

Healthy Eating and Suspended Vegetable Garden

Primary: (ages 7 – 11)

Interdisciplinary (science, literacy and language)

Students develop critical thinking about healthy eating habits, nutrition, and food groups through engaging in inquiry, and creating stories, interviews, informative texts, games, and a suspended garden. They use various activities and a student portfolio to find, record and reflect on data and may also attend a talk by a nutritionist. Through their use of data, texts, and careful observation of themselves, friends and family, they challenge ways of thinking and acting in relation to food so they can apply what they learn in school to their daily lives. Finally, they present everything they learned, created, and developed at a school knowledge fair or equivalent so the community has the opportunity to see and learn through the students' experiences.

Time allocation About 10 lesson periods

Subject content Develop knowledge about the connections between nutrition and health
Create health messages and text for different audiences
Collect data and discuss influences on healthy eating choices
Plant and keep track of the germination of a seed

Creative and critical thinking This unit has a **creativity** and **critical thinking** focus:

- Consider several perspectives on a scientific problem
- Generate and play with unusual ideas to produce meaningful outputs
- Reflect on the strengths and weaknesses of texts

Other skills Collaboration; Communication; Persistence/Perseverance

Key words nutrition; food groups; food pyramid; health; interviews; data; germination; seeds; vegetables

Products and processes to assess

This approach to data and analysis allows students to situate their learning in their eating habits whilst asking them to apply inquiry and critical observation about how they can be healthier and nurturing the skills of curiosity and creativity. This process instils motivation and excitement in learners as the data become theirs and the way they use it allows them to find alternative ways of living and thinking and influence their families. They are asked both to research, use, and appraise the theories, opinions, and texts of others and create and present their own theories, texts, and outputs. At the highest levels of achievement, they present a personal position and justify it with good evidence, they demonstrate awareness of the limits of their knowledge and are able to come up with appropriate ways to address those limits and collect data, they consider different perspectives, reflect thoughtfully on the strengths and weaknesses of opinions and texts, and are open to the ideas and feedback of others. They produce a portfolio which evidences their developing thinking process and collaborate well to create a range of imaginative and meaningful products showing good awareness of what makes these outputs both novel and useful.

Teaching and Learning plan

This plan suggests potential steps for implementing the activity. Teachers can introduce as many modifications as they see fit to adapt the activity to their teaching context.

Step	Duration	Teacher and student roles	Subject content	Creativity and critical thinking
	Prior to lesson period 1	The teacher could invite a nutritionist to talk to the students about the importance of eating healthy food, the food pyramid, and what nutrients exist in fruits and vegetables and their function in our body.		
1	Lesson period 1	<p>The teacher could start the unit with a quick brainstorm with the class of the different ways we keep ourselves healthy and what human bodies need to stay strong. They explain that each student will use a portfolio to record and reflect on their thinking and data throughout the unit</p> <p>The teacher then explains to the class that they are going to interview their parents at home asking them what they think healthy eating means and why.</p> <p>They read and discuss the story “Camilão, the glutton”, by Ana Maria Machado, or any other book which could address the theme of healthy eating. They may decide to ask students to come up with some questions about the story to start developing critical thinking.</p> <p>Students are asked to plan their interview and write down the questions they will ask. The teacher may need to encourage students to ask open-ended questions and avoid yes/no questions.</p> <p>For homework, students interview their parents, and can be asked to record their interview using either audio, video, or note-taking as appropriate to the context.</p>	<p>Thinking about what keeps humans healthy</p> <p>Learning about their parent’s views of healthy eating</p> <p>Preparing for and conducting an interview as a research method.</p>	<p>Generating multiple questions on the theme of healthy eating</p> <p>Considering different perspectives on healthy eating</p>
2	Lesson period 2	<p>Students can be asked in groups to discuss what they learned from the interview. This can be fed back to the class as a whole and the teacher can facilitate a discussion that helps students to compare and contrast the results of their interviews.</p> <p>Back in their groups, students can then ask each other questions to identify areas where they might need to learn more about healthy eating. The group then writes a collective list of the things they know about healthy eating and the questions that they still have about healthy eating. The critical thinking rubric can be explained and presented to the students to enable them to assess themselves orally in groups or individually.</p>	Analysing and comparing results of interviews about healthy eating	<p>Reflecting on the steps taken and the limits of their knowledge of the subject</p> <p>Generating questions to analyse gaps in knowledge</p>
3	Lesson periods 3, 4	Either the teacher or the nutritionist invited by the teacher talks to the students about meals, food groups, the importance of nutrients for their development, eating healthier,	The food pyramid, food groups, nutrients in food, the importance of	

and 5	<p>the food pyramid and trying food that they are not used to eating.</p> <p>The teacher gives informative texts on nutrients, soil, plant germination sequence, environment and the interaction of humans and nature. Students can be asked to generate or answer questions on these texts and decide how helpful they are for learning about healthy eating and why? Is there anything that this text leaves out? Students may also be asked to use some of the questions they have developed (in either the present or previous lesson periods) to engage in an inquiry process to build their knowledge of healthy eating and their personal position on what they think is important to healthy eating.</p> <p>Each student will use a portfolio to record and reflect the data they collect during this process, which can be repeated across a number of lessons.</p>	<p>variety, the journey that food makes from earth to table, plant germination etc.</p> <p>Opportunities to focus on any area related to healthy eating as appropriate to the curriculum.</p> <p>Engaging in inquiry, developing information literacy, recording data</p>	<p>Finding several perspectives on a scientific problem</p> <p>Appraising and questioning texts on healthy eating</p> <p>Engaging in inquiry to understand the context and make connections between different perspectives on healthy eating</p>
4 Lesson periods 6, 7 and 8	<p>The teacher may decide to facilitate an initial discussion about what influences healthy choices in eating and about whether and where students have seen or heard messages about healthy eating.</p> <p>Students are then asked to come up with inventive ways that people can learn about healthy eating and to produce a number of outputs to teach different audiences about healthy eating and persuade people to eat more healthily. These outputs may be suggested by the students or assigned by the teacher. For example, students can be asked to develop a game about food where they will create the rules for the game. They might also be asked to prepare a campaign with posters advertising healthy eating and awareness to spread around the school walls. They could produce a collective text about a character that has eating issues that explains how the character solves the problem. Another or additional possibility is that they produce acrostics or poetry on healthy eating, or create and play a game of dominoes with fruits and vegetables. Different groups can also be responsible for generating different outputs so that a good range is produced.</p> <p>Students can then be asked to reflect on what they have done and assess which outputs they think express the message most powerfully and why, which are most helpful for learning about healthy eating and why, and which are most new or inventive and why.</p> <p>The critical thinking and creativity rubric can be used to assess each student's development and the teacher gives feedback to each student. The student's portfolio is used to record and explain the level they have achieved according to the critical thinking rubric.</p>	<p>Discussing what influences healthy choices</p> <p>Applying knowledge of healthy eating to create health messages</p> <p>Writing different types of texts for different audiences (e.g. public documents, stories, poetry)</p>	<p>Observing and describing relevant experience and information</p> <p>Generating and exploring unusual, inventive, or new ways to communicate a message</p> <p>Envisioning and producing a meaningful output on healthy eating that is personally novel</p> <p>Appraising outputs according to particular criteria and reflecting on their strengths, limitations, and novelty for different purposes</p>
5 Lesson periods 9	<p>Finally, students create a suspended vegetable garden with 2L plastic bottles tied to the ceiling or in an outdoor space, after studying seeds and germination.</p>	<p>Planting seeds and building knowledge of seeds, germination,</p>	

and 10

Everything that is created and developed in the project can be displayed and presented at a school knowledge fair (or equivalent) so the community will have the chance to see and learn as well.

The teacher may decide to end the unit by asking students to reflect in discussion or writing on what they have learned, as well as giving feedback for the whole class.

and growing vegetables

Presenting their knowledge about healthy eating in an appropriate manner for their audience

Presenting the outputs of inquiry in a personally novel way

Justifying choices made along the inquiry process

Reflecting on the steps taken to understand healthy eating

Resources and examples for inspiration

Web and print

- Camilão, the glutton (Portuguese language) or an alternative story or video to introduce the topic of healthy eating.
- Many texts and videos on healthy eating can be found online to introduce to students. See, for example, <https://www.youtube.com/watch?v=kKuYfLM0yDc> and https://www.youtube.com/watch?v=A-4lchE_rIE

Other

- Plenty of soil, vegetable seeds, 2 L plastic bottles and wire for the suspended garden
- Paper, pencils, markers and rulers for students to create their portfolio

Opportunities to adapt, extend, and enrich

- This activity could be combined with a visit to a farm or vegetable garden. This could also be extended to discuss where different vegetables are grown and the environmental implications of this, and/or world food.
- Students could be asked to identify and prepare healthy recipes and links could be made to mathematics by asking students to create healthy shopping lists within a particular budget
- Links could be made to physical education and sports by asking students to investigate healthy exercise or create exercise plans
- Further links to science could be made by engaging in simple experiments, such as the salty potato experiment here <https://www.healthykids.nsw.gov.au/kids-teens/kids-activities/healthy-kids-activities.aspx>
- Many other activities and teaching resources around healthy eating are available online. For example, here <https://www.theguardian.com/teacher-network/teacher-blog/2014/apr/07/how-to-teach-healthy-eating-lesson-resources> and here <https://heas.health.vic.gov.au/early-childhood-services/healthy-curriculum-activities/healthy-eating-games-and-activities>

**Creativity and
critical thinking rubric**

- Mapping of the different steps of the lesson plan against the OECD rubric to identify the creative and/or critical thinking skills the different parts of the lesson aim to develop

	CREATIVITY Coming up with new ideas and solutions	Steps	CRITICAL THINKING Questioning and evaluating ideas and solutions	Steps
INQUIRING	Make connections to other concepts and knowledge from the same or from other disciplines	3,4	Identify and question assumptions and generally accepted ideas or practices	1,2,3
IMAGINING	Generate and play with unusual and radical ideas	1-4	Consider several perspectives on a problem based on different assumptions	1,3
DOING	Produce, perform or envision a meaningful output that is personally novel	4,5	Explain both strengths and limitations of a product, a solution or a theory justified on logical, ethical or aesthetic criteria	3,4
REFLECTING	Reflect on the novelty of solution and of its possible consequences	2,5	Reflect on the chosen solution/position relative to possible alternatives	2,4