1. **Background**
   * 1. Plants and Pollinators

* Topics: plant life cycles, plants and animals, plants and people, plant diversity
  + 1. Learning Goals & PLOs (designed for Grade 3)
* Compare familiar plants according to similarities and differences in appearance and life cycles
* Describe ways in which plants are important to other living things and the environment
* Ask questions that foster investigations and explorations
  + 1. Why is this module interesting?
* This module fosters an appreciation of both local plant life and the great diversity of plants around the world. Students will come away with a better understanding of the many roles of plants in daily life. They will learn about the important role of pollinators in plant reproduction.
  + 1. References
* Pollinator Partnership – a great reference for further resources and activities <http://www.pollinator.org/education.htm#cr>
  1. **Materials**
     1. List of materials:

Pre-Assessment

* Plants All Around You Slideshow (pre-made)
* Pre-assessment worksheet (one copy per student)
* Whiteboard, chalkboard or butcher paper for brainstorms and drawing
* Seeds (could be sunflower seeds, or pine nuts)
* Paper or plastic bowls (1 per student) with holes pre-punched in the bottom
* Pipe cleaners (cut in half, # per student)
* Beads for pollinator bodies (optional)
* Colored powder (i.e. Jello or dyed talcum powder) or glitter, at least 3 colors
* Tape
  1. **Procedure**
     1. **Pre-Assessment**
* Plants All Around You Slideshow

Show slides or pictures (see pdf and worksheet) and students can write down what part of the plant they think is represented (seed, stem, leaf, bark, flower, fruit, etc). Images in the slideshow represent common food plants and common native BC flora. During slideshow, discussion can be prompted about whether the students have encountered these plants before. Images can be complemented with hands-on specimens as well.

* + 1. **Participatory Learning**
* Plant life cycles activity:

- Brainstorm: what is a seed? *A baby plant, it comes from another plant, it can be eaten, contains everything a new plant needs to grow*

- Each student is given a seed, a piece of paper, and drawing materials.

- Brainstorm parts of a plant and make a list on the board. *Your list might include: seed, stem, leaves, flowers, fruit, trunk.*

- Students are instructed to draw a plant that might grow from that seed. Optional: brainstorm and have students draw things the plant needs (*i.e. sunshine, water, soil*). Optional: have students label the parts of their plants.

- Once students have finished drawings, they can be given materials to make flowers: bowls, coloring materials, pipe-cleaners.

- On the board, draw a flower and discuss what flowers are for:

*Petals are for attracting pollinators*

*Pollen is shared with other plants for making seeds*

*The carpel is the part of the plant that collects pollen to make seeds.*

- Show the students how to assemble flowers and insects.

Flowers: one pipe cleaner gets folded in half and pushed through the center hole in the bowl. A piece of tape gets pushed The students can color the bowl to make them attractive to pollinators (optional: kids can cut out extra construction paper petals and glue them to the outsides of the bowl).

Insects: let the students be creative with their remaining pipe-cleaners and beads to make an insect shape.

- Once students have assembled flowers and insects, the teacher or activity leader can dispense the “pollen” (powder or glitter) by pouring some into each bowl (one color per bowl).

- Students can leave flowers on their desks, and take their insects for a flight around the “garden”. Students can visit flowers with their insects and move pollen from flower to flower.

- After a few minutes, have students return to the flower they made. How many different colors of pollen did your flower receive? How many different colors of pollen are on your insect?

- Wrap up the activity by asking students what will happen next to their flower. Guide conversation towards seeds and fruits. Have the kids add a fruit and seeds to their plant drawing if they haven’t already.

* + 1. **Post-Test**
* Amazing Plant Parts Slideshow

Students will be shown images of some of the more remarkable plant adaptations, and will be asked to evaluate what part of a plant they represent. Also, discussion of why plants might have these adaptations will be facilitated.

* + 1. **Summary**
* Every part of a plant’s life cycle is important! We encounter them everyday in our food and our environment. Plants are also very important to animal life on our planet.
* You don’t need to travel far from home or school to see amazing plant life forms.
* Insects are very important for plant life cycles, and plants provide insects with food.
  1. **Make it your own**
     1. Hands-on pollination!
* If you have access to plants with real flowers let the students pollinate them. This could be done on the school grounds if there are flowers in bloom. Toothpicks or pipe-cleaners make great pollination tools.
  + 1. Extensions:
* If you have access to a school garden or school grounds with plants (and good weather), kids could go outside and observe pollination. Have each student (or group of students) observe a plant and count how many and what kinds of pollinators visit it. Do the pollinators seem to be taking something from the flowers? Which types of flowers get visited most often?
* Students could make a “plant journal.” For a day or a few days, have students keep a list of things that they eat, see, smell, wear, etc. that are plant sourced. Then share the results and see what items are most common (or most unique).
  + 1. For younger students:
       - Pre-assessment could be a verbal discussion without worksheets.
       - Flowers could be assembled for students.