

Biology

Grade 1 – Plants

Biology

Grade 1 – Plants



A framework for Inquiry

Significant Content: A focus on important knowledge and concepts derived from standards. Students should find the content to be significant in terms of their own lives and interests.

A need to Know: Activate learner curiosity. Engage student interest and initiate questioning with an entry event: this could be a story, a video clip, a photograph...

A Driving Question: A question that captures the heart of the inquiry in clear, compelling language, giving students a sense of purpose and challenge.

Authentic Purpose: Establishing an authentic purpose for the tasks we invite our learners to explore, enriches learning opportunities.



Voice and Choice: Guided by the teacher, learners have voice and choice in terms of design, what resources they will use and how they structure their time.

Revision and reflection: Learners go through a process of seeking feedback from their peers to think in-depth about their inquiry. Students learn that revision and reflection are frequent features of real-world work.

In-depth Inquiry: Learners follow a trail that begins with their own questions, leading to a search for resources and the discovery of answers and ultimately leads to generating new questions, testing ideas and drawing their own conclusions.

21st Century Competencies: Collaboration, communication, creativity, critical thinking, problem solving and social responsibility.

Adapted from: Larmer, J. & Harganahy, J. (2012). Essentials for project-based learning.

Suggested Ways to Engage Students in Science Inquiry:

How do local plants depend on their environment? (Driving Question)

Go on a walk around the school, forest, beach, mud flats, rivers, swamp area, ponds, etc. and observe a variety of plants and the environments which they are growing in. Use the Native Plant Cards contained in the kit as you explore.

Using *Growing Up Wild* (order from your school library), focus on the *Seed Need* activity.

How do plants use their features to respond to stimuli in their environments? (In-depth Inquiry)

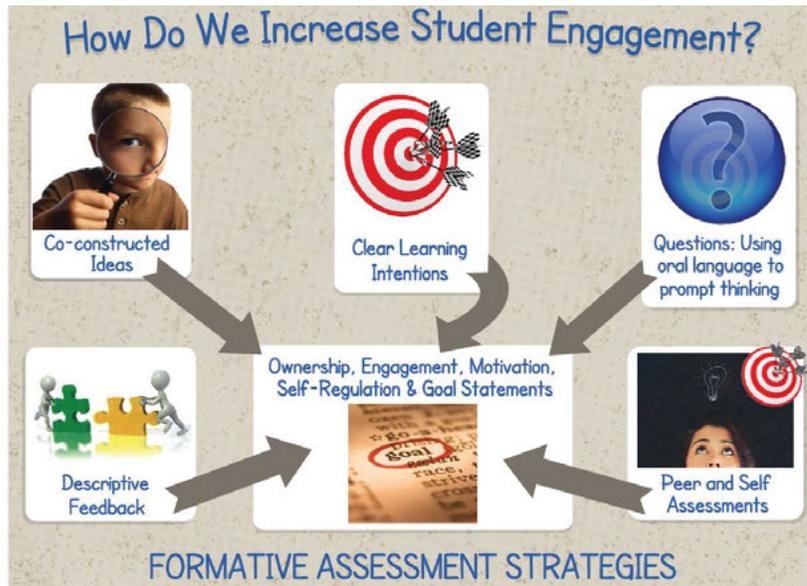
Watch the video on [youtube.com/](https://www.youtube.com/) Explore the changes in environment (weather/seasonal) which cause these changes.

Go on walks and with each walk think of a different theme, such as colour, senses, scavenger hunts. Compare a variety of plants during these walks, noticing features.

How do plants adapt when their basic needs are not being met? (A Need to Know)

Do a variety of experiments on plants such as plants in shoe boxes, plants without light sources, plants without water and observe changes that occur in the plant.





Suggested Ways to Embed Assessment *for* Learning Strategies:

I can describe features which allow plants to survive in their local environment.

Compare a variety of plants in different local environments and notice structural features which enable the plants to survive.

I can observe and describe how plants adapt when their basic needs are not being met.

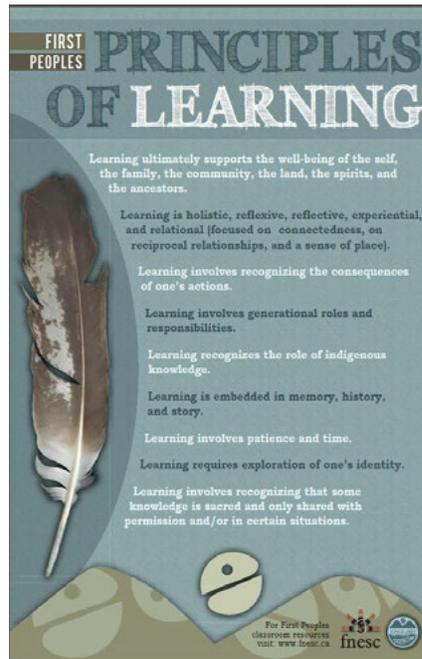
Experiment by putting plants in the dark, not watering, etc. and notice the changes. Using their Journal, students could draw and record their observations and things they might wonder.

I can represent observations and ideas by drawing.

Complete the *Science Learning Map* (teachers' resource binder) to compare yourself with plants.

See master of Cooperative Learning Map (*mouse house collaborative map*) to use for





Suggested Ways to Weave Aboriginal Ways of Knowing within this unit:

Aboriginal knowledge of local plants and uses of plants.

Use the *Pacific Northwest Plant Knowledge Cards* and the *Traditional Food Fact Cards* contained in kit, go on a nature walk and identify plants native to your area. This could be done with a local elder or someone from the aboriginal education department. Compare and contrast aboriginal uses of plants and how we use plants.

Go on a walk to find blackberries and salal. Using the lesson below, you can enjoy some delicious jam together.

<http://www3.sd71.bc.ca/School/abed/resources/staffresources/elementary/Pages/Recipe-For-Salal-and-Blackberry-Jam.aspx>

Story of Cedar Man by Herb Rice

https://m.youtube.com/watch?v=H_IVHL4eYqM



Other Resources:

<http://www.thescienceofsoil.com/teacher-resources>

An excellent website filled with resources and the virtual field trip portion is particularly helpful to show how plants are grown and harvested.

<https://www.youtube.com/watch?v=X6TLFZUC9gI>

A short video depicting the parts of a plant.

education.com

A sight filled with hands on activities and resources for teachers. Some great ideas here!

[https://www.google.ca/search?](https://www.google.ca/search?q=the+needs+of+a+plant+song&oq=The+Needs+of+a+plant+song&aqs=chrome.0.015.8095j0j4&sourceid=chrome&es_sm=93&ie=UTF-8)

[q=the+needs+of+a+plant+song&oq=The+Needs+of+a+plant+song&aqs=chrome.0.015.8095j0j4&sourceid=chrome&es_sm=93&ie=UTF-8](https://www.google.ca/search?q=the+needs+of+a+plant+song&oq=The+Needs+of+a+plant+song&aqs=chrome.0.015.8095j0j4&sourceid=chrome&es_sm=93&ie=UTF-8)

The needs of a plant are depicted in video form and set to a catchy tune.

thinkearth.org

Free downloadable unit plans for K-3, inquiry projects based on environmental themes.

A website filled with short video clips to engage children in scientific thought processes such as experimenting, observing, recording.. There are also educator resources and parent resources.

sesamestreet.org/stem

<http://www.learn71.ca/plants/>



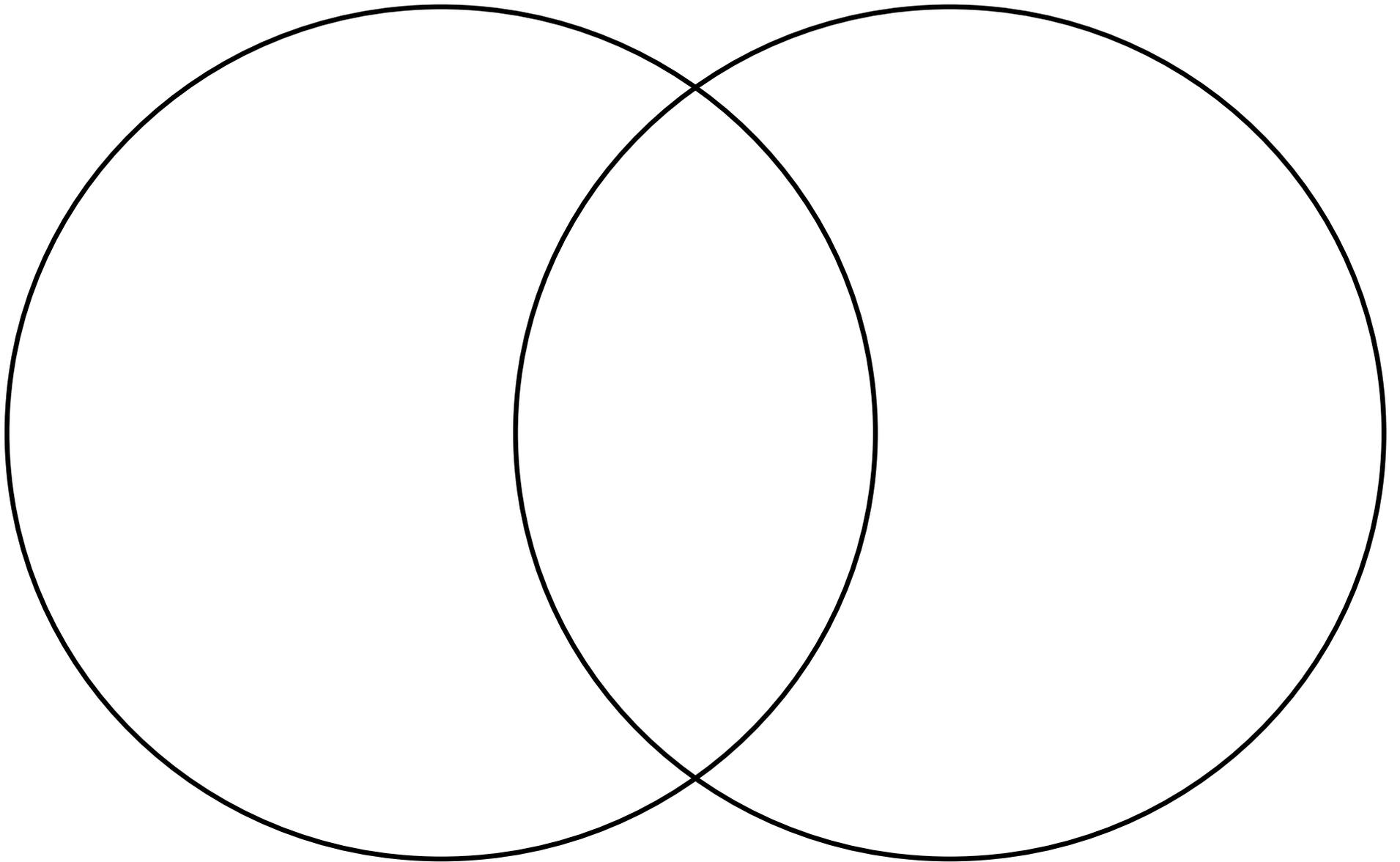


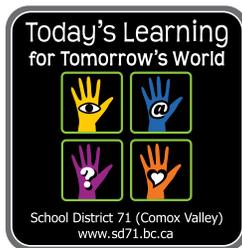
Building Inquiry: How does collaboration help us create and problem solve?

- Green Light: I can do this **independently**.
- Yellow Light: I can do this **with guided support**.
- Red Light: I can do this **with direct support**.

Learning Target				Evidence
I can share my ideas with my team.				
I can listen to others' ideas.				
I can make my group feel comfortable (smile at them, use kind words, act like I want to work with them).				
I can work with my group to get the job done.				
I can explain the purpose of our project.				

Venn Diagram





An electronic copy of this teacher guide can be found on Learn71 at <https://portal.sd71.bc.ca/group/wyhzgr4/Pages/default.aspx>

Contributors: Cheryl Adebar, Thea Black, Noah Burdett, Doug David, Kara Dawson, Colleen Devlin, Allan Douglas, Gerald Fussell, Nora Harwijne, Sarah Heselgrave, Debra Lovett, Kim Marks, Gail Martingale, Dale Mellish, Heather Mercier, Jane Rondow, Teri Ingram, Debbie Nelson, Joan Pearce, Stewart Savard, Laura Street, Lynn Swift, Carol Walters.

School District No. 71 (Comox Valley) grants permission for teachers to use these resources for educational purposes.

