



Curriculum Materials

Learning Journey

Super soup



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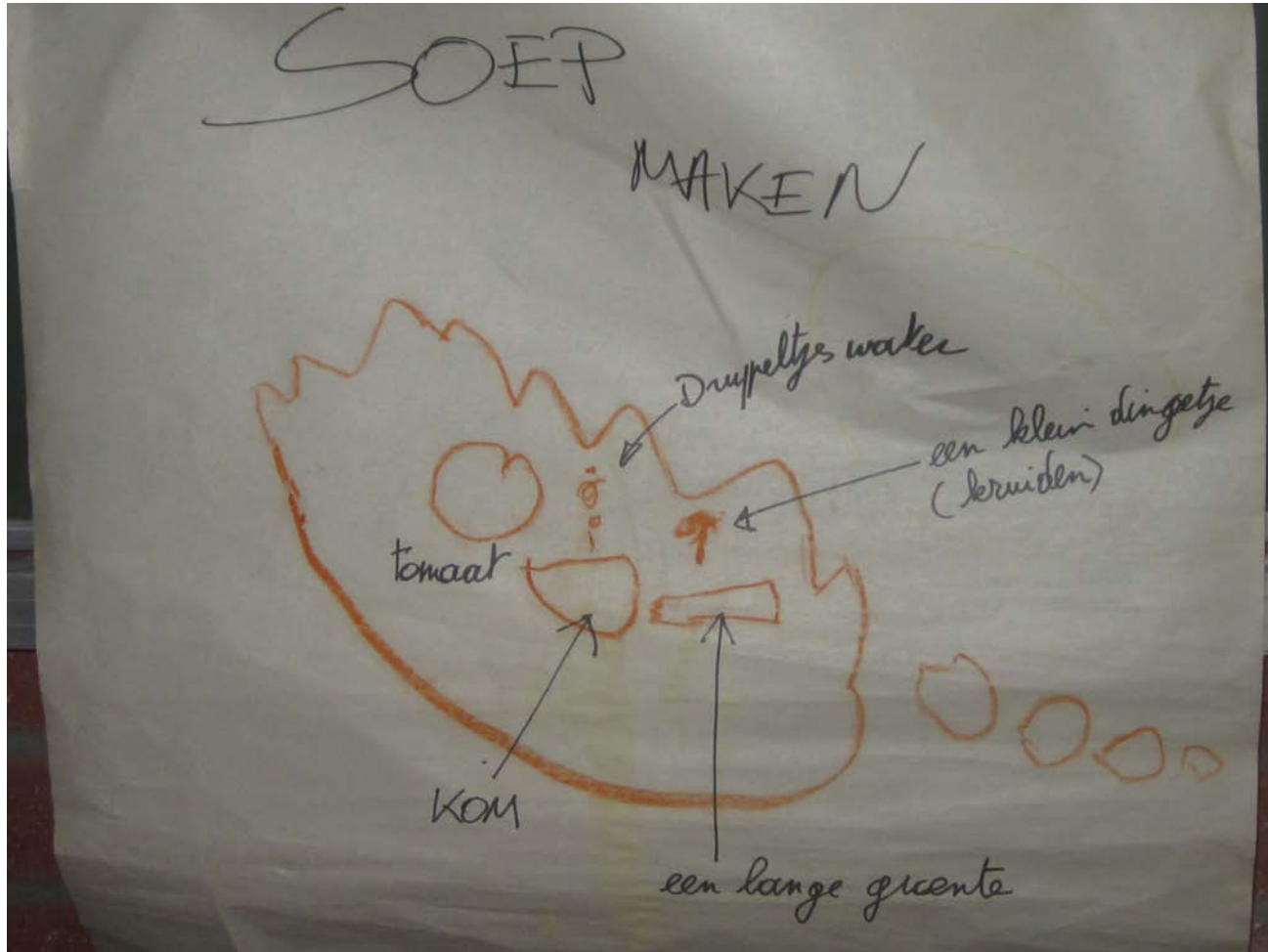


Super Soup

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The project started from a question from one of the children: I want to make soup, what do I need?



Super soup

Focus

The focus of this project was **children's evaluation of the results** of their investigations. I wanted children to become more aware of the learning process by assessing and evaluating their investigations in a structured way and by using this in communication with each other and with their parents.

Rationale

The children had already learned to formulate good research questions. I wanted to focus on their **assessment of the inquiry and the results**. I wanted to foster their inquiry skills and their **curiosity**, by providing a varied range of materials and vegetables.

Implications for my planning and teaching

I provided the children a lot of time to assess the inquiry process and to 'write down' their experiences. I encouraged the children to share their findings with each other, to **reflect and reason**, and to **think about possible next steps** in the inquiry process.

Links to CLS framework

Learning activities:

Designing and planning investigations
Explaining evidence

Creative dispositions:

Curiosity, thinking skills

Synergies: play and exploration, reflection and reasoning, assessment for learning

Background

Rural, woody environment, mostly Dutch speaking children

Age: 4-6-year

School policy: no explicit policy for science inquiry or STEM

Links to the National Curriculum:
64. to gain insights in nature and technique

- *Getting acquainted with the use of resources*
 - *To investigate nature in detail*
- 84. Reflection**
- *Presenting their findings in a structured manner*

Overview of the learning activities

Day1: 'Do you know what a scientist does?' We hold on to our research questions and start looking for answers.

In the following activity children receive a sticker with the text: **'Today I was a professor!'**

Day 2: Children investigate all kinds of vegetables for soup.

In the following activity children can independently do some investigations and 'write down' the process and their discoveries themselves.

Day 3: The teacher provides an 'smell research corner', so the children can explore all kinds of smells.

During the following activity I tried to differentiate my guidance and the task further with the research records

Day 4: The children make soup, mix it and taste it.

Day 5: Children invent their own recipes and 'write them down'.

Children use their experiences in the following activity: they predict what will happen, and then they explore what actually happens.

Developing the learning journey: starting point 1

What is a researcher?

Activities:

During a conversation, every child talked about what they thought a scientist does. I wrote this down. We discussed that scientists ask themselves all kinds of questions where they want to find an answer to. We agreed that we will write down the children's questions in a 'thought cloud' and look for a moment to find answers to their questions.

What is a scientist? What does a scientist do?

My dad is a scientist himself. He is a doctor.



By writing down their findings children could look back at them later on. This was meaningful because: children see that what they say matters, and that they can read it again if it's written down. The children asked: where did you write down what I said? The term 'scientist' is much more clear for them now.

Rationale:

I planned this activity to let children **reflect and reason** upon the concepts of science, a scientist, a professor. I introduced the professor icon and wanted to make them aware that the icon or the white apron I wear means that we are going to investigate. I wrote this down as well, so the children see that you can go back to information you wrote down before (**assessment for learning**).

For the following activity I will give the children a sticker which says 'Today I was a scientist!'. This way they know that they will do some inquiry activities, and afterwards they can talk about it at home.

Developing the learning journey: Activity 1

Investigation into vegetables for soup

Activities:

The children explored the vegetables with several materials (a potato-peeler, a grater, a knife, an apple corer, a corkscrew, ...). They **chose the materials** and **planned themselves** what they wanted to test. At the end of the activity we made an overview for every vegetable with all the children's findings.

How do vegetables grow?
What do they need to grow?

Which part of the vegetable can be eaten?

How does it taste?

You can make a smoothie with this.

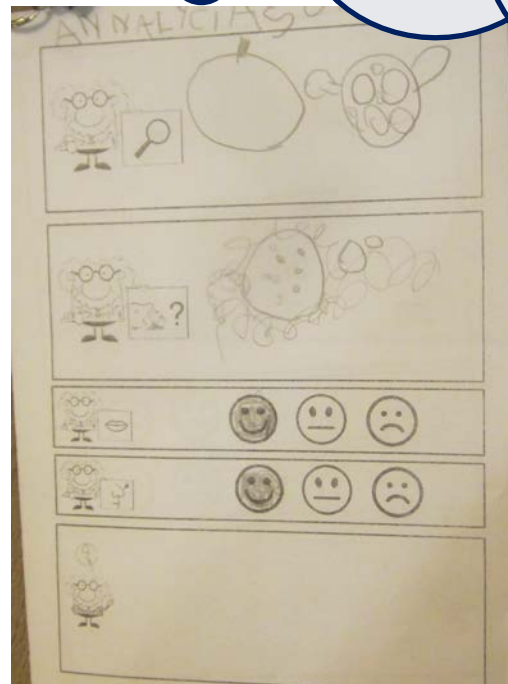
It stings in my nose..

I drill holes to cut out a piece.

Rationale:

I planned this activity to make children aware of their results by making drawings in a research journal (**assessment for learning**). They could explore materials in a **playful way**.

The independence and focus of the children increased through making research records. Some find it difficult to draw their findings, but can talk about it. This activity is suitable for the older children (5 year olds). There was a good interaction between the children and a lot of **reflection and reasoning**.



The children can already explore and experiment, and they know how to fill in the research record. I wanted to give them more independence and ownership. The following activity (exploration of smell) was something they could do **by themselves**.

Developing the learning journey: Activity 2

Smell research corner

Activities:

The children explored smells of several spices and **drew** their findings on a research record (some structured, others weren't structured). Because of the glasses, white apron, pen and paper, children were highly motivated to do the activity for **playful exploration**.



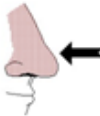


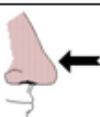



What do you smell?
 What does it remind you of?
 Do you like the smell?



Rationale:

I planned this activity to re-enforce their **assessment** skills. They 'write down' information about the inquiry process as well as the results of the inquiry.

The children were highly involved during this activity. Because of the lack of guidance during this activity, some found it hard to use the **research record**. Not all the children used it. The younger the children, the more they just smelled and talked about their findings (if they liked the smell or not). They did like to 'write down' in their note books with a real pen (scribbles).

	 Ruik eens?		
	Is het een zwakke of een sterke geur?  		
	 ruikt het lekker	of	 vies?
	Waar doet de geur je aan denken?		



Not all the children understood how to use the **research record** without my guidance. Therefore, I paid more attention to guidance and used different forms of assessment in the following activity.

Developing the learning journey: Activity 3

Making soup (part 1)

Mixing and tasting (part 2)

Activities:

In advance we watched a video of a known chef making soup.

The children cut the vegetables using the different instruments they explored in activity 1. They thought about **different materials** to mix the soup (**exploration** of a mixer, a hand blender, a potato-masher, knife, fork,....)

Rationale:

I planned this activity to gain experience in making soup and cutting vegetables. The children could use their prior knowledge on the edible parts of vegetables (activity 1) (**reflection and reasoning, use of thinking skills**).

What part of the vegetables can we use for the soup?





Children could use their prior knowledge very fast, and applied it in this activity (**reflection and reasoning**). There was no focus here on assessment of the experiences.

In the following activity (to invent new recipes for soup) they can **reflect on prior activities** and use their knowledge. During the mixing of the soup, children could first **make a prediction** about what would happen with the colour, before they mixed the soup and observed what actually happened (nature of science, **reflection and reasoning**).

Developing the learning journey: Activity 4

To invent and write down their own recipes



Activities:

The children could draw the vegetables they needed for the soup themselves if they were able to do this. There was a differentiation in the recording: they could choose between 2 research records to fill in their recipe. There were also cookbooks for children for inspiration.

Rationale:

I planned this activity to make children think (**predict, plan the research, reasoning**). This learned them to write things down in their recipe book, following a certain structure).

The children were interested to explore the books, but made their own recipe in the end.

Some children made a whole book with recipes. They took it home so their parents could cook what they wrote down. The focus of this activity was on making a prediction on the colour of the soup after mixing. We couldn't test it in our classroom, since they all took their recipes home.



Reflection on **assessment**: by offering several ways to write down their findings, children used the research record most suitable for their level of independence and their level of development.

Ik maak lekker soep.

Welke groenten doe je in de soep? Kleur de groenten die je in je soep wil.



Welke kleur krijgt je soep?



Children's progress

Henriette


- Henriette is very curious and motivated. She takes initiative right away.
- She starts without a lot of thinking or consulting others. Working together and communicating works best if she can be the leader. If she has to work in a group of children she didn't choose herself, cooperation is more difficult.
- She asks a lot of questions, and explores her findings while experimenting.
- She takes the lead, others follow her.
- She can describe what materials she used and how she worked very well.
- Because the focus is on assessment of the results she can describe her actions and discoveries very well.
- She is highly involved during the whole process. She is interested in others but most of all she wants to do some further explorations.
- She cooperates well because I ask a lot of questions. It helps her to formulate new research questions she then draws and completes when she comes up with something new. She is good in formulating research questions (e.g. Drawing: 'How did the globe grow?')
- She eagerly reacts to what she sees around her.
- She uses all kinds of things to come up with new research questions.



Reflections

Children's progress

- *What progress did children make, linked to the aims of your project?*
 - The children know how to fill in the research record, they do it fluently, they try to 'read' them independently. They learn how to assess the inquiry process and their findings.
 - They try to investigate their own ideas, fewer children feel insecure. Before children often said 'I can't do this'
 - While they were looking in the cookbooks, 2 children started talking about what they liked and didn't like. They made their own associations and responded to each other (a beautiful moment).
- *Other unforeseen results?*
 - The children are talking to each other and to the teacher. They dare to ask questions and say what they think without diffidence.



Miss! I made
soup myself at
home!

Reflections

Role of the teacher:

Assessment for learning:

By offering opportunities for assessment of the process and outcomes, children became more aware of the learning process.

Play and exploration:

I was strongly emphasized by this aspect!
The range of materials I offered fostered play and exploration.

Motivation and affection:

The initial ideas came from the children. I started from this and offered opportunities for further exploration.

Dialogue and collaboration:

Children got the opportunity to work together with others.

Synergies

Teacher scaffolding and involvement:

Playing with them, thinking together, investigating together,... It all added to the experience of the children.

Reflection and reasoning:

I paid a lot of attention to things like: 'How did you do this? Tell each other what you think or what you did...'

Questioning and curiosity:

I tried to pay extra attention to children asking each other questions.

Problem solving and agency:

I encouraged the children to make their own contributions and appreciated it when they were actively involved.

Classroom environment:

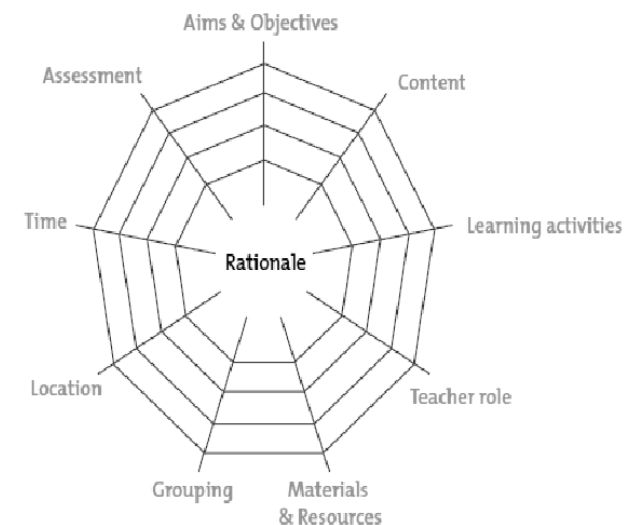
Learning activities: *Offering opportunities to explore and to learn together was highly motivating for the children.*

Aims & objectives: *I determined the goals in the beginning, which helped the children not to get lost in the range of possibilities.*

Grouping: *The children could choose the activity they wanted to do and with whom they wanted to do it. Usually they chose children with a similar level of development during this activity.*

Next steps:

I want to keep a focus on assessment for learning, and involving children in the process, because the involvement of the children enhances their learning process. I will do this not only by taking photographs, but also by collecting drawings, writings, records of discussions, ...



Reflection questions for the reader

- Do you pay attention to assessment for learning during activities?
- How do you let children reflect during and after inquiry activities?
- Do children sometimes ask questions you could use as a research question, to start an inquiry? How do you foster these kinds of questions?

Practical information

- Resources: vegetables and other ingredients, kitchen supplies.
- <http://www.schooltv.nl/video/groentesoep-kinderen-maken-van-verse-groente-groentesoep/>



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