ACTIVITY DOSE PROJECT '22 -



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Title Activity	Upgrading the school garden
Age	X 3rd grade (10-12y)
Estimated duration	4 x 50' (spread over 2-3 weeks)
learning objectives / competences	 (The pupils can) investigate what plants need in order to grow. design a QR code with information for each type of plant. design the school garden. record the data of the plants in a graph.
Short description of the activity (max. 4 sentences)	
The school garden goes viral! A vegetable garden is nice but not that easy as it seems. How do you know where to plant the beans? And the plant that comes out of the ground, is it a weed or not? Of course you can put pictures on sticks with the name of the plant, but that is so oldskool	

CONTEXT	
Motivation	Do you have a school garden or are you going to make a small vegetable garden at school? Then it might be a good idea to put a QR code next to each plant (newskool :-). It also offers many other possibilities: other classes can also visit the garden and scan the code with a tablet. This information can then be used in their lessons. In addition, some characteristics of the plant can be mentioned (growth, medicinal properties,)
Where is the STE(A)M	S: investigating how plants grow
integration? (in a few words, small checklist for yourself)	 T: create a QR code + website for the different types of plants E: update plant data using the QR code (A:) designing the school garden

	M: convert plant data into a graph	
Methodology and required materials		
Materials	Per class:	
	 map of vegetable garden 	
	Per group:	
	 6 research dishes with soil cress seeds Chromebooks (QR code creation / website creation) tablets (QR code scanning) material for making a name card working materials for the garden seeds/plants for the garden 	
	specific local requirements:	
	a vegetable garden at school	
Coaching & methodolog	gy (your 'lesson preparation')	
Are you paying attention to the research questions you are going to ask? Do you let your pupils investigate on their own?		
Timing: 10'	Preface:	
Work format and classroom organisation: Classroom	To start with, we visit the 'untended' vegetable garden at school. We look at what the problem is: lots of weeds, plants mixed up, not attractive The class group is given the challenge to renovate and refurbish the vegetable garden.	
Timing: 40'	Part 1: Investigations	
Work format and	Brainstorm in the classroom:	
organisation: Groups	What is needed to tackle the vegetable garden?How do plants grow? What do plants need?	
	Research: What do plants need to grow?	
	In groups, we sow cress in different dishes. Each dish has a different characteristic.	
	 in a dark area in a light area 	

	 without water with water in a cold area in the sun at the window (warmth) A few days later, we come to the conclusion that plants need sun/heat, water and light. We discuss the concept of photosynthesis. We apply this to our own vegetable garden.
Timing: 50' Work format and classroom organisation: Classroom / groups	Part 2: designing
	Brainstorm in the classroom:
	How do we make the vegetable garden more attractive? What should be present in a vegetable garden? How can we easily find the different types of plants? How do we keep track of the information about the plants?
	In group, the children sketch a plan of the vegetable garden. They take the following criteria into account:
	 vegetable garden divided into sections (1 per class) place for walking space for the work equipment Place for a bee hotel? room for ornamental flowers?
	The sketches of the vegetable gardens are discussed in class. Advantages/disadvantages of the designs. We decide which features to implement in the vegetable garden.
	The children design a name card for each type of plant. The card will contain the name, photo and QR code.
	The QR code takes you to a web page where you can see the details of the plant. The children make a web page for each type of plant.
	The following data can be found:
	 date when the plant was sown/planted amount of water length of the plant characteristics of the plant edible/ inedible fruit expected date of harvest possibly additional information

Timing: moments of	Part 3: Analysing
15' spread over 2	
weeks	In 2 weeks time (depending on the type of plant) the children often visit
Method and class	the vegetable garden in groups to analyse the plants. They do this by
organisation: groups	scanning the QR code. Via a web page they add the data of the plants.
organisation. groups	
Timing: 15'	After a few moments, the children have added enough data to discuss.
Work format and	We look at the vegetable garden and the data.
classroom organisation:	Is there anything that stands out? Similarities differences between the
	vegetable garden and the data? Is it difficult/easy to add data via the OR
Classroom	rode?
	What can we change?
	If necessary, adjustments are made.
Timing: 35'	Part 4: Reflecting
Mathad and alass	Market and the state of the state
Method and class	we let another class visit the vegetable garden. The children make pairs
organisation. duo	so that the classes are mixed. They take a tablet and scan the QR codes.
	They look at the data online about the different types of plants.
	They evaluate the visit together on the basis of the following questions:
	They evaluate the visit together on the basis of the following questions.
	 Are the plants in the vegetable garden growing?
	 Can you scan the QR code easily?
	- Are the data clear?
	- Is the vegetable garden attractive?
Timing: 15'	Reflection (on both cooperation and the product):
Method and class	In a class discussion we discuss the optime estimity by severalize the school
organisation: duo	in a class discussion we discuss the entire activity upgrading the school garden. The following questions are addressed.
J	garden . The following questions are addressed.
	- What have we investigated, and how does photosynthesis work?
	 Do our plants grow in the kitchen garden?
	 What did we design? And how did it go?
	- Is the data website clear and well-organised?
	- Can you convert the data into graphs?
	- How was the cooperation?
	- What have you learned? - Are you satisfied with the and result?
	- Are you satisfied with the end result: - How do we maintain the vegetable garden?
	now do we maintain the vegetable garden:

How do you evaluate the acquired competences of the pupils during this activity?

(e.g. specific questions, extended instruction, differentiation,...)

Is there an evaluation after the activity to record the acquired knowledge/skills?

During a Quiz, the knowledge about plants, how plants grow, can be tested.

During the execution of the task, the teacher can observe the children's skills.

During a maths lesson, the data can be converted into graphs.

Tips & tricks

(which would you give to another teacher to make that lesson go more smoothly)

- create and test a QR code and web page yourself in advance

Additional information / Links:

https://nl.gr-code-generator.com/

https://sites.google.com/

https://schooltv.nl/video/clipphanger-wat-is-fotosynthese/#q=%22fotosynthese%22

https://schooltv.nl/video/fotosynthese-een-plant-maakt-zijn-eigen-

voedsel/#q=%22fotosynthese%22

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