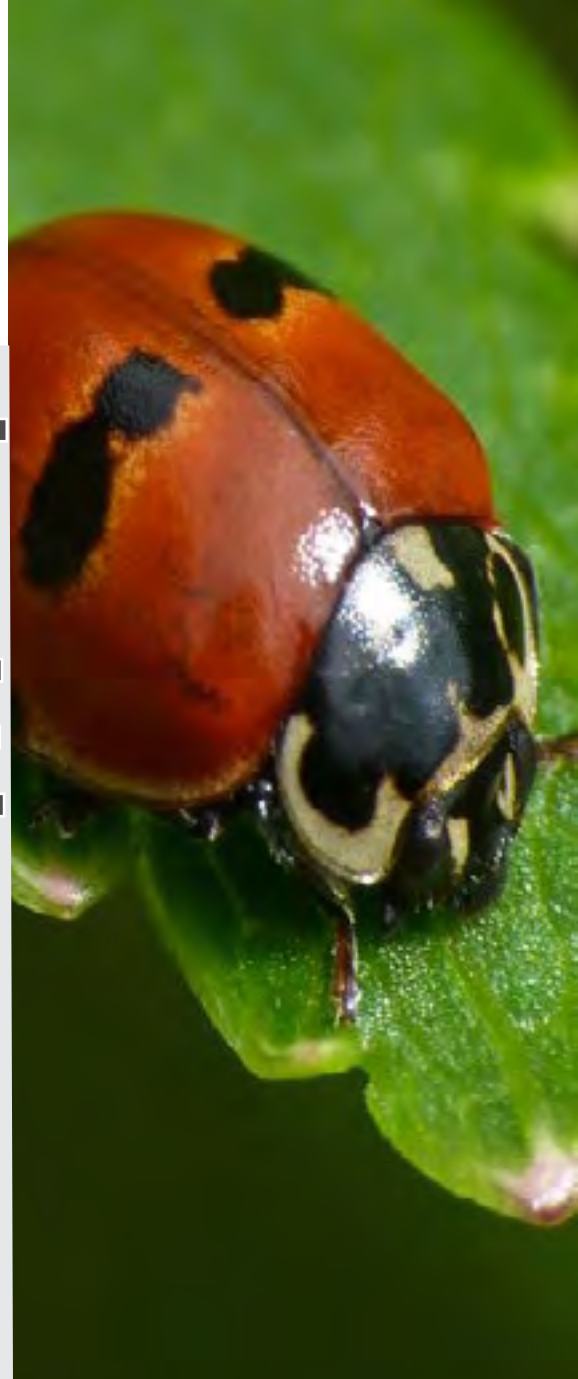


INSECT INTRIGUE



A teacher-conducted field study for
Grade 2 students

FISH CREEK
ENVIRONMENTAL LEARNING CENTRE

FishCreek.Education@gov.ab.ca

www.Fish-Creek.org



Introduction

This is a curriculum-connected, full day field study with multidisciplinary preparatory and post-visit activity support. The intent is to offer a natural world experience for students that reflects the outdoor field study components of Topic E: *Small Crawling and Flying Animals* from the Grade 2 Alberta Elementary Science Curriculum and the vision of Alberta’s Plan for Parks.

Fish Creek Provincial Park is one of Canada’s largest urban provincial parks, stretching from the western edge of the city to the Bow River. The park has a strong vision within its visitor services program plan to support and foster environmental and cultural education.

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Facility & Rules

THE FACILITY

The Fish Creek Environmental Learning Centre, located at the west end of the Park off of 37 Street SW, offers five indoor classrooms, an outdoor picnic area and access to an extensive variety of natural ecosystems: an old spruce forest, grasslands, riverine, creek, pond wetlands and disturbed (urban) areas.

The Fish Creek Environmental Learning Centre offers you the following facilities and services:

1. Each teacher will be given a classroom to use as a home base for the day's activities.
2. Some equipment for the day's activities will be available at the Park. It is your responsibility to count all equipment and return it at the end of the day. **There is a fee charged for lost or broken equipment.**
3. Washrooms and water fountains are located in the building. There are no vending machines or coffee available.
4. A short orientation (about 15 minutes) will be provided to the entire group upon arrival to welcome and introduce everyone to the park, its rules, the program for the day and what the students may discover outside.
5. Parent volunteers will have a separate orientation (about 10 minutes). This will introduce them to the equipment provided, to a map of the activity area (maps provided), to the general flow of the day, and will answer any questions that they may have.
6. A washroom and snack break will take place *after* the group orientation and during the parent volunteer orientation. Please ensure that the students are supervised during this time.
7. **There are NO indoor activities available. Please bring your own activities and/or DVDs when planning for inclement weather.**



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LUNCH BREAK PROCEDURES

Your class may eat inside the facility, within their assigned room. Please ensure that the students understand the following :

INSIDE THE BUILDING

- Students must be supervised by an adult while they are in the building (classrooms and washrooms).
- Classes from other schools may be in the facility at the same time. Please respect them and keep noise to a minimum, especially in the washrooms, hallways and other common areas.
- Help us keep the classrooms clean. There are garbage containers in the brown cabinets by the classroom doors.
- Recyclable containers go into the brown cabinet labelled “juice boxes, cans and bottles”. Do the students know what recycling is, how it conserves resources and how it helps the environment?
- Leftover fruit and vegetable materials, such as banana peels and apple cores, are collected in a white compost bucket in each room.

OUTDOOR FACILITIES

There is a picnic area just to the north of the Fish Creek Environmental Learning Centre, about two minutes walk up the trail, with plenty of picnic tables.

There are several picnic tables and a fire pit behind the Fish Creek Environmental Learning Centre. This area is available on a first-come, first-served basis.

When using the fire pit area be sure to:

- Provide your own roasting sticks and firewood. **Do not use branches or deadfall from the park.**
- Have a bucket of water nearby **before** the fire is lit. Check that the fire is out before you leave.
- **Do not feed or disturb wildlife.**

Preparation Materials

1. Preparation Checklist

A full, detailed teacher checklist for your field trip preparation is available at the back of this resource package or by clicking [HERE](#). These are general guidelines to assist you in planning your field trip.

2. Program Start and End

Program start and end times are flexible to accommodate bus availability and travel distance to the park. In general, programs start between 9:30- 10:00 am and finish between 1:45- 2:00 pm.



3. Field Trip at a Glance

Group Orientation (15 minutes)	Overview of park rules, safety and behaviour expectations for the day
Student Snack Break Parent Volunteer Orientation (10-15 minutes)	Overview of program activities, equipment and trail safety for parent volunteers.
Educational Activities	Students explore the park in small, parent-led groups. Environmental Educator will be available to answer questions and provide support during your lunch break and at the end of the day and is always available should the need arise at the Learning Centre.
LUNCH BREAK	Environmental Educator will circulate and answer questions, show nature biofacts and ensure that the program is going smoothly.
Educational Activities	Students continue to complete curriculum-connected activities with their parent leaders.
Groups return to Learning Centre for Program Wrap-up	Final washroom break, head count, inventory and return equipment borrowed from the park, gather personal belongings.

Program Wrap-up should take place at least 15-20 minutes prior to the scheduled bus departure.

Orientation Videos

Attending a teacher orientation prior to your class visit is essential for familiarizing yourself with the facilities and the surrounding trails. Returning teachers are not obligated to attend the workshop, but are certainly welcome to come for a “refresher” course. Dates for the teacher orientations will be sent to you via email so you can register for an orientation on a date of your choice.

1 Teacher Orientation Video

Prepare yourself by watching a brief video about field trip logistics, resources and helpful tips.

If you have any additional questions, comments or concerns about the field trip after watching the video, please contact the Environmental Educator.

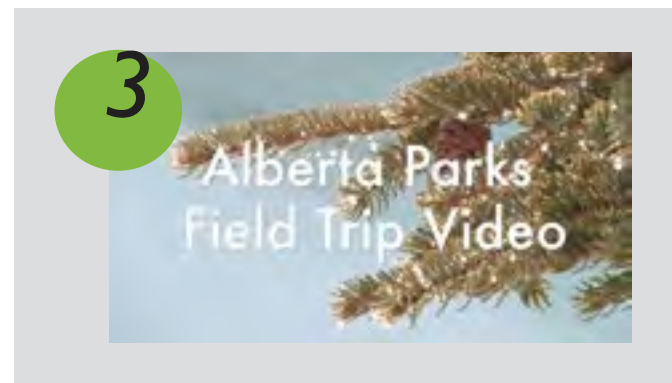
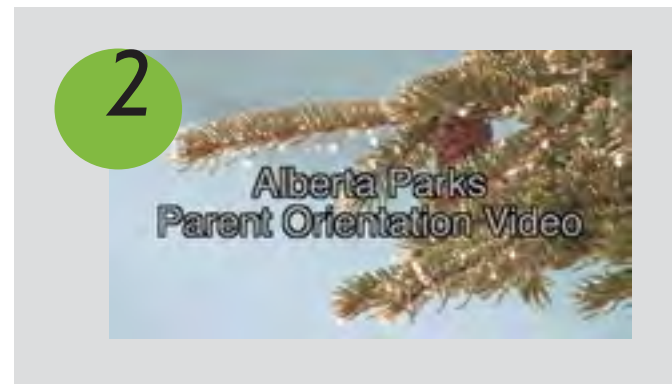
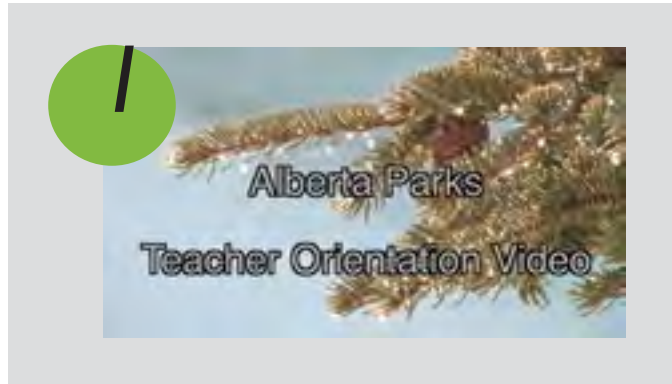
2 Parent Orientation Video

Whether your program is a guided hike with our Education staff, a custom program or a teacher-led field study, parent volunteers are an essential part of our programs.

When recruiting volunteers, **please ensure that the adults are aware that they will be outside in the park for a majority of the day.** Knowledge of nature is not a requirement, but ability to supervise and work with students is key.

2 Student Orientation Video

Prior to your field trip, you can show your students the orientation video that reviews proper field trip attire and the role of parks in Alberta.



Pre-field Trip Activities

Preparatory activities are essential to the success of your trip! The preparatory activities described here will introduce the field study day to your students and will allow them to practise the skills to be used during the field study day.

Feel free to use your own activities and the ones described in this package. Within the activities you select and present to your students be sure to consider other curriculum areas and explore how all subject areas can be connected to your field study day.

1

Vocabulary *Worksheet: No*

Review science vocabulary with the class. This could be done in any number of ways:

- Words could be incorporated into the weekly spelling quiz
- Ask the students to each draw a picture as you describe an imaginary animal and special things about it. Use as many of the vocabulary terms as possible. Ensure that each student has demonstrated an awareness of the correct meaning of each vocabulary term. Review with the students any terms that are still creating difficulties for them.

2

Basic Needs *Worksheet: No*

Conduct a class discussion about basic needs. What do humans need to survive? Are the students clear about the difference between needs and wants? Humans need food, water, shelter, space and air. We may want a car or computer but we do not need them to survive. Do the students' pets need the same things? What do house and garden plants need to survive? Do wild plants and animals also need the same things?

Pick an animal many of your students are familiar with (e.g. sparrow, squirrel, rabbit) and discuss with your class how this animal meets each of its basic needs.

3

Pre-Visit Quiz *Worksheet: Yes*

Give the students a short quiz before and after the field study to enable you to accurately assess the learning achieved on this field study. Use the following sample quiz or develop one of your own.

4

Food Chains *Worksheet: Yes*

Explain food chains to the class. Review the role of the sun for energy, plants that make their own food, animals that eat plants, animals that eat plant eaters etc.

- Show the class this image of an arctic food chain:
- <http://theinspirationroom.com/daily/2009/sanctuary-magazine-mouths-save-trees/>
- Brainstorm a few examples of food chains as a class.
- Ask the students to select a favourite food and then draw an energy chain for it. Use the template at the back to create a food chain collage. Supply the students with coloured construction paper for the background and magazine clippings, googly eyes, sequins and other materials to decorate each animal. To review, encourage the students to share their work in front of the class or in small groups.

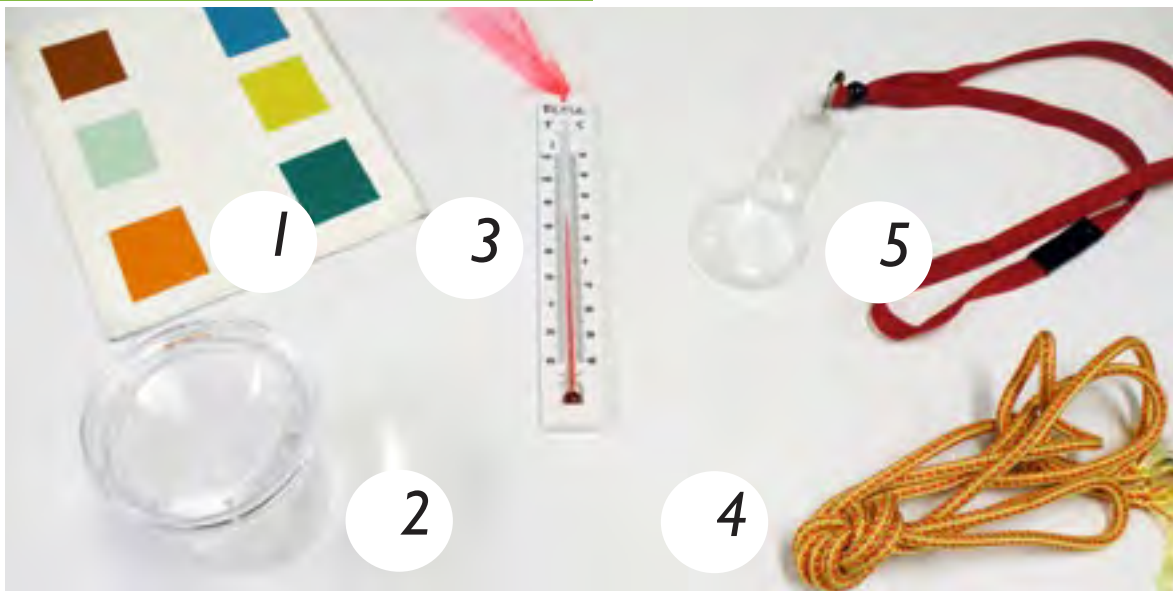
5

Classification *Worksheet: No*

Discuss how animals are the same or different and how they can be put into groups based on physical characteristics. Start by putting all animals into one of two groups: vertebrates and invertebrates. Then show the students how invertebrates could be broken down into smaller groups. If possible, have pictures of one example from each group. A simple classification might be:

- Insects - 3 distinct body parts (head, thorax, abdomen), 3 pairs of legs, one pair of antennae and an external skeleton called an exoskeleton.
- Spiders - 2 distinct body parts (head, abdomen) and 4 pairs of legs.
- Centipedes - at least 15 pairs of legs, one pair per segment of body. Common in decaying wood and leaf litter.
- Millipedes - 2 pairs of legs per body segment, totaling at least 30 pairs. Common under rocks, logs, bark.

All of these animals are invertebrates; they lack a backbone. Fish, amphibians, reptiles, birds and mammals are vertebrates.



Program Equipment

The Learning Centre will provide your students with equipment and resources to utilize throughout the day.

PLEASE NOTE: There is an additional fee for lost, stolen or broken equipment.

For the *Grade 2 Insect Intrigue* program, your students will be provided with the following:

1

Colour Cards

Students will use the colour cards to look for similar shades in natural objects.

2

Magnifying Boxes and Bug Catchers

With the assistance of parent leaders, students will capture invertebrates throughout the day in the larger bug catchers.

Students will use the magnifying equipment to closely examine physical and behavioural adaptations of the invertebrates.

3

Thermometer

Students will measure the temperature of shaded and sunny areas. Students will compare and contrast the temperature changes throughout the day and at different locations.

Students will record temperature readings in their journals.

4

Magnifying Glasses

Students will use the magnifying glasses to examine their captured invertebrates.

Students will use the magnifying glasses to investigate bark beetle tunnels and ant nests.

5

Rope Lasso

Parent leaders will create a large “rope lasso” on the ground. The students will then find, examine and describe the small crawling creatures found inside the small lasso area.

Field Trip Activities

Information Booklets



The Learning Centre will provide your adult chaperones with an information booklet with all of the Field Trip Activities outlined and explained in full detail. These booklets will have pictures and information that will support and enhance your students' learning.

Each page of the information booklet will have guiding questions on the bottom to help facilitate curriculum-connected discussions and inquiry.

NEW to our programs, these booklets will be printed and laminated for your field trip use. A copy of the Information Booklet was provided to you at the time of booking. If you have not received the booklet, please ask us to resend it.

Important Notes:

- Please do not print these booklets for your adult chaperones. By providing laminated copies, we hope to reduce the amount of wasted paper.
- Please do not distribute the information booklet PDFs to other teachers. These resources are developed for use within our programs.
- We greatly appreciate all feedback to strengthen our resources; please let us know if you have any recommended changes

Field Trip Activity Summary

The following Field Trip Activities are curriculum-connected. You are certainly welcome to change, remove or follow the activities to suit the needs of your students.

1 Colours Worksheet: Yes

- Students will use colour cards to observe and record the environment around them.

2 Temperature Worksheet: Yes

- Students will predict animal behaviour based on temperature and compare temperatures of visited sites.
- Students will also measure the temperature and record it on various pages of the student journal throughout the day.

3 Creature Count Worksheet: Yes

- Students will identify, compare & contrast and classify (plant-eaters, animal-eaters, decomposers), small invertebrates.
- Students will also identify the habitat that they find the invertebrate in (grassy area, forest, water).

4 Ladybugs Worksheet: Yes

- Students will determine the order of a ladybug's lifecycle. They will also observe & draw a ladybug that they find.

5 Spiders Worksheet: Yes

- Students will observe & draw a spider or web that they find. They will also describe: the spider's appearance, how the spider meets its basic needs, avoids predators, what it eats, etc.

6 Creature Lasso Worksheet: Yes

- Students will find, examine, describe and draw small creatures in a grassland habitat.

7 Grasshopper Gaze Worksheet: Yes

- Students will collect and observe the details of a grasshopper. They will determine how grasshoppers avoid predation.
- Students will describe a food chain that involves a grasshopper.

8 Under Worksheet: Yes

- Students will find and examine creatures that make their home under 'things' (logs, stones, leaves, etc.).
- Students will draw the things they find, discussing physical appearance and behaviour of the creatures found.

9 Cities in the Soil Worksheet: Yes

- Students will examine an anthill and draw their discoveries.
- Parent leaders will demonstrate a scent/chemical trail using a pencil rubbed with perspiration – reinforcing the concept of ants following an odour trail to find food.

10 Cities in the Trees Worksheet: Yes

- Students will investigate and draw the creatures that use trees for shelter, such as carpenter ants.

11 Bark Beetle Tunnels Worksheet: Yes

- Students will examine the patterns in wood created by bark beetle larvae.
- Students will recognize texture and patterns in nature – bark beetle chambers.
- Students will create a rubbing of a tree with bark beetle chambers and tunnels.

Post-field Trip Activities

In addition to a class discussion about trip highlights and favourite activities, students may need class time to complete data sheets or to share information about their discoveries.

Creature Count Worksheet: No

Review the results of the Creature Count. Were there any creatures that no one found? Where do the students think those ones live? Why do they think none were seen?

Have the students complete a bar graph or pictograph of the results from their Creature Count. Possible methods include:

- each student uses only his/her data
- or
- compile the data for the entire class and then each student completes a graph
 - graph the approximate number of each creature
- or
- graph the number of creature species found in each of the 3 ecosystems.

Creature Comparison Worksheet: Yes

Select two invertebrates that most students found. Have the class compare and contrast these two invertebrates: where they live, how they move, how they meet their basic needs, how they escape predators, etc.

Post-Visit Quiz Worksheet: Yes

Re-administer the preparatory test as a post-visit test and compare the results to assess the learning achieved on the field study.

Temperature Worksheet: No

Collate each group's temperature data.

Discuss:

- Predictions: how accurate were the groups?
- Were they correct in predicting which would be the warmer places?
- Were there significant differences in temperatures measured at waist level and ground level? (This will depend in part on the previous overnight low)
- Was there a correlation between the level of insect activity and the measured temperatures?
- Do the students know why invertebrates are less active when the temperature is low?
- Where were most invertebrates found when the temperature was low?
- Can the students figure out that hiding is a method of defense when the invertebrates are unable to move fast to escape predators?

Important Invertebrates Worksheet: Yes

Through class discussion compile a list of the many different ways invertebrates affect the environment and people. Some possible answers are:

- pollinate plants (including crops that are important food sources for people)
- food source for many other animals
- as scavengers they "clean-up" the environment
- provide honey and silk for people
- are enjoyable to hear and watch
- can carry germs and diseases
- destroy crops and other plants
- cause discomfort due to bites

Insects have a vital role in the environment. Human efforts to eradicate them can have far-reaching effects. Review the concepts of food chains and introduce food pyramids. A picture of each invertebrate will assist the students' comprehension of each idea.

Planning your Field Study in the Park: Teacher Checklist

Give every driver—including the bus driver—a copy of the route map.
Make sure all drivers know you are coming to the west end of the Park, near Woodbine!

Prepare yourself

- Read the teacher package thoroughly: phone 403-297-7926 if you have any questions.
- Modify the activities to fit your lesson plans, students' skill levels and time in the park
- Check student health forms, looking for allergies to bee/wasp stings.

Prepare the students

- Discuss how Fish Creek Provincial Park is a wild environment. Discuss the difference between wild and tame animals and environments (coyotes vs. pet dogs, Fish Creek Provincial Park vs. school yard, etc.)
 - Do not feed or disturb wildlife: Quietly observe all wildlife from a comfortable distance.
 - Leave only footprints: Share discoveries, but leave everything as they found it.
 - Pitch in: Litter should be placed in the rubbish bins provided or in a pocket.
- Discuss behavioural expectations. Explain that the field study will be another school day, just at a different place. All the school rules apply.
- Discuss the purpose of provincial parks and protected areas. Have the class make a list of ways they can show respect for living things during their visit to the park. *Possibilities include:*
 - Stay well back from the banks of Fish Creek
 - Leave ant hills, nests and rotting logs alone and intact. They are animal homes.
 - Walk with care and mindfulness. When leaving the trails to complete program activities take care to minimize your impact.
- Discuss outdoor safety. Students need to:
 - Stay where an adult can see them at all times.
 - Walk, do not run.
 - Keep feet on the ground: no climbing.
 - Leave dead branches on the ground: they do not make safe walking sticks.
- Discuss what to wear on the field trip
 - Hats, sunscreen, insect repellent.
 - Runners (not sandals).
 - Dress in layers: the forest can be cool in the morning.
- There is nowhere to buy anything here so bring plenty to eat and drink.
- Complete some preparatory activities, either the ones in the next section of this package or some of your own.

Prepare the adults

- Please follow the recommended ratios as outlined in your school board regulations. Divide your class into working groups.
- Review the park rules with the adults, [send the link to the orientation video](#).
- Emphasize the following: there is nowhere to buy anything anything here, including coffee.
- The adults' role is to lead the activities with the same small group of students all day..

Bring

- A cheque made payable to the *Government of Alberta* for \$4.00 per student (no charge for adults).
- Student booklets (or journals), pencils.
- A few bandaids with each adult and your first-aid kit.

Dear Adult Chaperone,

Thank you for volunteering for a field trip to Fish Creek Provincial Park! This excursion allows students to explore, discover and learn in one of the largest urban parks in North America.

Here are a few tips that may help you enjoy your visit:

- Pack a hearty and healthy lunch (snacks and water too!). There are no vending machines or stores onsite to purchase food
- Please dress appropriately for the weather. We will run our programs rain, snow or sunshine
- Ensure that you are aware of what part of Fish Creek the program is taking place. We host educational programs at the WEST end (near Woodbine) and the EAST end (near Deer Run)
- Take a minute to watch this [orientation video here](#)

Our staff will be available throughout the day to ensure that you and your group have a safe and educational experience in the park.

You are not expected to be a naturalist or science expert, but a positive attitude goes along way!

Thank you again, we are very excited to see you in the park soon.

Warmest regards,

Environmental Education Team

CONNECTING PEOPLE WITH PARKS



FISH CREEK
ENVIRONMENTAL



Insect Intrigue Vocabulary

Ensure that your students are familiar with the meaning of the following terms.

adaptation - physical characteristic or behaviour, which helps a plant or animal live, successfully where it does.

camouflage - body colour or markings that help an animal hide from its predators (enemies).

decomposer - any plant or animal that gets its energy by feeding on and breaking down dead plants or animals into smaller pieces that will become part of the soil.

habitat - place where a plant or animal naturally grows and lives.

interaction - relationship between two or more plants or animals and the effects they have on each other.

invertebrate - any animal that does not have a spinal column (backbone).

physical characteristic - a quality or feature (thing) on a body.

predator - animal that hunts other animals for food.

Imaginary Animal Description

Ask the students to each draw a picture as you describe an imaginary animal and special things about it. Use as many of the vocabulary terms as possible. You may use the following example or you may wish to create your own.

This animal is an **invertebrate**. Its **physical characteristics** include a soft body with no covering, antenna and many legs.

Its **habitat** is the forest floor and its colouring acts as **camouflage**.

Draw an **interaction** between our animal and a small plant.

Our animal is a **decomposer** that cannot live in the snow. Please add to your picture something the animal would eat and the behaviour **adaptation** it may use to avoid winter cold.

Its **predators** are birds. Please add those to your picture.

Bug EAT Bug World!

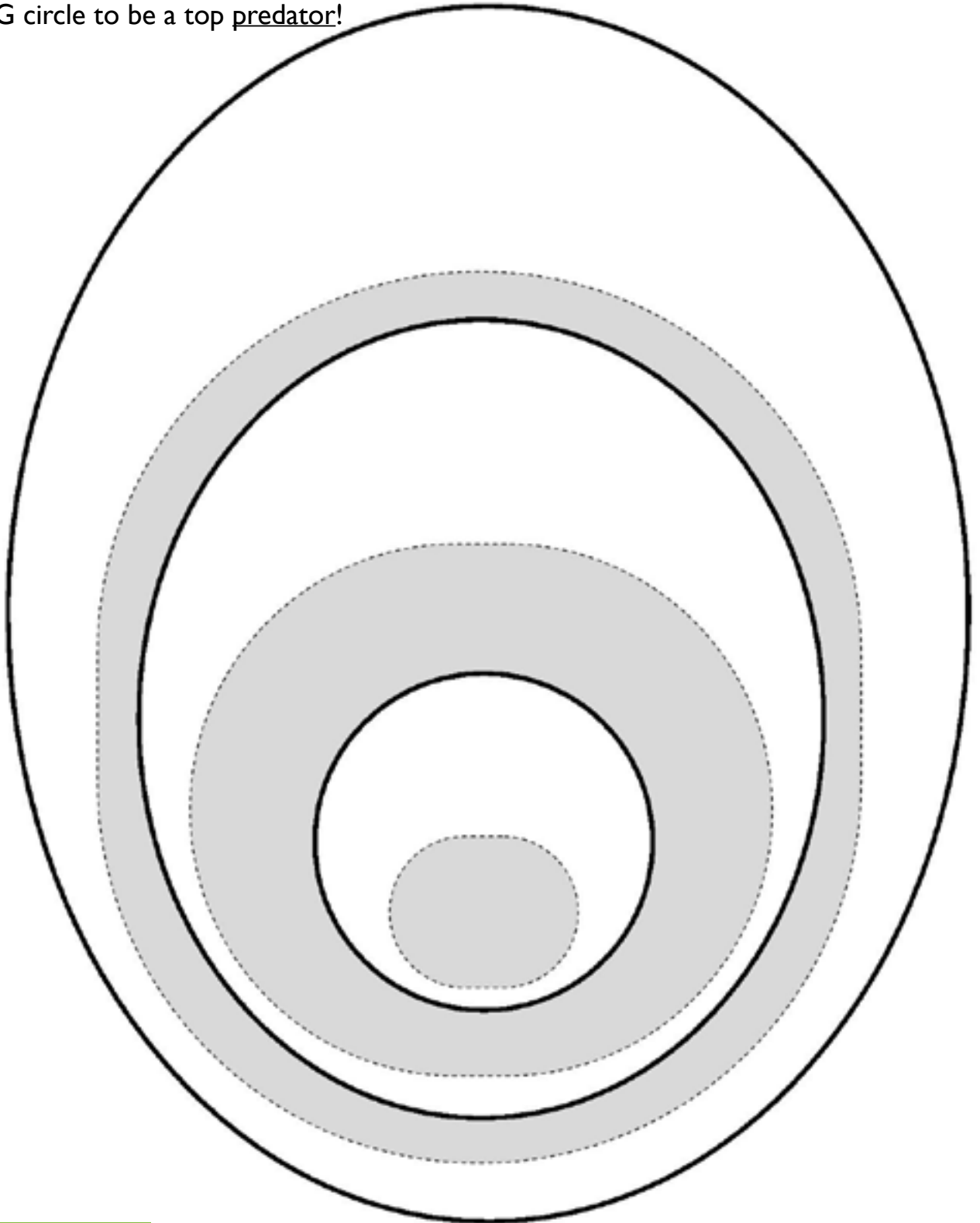
Cut along the dark lines and the dotted lines.

Recycle the grey scraps.

Decorate the smallest circle to be a plant eater.

Decorate the medium circle to be an animal eater.

Decorate the BIG circle to be a top predator!



Insect Intrigue Quiz

_____ Name

_____ Date

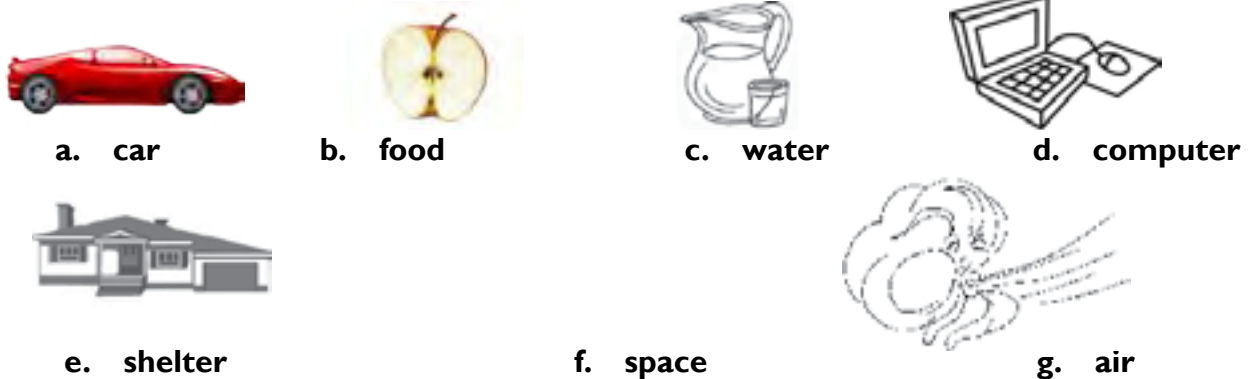
1. Circle the animals pictured below that are INVERTEBRATES (animals without backbones).



2. On the line beside each word print the letter of the description that best explains that word.

- _____ adaptation a. plant or animal that feeds on and breaks down dead plants or animals.
- _____ decomposer b. animal that hunts other animals for food.
- _____ habitat c. physical characteristic or behaviour that helps a plant or animal live where it does.
- _____ invertebrate d. place where a plant or animal lives.
- _____ predator e. any animal that does not have a spinal column (backbone).

3. Circle the pictures that show the basic needs of all living things.



4. Name an invertebrate that is a plant eater and its habitat.

5. Name an invertebrate that is an animal eater and its habitat.

6. Name an invertebrate that is a decomposer and its habitat.

7. Draw a line from the invertebrate to the special physical characteristic it has to help it survive in its habitat.

a. grasshopper



1. many eyes

b. spider



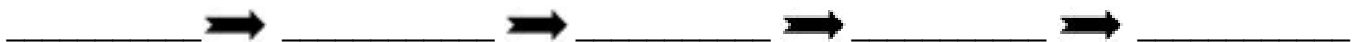
2. strong sense of smell

c. ant



3. toe pads to help it climb

8. Draw a grasslands food chain that includes the grasshopper. Start with the sun and end with a decomposer.



9. Listed below are ways invertebrates avoid predators. Name the invertebrate each describes by using the following letters:

G = Grasshopper

A = Ant

L = Lady Beetle

Some of the defense methods describe more than 1 invertebrate.

_____ sudden, bright flash of colour

_____ tastes bad

_____ camouflage

_____ plays dead

_____ hides

_____ moves fast

_____ stays very still

_____ long, high jumps

_____ hard shell

10. Ants use non-living material to meet their basic need for _____

11. Grasshoppers and spiders meet their basic need for food by eating which:




living or non-living things? _____

Insect Intrigue Quiz Answers

1. Circle the animals pictured below that are INVERTEBRATES. **a, c, d, f**
2. On the line beside each word print the letter of the description that best explains that word.

- | | |
|-----------------------|--|
| <u>c</u> adaptation | a. plant or animal that feeds on and breaks down dead plants or animals. |
| <u>a</u> decomposer | b. animal that hunts other animals for food. |
| <u>d</u> habitat | c. physical characteristic or behaviour that helps a plant or animal live where it does. |
| <u>e</u> invertebrate | d. place where a plant or animal lives. |
| <u>b</u> predator | e. any animal that does not have a spinal column (backbone). |

3. Circle the pictures that show the basic needs of all living things. **b, c, e, f, g**
4. Name an invertebrate that is a plant eater and its habitat. **refer to Creature Count Chart for possible answers**
5. Name an invertebrate that is an animal eater and its habitat. **refer to Creature Count Chart for possible answers**
6. Name an invertebrate that is a decomposer and its habitat. **refer to Creature Count Chart for possible answers**
7. Draw a line from the invertebrate to the special physical characteristic it has to help it survive in its habitat.

a. grasshopper		1. many eyes
b. spider		2. strong sense of smell
c. ant		3. toe pads to help it climb

(Note: Lines connect the grasshopper to '3. toe pads to help it climb', the spider to '2. strong sense of smell', and the ant to '1. many eyes'.)

8. Draw a grasslands food chain that includes the grasshopper. Start with the sun and end with a decomposer.



9. Listed below are ways invertebrates avoid predators. Name the invertebrate each describes by using the following letters:

G = Grasshopper A = Ant L = Lady Beetle









Some of the defense methods describe more than 1 invertebrate.

- | | | |
|---|---------------------------|-----------------------|
| <u>G</u> sudden, bright flash of colour | <u>AL</u> tastes bad | <u>G</u> camouflage |
| <u>L</u> plays dead | <u>GAL</u> hides | <u>GAL</u> moves fast |
| <u>GL</u> stays very still | <u>G</u> long, high jumps | <u>L</u> hard shell |

10. Ants use non-living material to meet their basic need for shelter.
11. Grasshoppers and spiders meet their basic need for food by eating which: living or non-living things? living things.


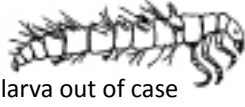
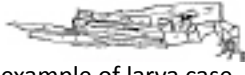
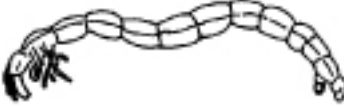



Insect Intrigue: Commonly Confused Creatures

As your group is exploring, the students may discover a creature that provoke group debate as to the creature's identity. Some invertebrates look very similar. Have the students place the creature in the large bugkeeper and take a close look at it. If the creature is listed on the following chart, have the students look for the listed characteristics to determine the creature's identity.

<p style="text-align: center;">Butterflies</p> <ul style="list-style-type: none"> · club or hooked antennae · wings folded above the back when resting · active during the day · soft, smooth landings on objects · taste with mouth and with their feet! 	<p style="text-align: center;">Moths</p> <ul style="list-style-type: none"> · thin, feathery antennae · wings beside the body when resting · usually active at night · less controlled landings on or into objects 
<p style="text-align: center;">Centipedes</p> <ul style="list-style-type: none"> · rusty orange colour · each body segment has 1 pair of legs · does not really have "100 feet" as name suggests · legs are set off to the sides · antennae have 14 segments · fast moving predator 	<p style="text-align: center;">Millipedes</p> <ul style="list-style-type: none"> · dark brown colour · each body segment has 2 pairs of legs · does not really have "1000 feet" as name suggests · legs are underneath the body · antennae have 7 segments · slow moving plant eater 
<p style="text-align: center;">Dragonflies</p> <ul style="list-style-type: none"> · eyes almost cover the head · at rest, wings are held flat and to the sides horizontally · back wings broader than front wings · thick body · can flap all 4 wings independent of each other: can hover like a helicopter 	<p style="text-align: center;">Damselflies</p> <ul style="list-style-type: none"> · eyes bulge out the sides · at rest, wings are held upwards and pointing to the rear · both sets of wings are the same · thin body · can flap all 4 wings independent of each other: can hover like a helicopter 
<p style="text-align: center;">Craneflies</p> <ul style="list-style-type: none"> · do not have a long proboscis: cannot bite · 8 - 65 mm long 	<p style="text-align: center;">Mosquitoes</p> <ul style="list-style-type: none"> · long, sharp proboscis: bites · usually less than 6 mm long 

Insect Intrigue: Common Aquatic Invertebrates

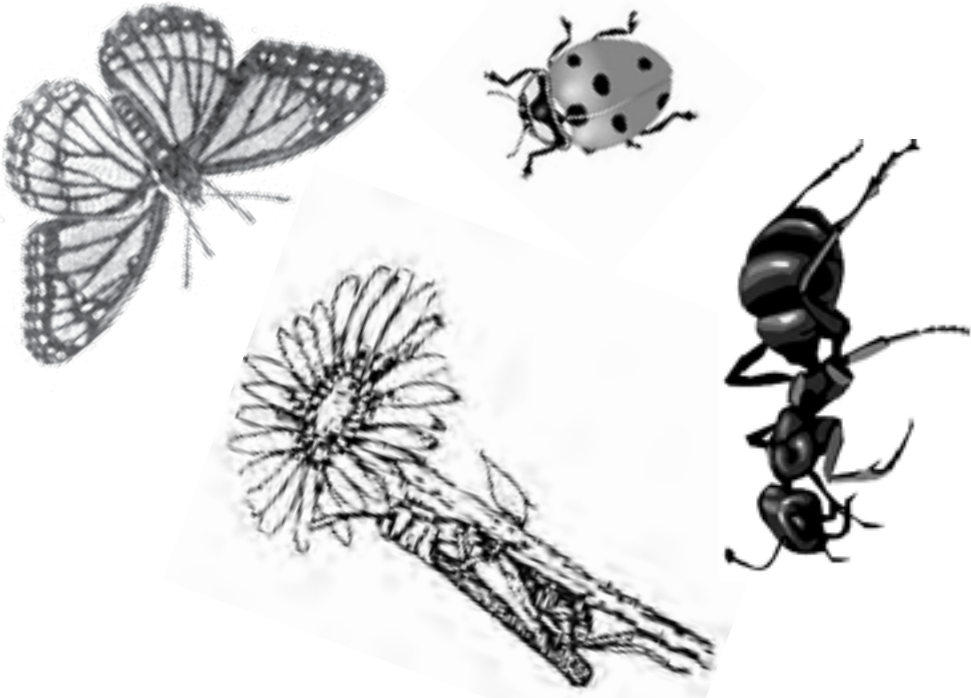
Aquatic creatures you may find in the temporary wetland under the orange trail boardwalk

<p style="text-align: center;">Fairy Shrimp</p> <ul style="list-style-type: none"> · use legs to swim, breathe and feed · eat algae, bacteria & microscopic animals · eaten by small fish & carnivorous insects · short-lived, complete their life cycle in only a few weeks · females produce two types of eggs: thin-shelled eggs that hatch immediately, and thick-shelled “resting” eggs called cysts. · cysts lie dormant in dried mud and can survive for over 10 years until the next rainstorm fills the wetland. <div style="text-align: right;">  </div> <p style="text-align: right;">actual size: 10 - 17 mm</p>	<p style="text-align: center;">Caddisfly Larva</p> <ul style="list-style-type: none"> · build and live in cases covered with small sticks or stones; head and legs stick out, making them look like moving sticks; · crawl along the bottom, dragging cases behind them · retreat into cases when danger threatens · as larvae grow, cases are made larger · eat algae, plants, larvae, worms and crustaceans · eaten by fish (case and all) and predacious diving beetles <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>larva out of case</p> </div> <div style="text-align: center;">  <p>example of larva case</p> </div> </div> <p style="text-align: right;">actual size: up to 50 mm</p>
<p style="text-align: center;">Phantom Midge Larva</p> <ul style="list-style-type: none"> · eat underwater debris, algae, plants, and fungal spores · are eaten by other aquatic invertebrates and by small fish · crawl or wriggle · midge adults are often mistaken for adult mosquitoes <div style="text-align: right;">  </div> <p style="text-align: right;">actual size: 2 - 30 mm</p>	<p style="text-align: center;">Daphnia or Water Flea</p> <ul style="list-style-type: none"> · are crustaceans and not insects · feed on algae, microscopic animals and organic debris · eaten by small fish and carnivorous insects · swim with jerky movements using an enlarged pair of antennae to propel themselves <div style="text-align: right;">  </div> <p style="text-align: right;">actual size: 0.2 - 3 mm</p>
<p style="text-align: center;">Mosquito Larva</p> <ul style="list-style-type: none"> · hang upsidedown from the water surface, but swim to the bottom if threatened · breathe through a tube (like a snorkel) at the rear · called “wrigglers” since they constantly curl/uncurl/wriggle when they moves · eat underwater debris, algae, plants and fungal spores · are eaten by fish and pradatory insects like dragonflies <div style="text-align: right;">  </div> <p style="text-align: right;">actual size: 3 - 5 mm</p>	<p style="text-align: center;">Mosquito Pupa</p> <ul style="list-style-type: none"> · found just below the water surface; swim to the bottom when threatened · called “tumblers” since they appear to tumble through the water · pupae do not eat · eaten by fish and pradatory insects like dragonflies <div style="text-align: right;">  </div> <p style="text-align: right;">actual size: 3 - 5 mm</p>

BARK BEETLETUNNELS

Firmly holding the paper in place over the bark beetle tunnels on the log, rub the SIDE of your pencil lead back and forth across the paper.

Insect Intrigue



Name: _____

TEMPERATURE: Cooler or Warmer
waist level: _____ °C ground level: _____ °C
Invertebrates: moving slowly moving quickly

CITIES IN THE TREES

Draw the animals you found on the tree.

CITIES IN THE SOIL

Draw your special ant and the trail it made.
Add any eggs or larvae you saw on the anthill.

TEMPERATURE: Cooler or Warmer
waist level: _____ °C ground level: _____ °C
Invertebrates: moving slowly moving quickly

COLOURS

Name each colour from your colour card. Beside the box, draw the object that was that colour.
Colour the boxes later.

UNDER

Draw the natural objects you moved and the creatures you discovered under each one.

TEMPERATURE: Cooler or Warmer

waist level: _____ °C ground level: _____ °C

Invertebrates: moving slowly moving quickly

10

BUG BOXES

Draw and colour the insects you collected in your bug boxes.

TEMPERATURE: Cooler or Warmer

waist level: _____ °C ground level: _____ °C

Invertebrates: moving slowly moving quickly

3

LADY BEETLES

Number the pictures to show the correct order of stages in the lady beetle's lifecycle.



_____ Draw the lady beetle you found.

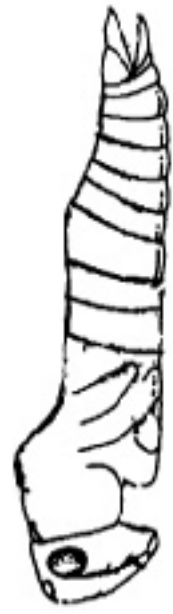
TEMPERATURE: Cooler or Warmer

waist level: _____ °C ground level: _____ °C

Invertebrates: moving slowly moving quickly

GRASSHOPPER GAZE

Add wings, legs and antenna to the grasshopper and colour it.



Complete the food chain by adding a plant, a grasshopper and a predator of the grasshopper.



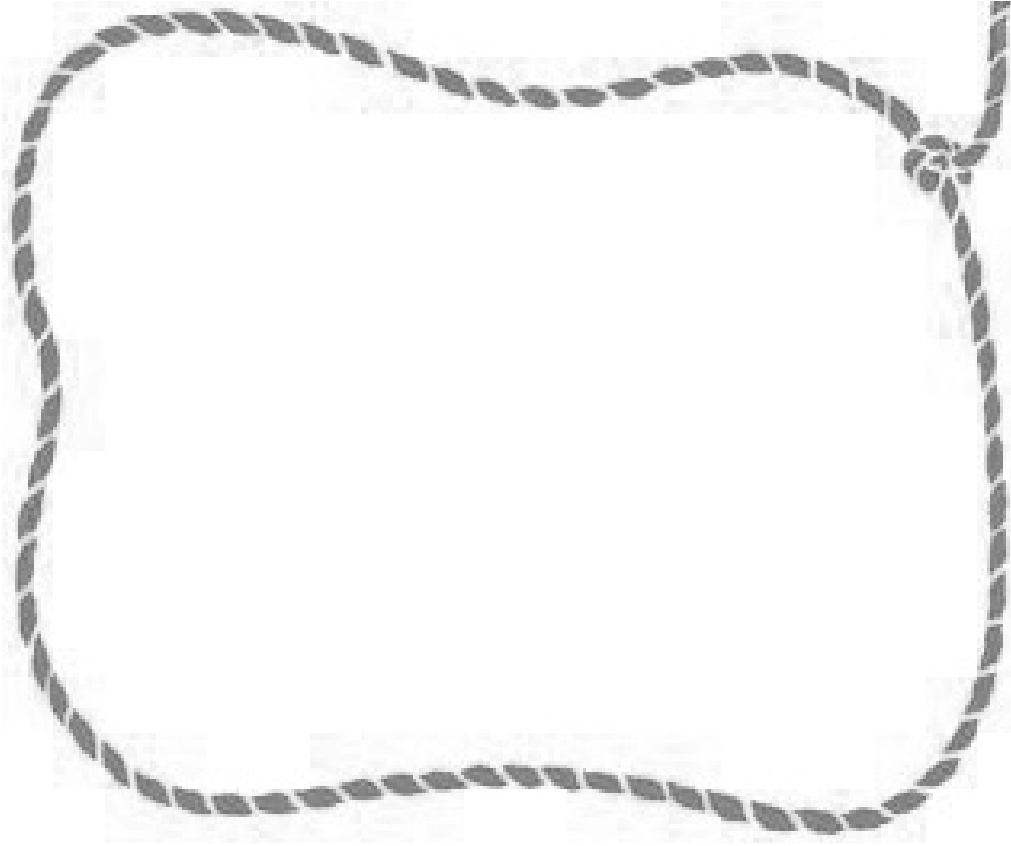
TEMPERATURE: Cooler or Warmer

waist level: _____ °C ground level: _____ °C

Invertebrates: moving slowly moving quickly

CREATURE LASSO

Draw the creatures you found within your lasso.



TEMPERATURE: Cooler or Warmer

waist level: _____°C ground level: _____°C

Invertebrates: moving slowly moving quickly

SPIDERS

Draw either the spider or the web that you found and list 3 words to describe it.
















TEMPERATURE: Cooler or Warmer

waist level: _____°C ground level: _____°C

Invertebrates: moving slowly moving quickly

Creature Count

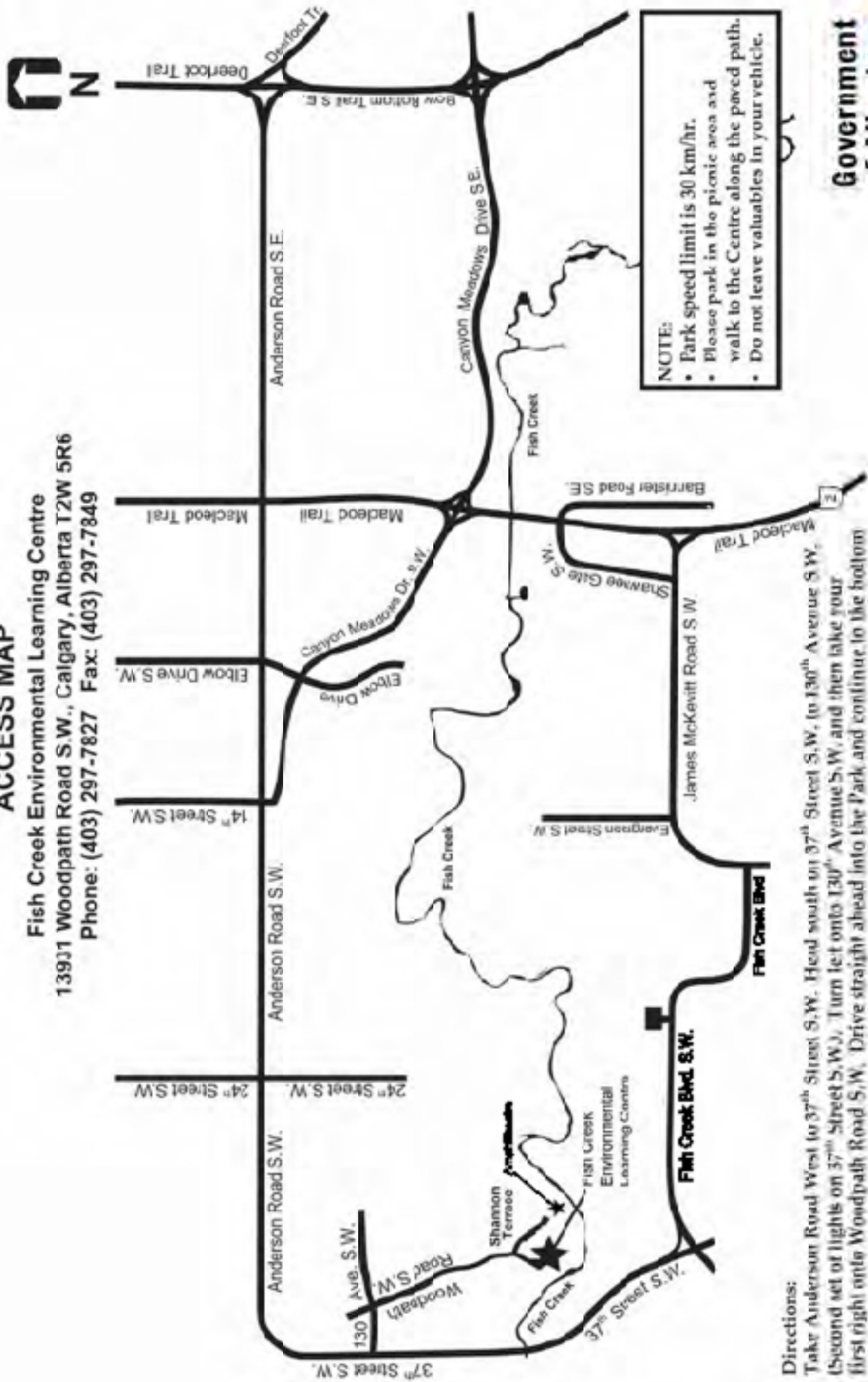


Plant Eaters	Animal Eaters	Decomposers
Grasshopper 	Spider 	Earthworm 
Butterfly 	Ground Beetle 	Centipede 
Snail 	Dragonfly 	Fly 
Bark Beetle 	Water Strider 	Slug 
Bumblebee 	Lady Beetle 	Cranefly 

Directions Map

ACCESS MAP

Fish Creek Environmental Learning Centre
13931 Woodpath Road S.W., Calgary, Alberta T2W 5R6
Phone: (403) 297-7827 Fax: (403) 297-7849



Directions:
 Take Anderson Road West to 37th Street S.W. Head south on 37th Street S.W. to 130th Avenue S.W. (second set of lights on 37th Street S.W.). Turn left onto 130th Avenue S.W. and then take your first right onto Woodpath Road S.W. Drive straight ahead into the Park and continue to the bottom of the hill. The Environmental Learning Centre is on the right hand side (watch for signs).

Trail Map

Program Trails at the Fish Creek Environmental Learning Centre

PLEASE STAY IN ASSIGNED AREAS!
It is important that park staff know where you are at all times.

- Washrooms
- Picnic Sites (with fire pits)
- Amphitheatre
- Public Parking
- School Group Parking Only
- Bench
- Fence
- Asphalt Trail
- Shale Trail
- Dirt Path

