

WATERCRESS (Kowhitiwhiti) is a popular wild food but ...

Science & Technology, Social Sciences and Health & Safety-based Teaching Unit for Years 5-10+



TEACHER BACKGROUND

In New Zealand we have a wonderful diversity of wild plant foods, that if gathered and correctly prepared, can greatly enhance our diet and our health. Māori have a keen knowledge of these wild plants but today, most of us would be hard pressed to identify even a few edible wild plant foods.

In this unit we examine the safety and characteristics of suitable and safe environments for growing and gathering watercress – kowhitiwhiti, learn how to assess water quality and understand the effects that water quality has on wild food safety. Students will come to understand why adding or even growing wild food will add interesting tastes and healthy and essential vitamins and nutrients to the food we eat.

IS IT A WEED OR A WILD FOOD PLANT?

- What do your students think a weed is? Have they ever eaten a weed? Introduce the idea that the only real difference between a weed and a garden plant is what people think about the plant – if they don't want it or like it - they call it a weed. Introduce the idea that many weeds can (and should be) eaten as they contain large amounts of vitamins and minerals that keep us healthy, and we call these 'edible weeds' or more correctly 'wild food plants'.
- Use shared reading to explore the following websites to help students discover the vitamins and minerals we all need and how they help keep us healthy at:
kidshealth.org/en/kids/vitamin.html?WT.ac=ctg#catfood
kidshealth.org/en/kids/minerals.html?WT.ac=ctg#catfood



- Flat leaf parsley is an excellent example of a highly nutritious wild food plant. As a class, visit the NZ food composition database to get NZ nutrient data for parsley (note the vitamin C is in fresh but not dried parsley) at:
www.foodcomposition.co.nz/search/food/X68/claimable

AN INTRODUCTION TO FORAGING

- Introduce the idea that there are plenty of wild plant foods in our countryside if you know where to look and what to look for. Do students know that hunting for these plants is known as 'foraging' and it is becoming more popular. Have groups conduct research on the following website at:

<https://thisnzlife.co.nz/beginners-guide-foraging-new-zealand> to discover the following:

- the benefits that wild food plants provide for us
- what have we forgotten about cultivated fruit, nuts and vegetables bought at the supermarket?
- why we will probably see more and more wild plants being mass-produced for humans
- what the ability of edible wild plants to survive and even thrive in environments altered by humans tells us about them as plants
- the reasons why foraging is now becoming more popular
- the characteristics of three popular edible wild weeds, blackberry, dandelion and onion weed, what parts can be eaten and the health benefits we get from eating them
- why we must be cautious when foraging for edible wild plants and the reasons for the simple rules and the reasons we should follow them.

WATERCRESS – KOWHITIWHITI IS POPULAR

- How many students have eaten watercress as part of a salad or a full salad? Can they describe its taste?
- Introduce students to the word nutrient. Check out the 5 major nutrients that our bodies need at:
www.otsuka.co.jp/en/nutraceutical/about/nutrition/functions
- Do they know that watercress - kowhitiwhiti - is one of the the most popular of the leafy greens that is used in salads? Have students answer the following questions about kowhitiwhiti at:
<https://herbs.org.nz/plant-genera/watercress> and
thisnzlife.co.nz/10-most-nutrient-rich-leafy-greens-you-can-grow
 - what family of plants does watercress belong to?
 - where does it grow naturally?
 - why is it unwise to pick wild watercress from streams that run through sheep farming country?
 - what minerals, vitamins and nutrients does watercress provide and how do they help the human body?
 - identify the different ways watercress can be eaten/served.



The vitamin C provided by watercress can help us with head colds.

... the environment where it's collected must be SAFE



GROWING OUR OWN KOWHITIWHITI

- Tell students that it would be a great idea to taste and enjoy the health benefits of watercress ourselves but if it is harvested in the wild beside running streams, the streams should first be checked for any signs of pollution eg
 - what sources of upstream pollution might affect the watercress?
 - do stock (sheep, cattle, pigs) graze near the stream as their manure can contain parasites that pollute the watercress?
- Introduce the idea that we will all grow it as a class at school and/or also grow it at home. Do they know that to get the best flavour from watercress it should be grown in water as growing it in just garden soil makes the flavour too strong? To have students become familiar with how to grow watercress, have groups discover and discuss the process at the following websites and report their findings.

<https://thisnzlife.co.nz/9-tips-growing-watercress>

www.gardeningknowhow.com/edible/herbs/watercress/growing-watercress-in-pots.htm

<https://growyours.nz/products/watercress>

www.stuff.co.nz/life-style/home-property/83348409/how-to-grow-watercress-at-home

CLASS AND GROUP ACTIVITIES

- involve the full class in growing their own watercress at school in a suitable area and/or in local gardens of parents or local gardeners.
- challenge students to think of different containers that can be used for growing, eg
 - 1 litre plastic milk bottles with the top cut off
 - in garden pots floating in a container such as a tub
 - can be grown in potting mix if kept very very wet
- students give regular reports back on growing progress
- because watercress is fast growing and produces delicious young shoots for eating, have students cut them off and eat them regularly
- to discover the many different ways that watercress can be prepared and eaten, invite parents and local community members to school to demonstrate and share/taste their different recipes on a regular basis, eg how to prepare watercress for soups, as a salad, for sandwiches ... Have students rate their recipe.

TAKING POSITIVE ACTIONS & GETTING INVOLVED

- Tell students that wild watercress continues to be a regular part of the diet of the Hauiti people in Uawa/Tolaga Bay and that collecting watercress by local students is part of their training by community elders to teach them why preserving the quality of the local waterways is so very important. Have students use (scroll down) the two 'Unlocking Curious Minds' reports at: www.nzfssrc.org.nz/resources to learn about local watercress, introduced watercress, propagation, watercress pH, growing/harvesting, storage, unsafe streams and nutritional information plus explore extensive video links, references and teaching resources.
- Tell the class that Waitara High School students have enlisted the help of Māori knowledge holders and scientists to check the health of local streams where wild foods have been harvested for generations. Using shared reading visit the following website to discover and answer the following: www.curiousminds.nz/stories/watercress-watchers-securing-wild-food
 - why kowhitiwhiti is such an important food
 - why are people getting concerned about the plants?
 - what skills students are learning to check the plants
 - what does the presence and numbers of snails and insects tell us about the water quality of a stream?
 - describe a safe stream best suited for kowhitiwhiti
- Visit: www.curiousminds.nz/stories and select the following stories which highlight the involvement of students in taking part in stream care on a local basis: **Otago farmers foster healthy streams; Source to sea; Cleaning up Lake Wanaka; Teens drive creek cure; How do you test water quality?**
- Do students know that New Zealand has 425,000 kilometres of rivers and streams to look after? This means that all Kiwis need to work to keep them clean and healthy and this is especially true for people who like to gather wild food plants and animals including trout, crayfish and eels from our streams, rivers, wetlands and lakes.
- Introduce the idea that by carefully monitoring our waterways, we can learn if a waterway is healthy or needs our help. Do students know that many schools have their own water monitoring programme or help out by taking part in a local district programme. How could they find out if there is a local programme? Who could they invite to school to ask, eg local iwi, farmers, local councils, landowners ...
- The New Zealand Land Care Trust, has a project that teaches students to care for our land and waterways and create better future land and water quality To develop a school and/or community-based programme, implement the suggestions from the junior landcare handbook at: www.landcare.org.nz/file/junior-landcare-handbook-2020/open

