

Phytoplankton Lesson Plans

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Lesson 1

approx. 60 minutes

Materials: [Blue construction paper cut to form waves](#) for written responses, scissors, tape, markers, pencil, lined paper, digital device & *Our Scrumptious Lake PHYTOTASTIC!* graphic novel

Essential Question: Why is water important in our life?

Goal: Deepen connections and an appreciation about water, particularly a sense of place with Lake Champlain.

Tasks:

1) Ask students to write down words and/or phrases they associate with water onto their cut paper (e.g., thirsty, my dog's pool, puddle jumping, rivers).

Display the written responses along a wall forming one long wave.

Ask the students to read the displayed responses, and then read aloud the anonymous quote (epigraph) from *Our Scrumptious Lake PHYTOTASTIC!*: "*Clean water is like love. It brings us pleasure, nurtures our body and soul, and stirs hope in each of us.*"

Facilitate a class discussion relevant to the quote, their own water connections and how central water is to all of our lives.

2) View [Nebi: Abenaki Ways of Knowing Water](#)

3) After watching the film, place students into small work groups and ask them to write responses to the following questions:

-What do you know about Lake Champlain and its basin?

-What would you like to know about Lake Champlain and its basin?

Ask each group to share aloud their written responses to the class.

4) Ask students to express an experience related to Lake Champlain and/or another lake of their choice (i.e., poem, rap song, paragraph, drawing, collaging). Sharing is optional.

Lesson 2 approx. 45 minutes

Materials: Paper, pencil & digital device

Essential Question: What is phytoplankton and why is it important?

Goal: Discover the crucial role phytoplankton plays in the health of water.

Tasks:

- 1) Students respond in writing to; What is phytoplankton? Welcome any guesses. *This can serve as a “before studies” snapshot of students’ understanding of the role phytoplankton plays.
- 2) View [The Secret Life of Plankton](#).
- 3) Facilitate a class discussion relevant to the film, phytoplankton's importance and why some refer to phytoplankton as the earth's unsung hero?

Answers:

First responses may be vague. After viewing the video, responses reveal phytoplankton as a microscopic plant-like organism that is the base of the food chain and food web, called drifters.

Phytoplankton is an unsung hero because many are unaware of phytoplankton's existence and the significant role it plays in our ecosystem: it is the base of our food chain and food web and life cannot exist without phytoplankton.

Lessons 3 & 4 approx. 120 minutes

Materials: *Our Scrumptious Lake PHYTOTASTIC!* graphic novel

Essential Question: If one link is broken in the aquatic food chain, how might this affect the entire food chain?

Goal: Explain the interdependence of the aquatic food chain.

Tasks:

1) Preview book. Invite questions and comments.

2) Read chapters (aloud as a large or small group and/or enact reader's theater or read silently).

Suggestion: the first read is silent and the second read is a reader's theater. Have fun while learning; incorporate music such as [Soul Train Shake Your Booty KC & Sunshine Band](#) for pg 11 or [THUNDERSTORM SOUNDS -- Download Link in Description](#) for pg 42.

3) Discuss as a group; What factors may disrupt the aquatic food chain? Encourage responses that include various perspectives of the characters in the story.

Answers

When a food chain is broken an important energy link is lost and the ecosystem becomes unbalanced.