expectations. 1 2 3 4 5

The Pre-Visit Lessons helped prepare students for program concepts. 1 2 3 4 5

The Post-Visit Lessons helped reinforce concepts students learned. 1 2 3 4 5

The Common Core aligned material met my curriculum goals. 1 2 3 4 5

My students were able to relate to and understand the Common Core aligned material. 1 2 3 4 5

My students had a learning experience. 1 2 3 4 5

My students had fun. 1 2 3 4 5

I am likely to recommend this program. 1 2 3 4 5

The presenter was knowledgeable and fun. 1 2 3 4 5

Presenter name

Comments:
Appendices
Outside Observations

see

hear

smell

touch

THINK! Why are we NOT using our sense of taste?
Appendix B

My Five Senses

Oh no! The sense words are missing some letters! Fill in the missing letters. Then, draw a line connecting sense words and pictures of the part we use for each sense. In the box connected to the sense word, draw something you would sense in nature.

Name: ______________________________________________

s__el__

s__e

to__c__

he__r

ta__t__
Name: ______________________________________________

On My Way Home, What Did I...

see

hear

smell

touch

THINK! Why are we NOT using our sense of taste?
Creepy Crawlies

What lives in and around a log? Draw a picture and describe below.

Name: ______________________________________________

WHAT is the story about? ________________________________

WHERE does the story take place? __________________________

Did you like the book? Why or why not? ____________________
How Many Creepy Crawlies?

Sanjay lifted a rock in the park and underneath there were lots of pill bugs! He quickly counted them and there were 47, but as he watched, 32 scurried away under another rock. Draw a picture that shows what Sanjay saw.

Write the number sentence that represents your picture. ______________________

Penelope observed an ant hill near her school. She carefully watched and counted 87 ants on the top of the ant hill. While she was watching, 17 more ants came back to the ant hill carrying bits of food. Draw a picture that shows what Penelope saw.

Write the number sentence that represents your picture. ______________________

Mrs. Jones is an arachnologist, a scientist who studies spiders. One morning she counted the spiders making webs along a fence and she counted 13 webs. That afternoon she went back to the fence and counted 21 spiders making webs. How many spiders came to the fence between the morning and the afternoon? Write a number sentence that represents what Mrs. Jones saw. _______________________________________

Draw a picture that proves you are right.
Creepy Crawly Story
As the spider returns to her web, fill in the parts of your story.

How does my story begin?

What happens first?

next, after that, second

What happens next?

next, after that, finally

How does my story end?

Name: ______________________________________________
From http://www.liv.ac.uk/~cll/lskills/WN/NumeracyDiagrams.html

From http://math.tutorvista.com/statistics/line-plots.html
Name: ________________________________________________________________

Creepy Crawlies to measure page 1

________________________  __________________________

________________________  __________________________

________________________  __________________________

________________________  __________________________

________________________  __________________________

________________________  __________________________

________________________  __________________________

________________________  __________________________

________________________  __________________________
Name: ______________________________________________

Creepy Crawlies to measure page 2

____________________________________________________

____________________________________________________

____________________________________________________

____________________________________________________

____________________________________________________

____________________________________________________

____________________________________________________

____________________________________________________
Name: ______________________________________________

**Creepy Crawly Data**

Dr. Foster needs to find out about the length of the worms near the forest. Record your measurements on the line plot below.

[Line plot with axes labeled 'number' and 'inches']
Thank you for visiting the Tacoma Nature Center and taking the time to complete our survey.

Keep on exploring nature!

This field journal belongs to:

Date of my visit to Tacoma Nature Center:

1919 S. Tyler
Tacoma, WA 98405
253-591-6439
Healthy habitats are important for all animals, even creepy crawlies. Draw a healthy habitat below for a creepy crawly that you saw at the Tacoma Nature Center. Be sure to include food, water, shelter and space for your critter!

Label this insect's body parts.
Choose from these words:
- head
- thorax
- abdomen
- leg
Incredible Invertebrates
Invertebrates are animals without backbones, like insects, spiders and worms. Can you find the invertebrates below in the exhibit area?

- giant water bug
- mosquito
- ant
- leech
- walking stick
- dragonfly

Draw your favorite invertebrate below.

Trail Bingo!
Can you find the creepy crawlies on this page? Put an x over the ones you find. Can you find a whole row across or down? BINGO!

- butterfly
- ladybug
- dragonfly
- caterpillar
- ant
- beetle
- spider

FREE!
At the Tacoma Nature Center, I learned that ____________

My favorite part was ____________

Creepy crawlies are important because ____________

I am ____ years old.

In the Lab
Scientists use microscopes to help see tiny objects much larger. Draw and label what you saw under the microscope below.

How was your visit?
Please answer the questions below. Cut out the bottom section and turn it in to your teacher. Your teacher will make sure it gets to us.

Thank you!