On a bear hunt!

Age-group: 6-9 years old
Number of hours: multiple dayparts
Short description of activity:
Children get familiar with the idea of 'going on a bear hunt' by listening to a story. They go on a bear hunt themselves, whereby they are stimulated to think about their searching strategy and the importance of sight. Based on these experiences, they create their own bear hunt. They think of the different things they have to do: design a bear, look for a good hiding spot, ... They write a short story about their bear and set up their own 'bear spot'. At last, they have to think of ways to connect the 'bear spots' of the different groups and set up a coronaproof 'bear hunt' event for other children at school, family, …
CT-competences:

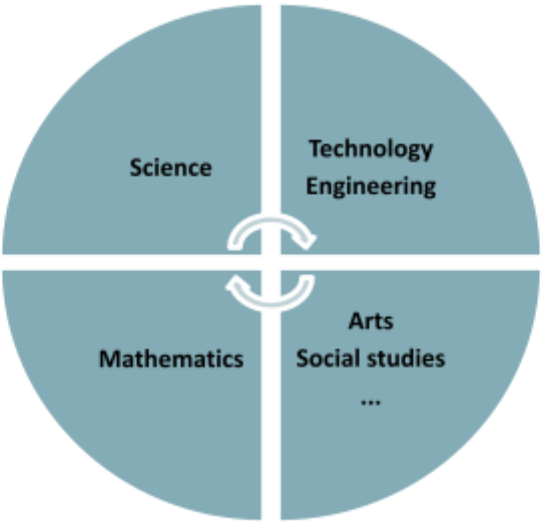
- Debugging
- Parallelism
- Data collection, analysis and representation
- Algorithms & procedures
- Pattern recognition
- Problem decomposition
- Abstraction

Goals

- Children listen to a story.
- Children define a problem (here: bear hunt) and decompose it into subproblems.
- Children design their own bear (visual arts & storytelling).
- Children observe their surroundings to arrange it for a certain goal (here: bear hunt)
- Children explore the sensory of sight (e.g. camouflage, use of auxiliary tools, …).
- Children work together based on common decision-making.
- Children reflect critically on their experiences and findings (e.g. searching strategies).
- Children solve a common problem by applying mathematical skills (e.g. measurement).
- Children design and optimize materials to set up a bear hunt event.

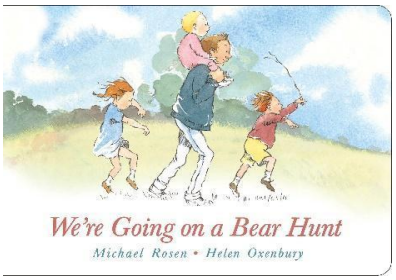
Realistic STEAM-context

<u>Science</u> - Insights and skills regarding 'sight'	<u>Technology – Engineering</u> - Use of tools 'to see better' - Developing and optimizing materials for bear hunt
<u>Mathematics</u> - Measurement of distance and time - Tackling spatial problems - Analyzing and representing data	<u>Arts - Social studies - …</u> - Creating a bear - Organizing bear hunt as event - Story writing



Methodology

Based on learning by doing (with different levels: from imitation to creation)

Part	Description	Timing
1	**Context** *(Guided; class)* ● Reading story 'We're going on a bear hunt' (Rosen & Oxenbury, 2016) ● Talking about 'going on a bear hunt in the neighbourhood' (cfr. corona) ● First discussion about 'how can we find a bear?' - importance of sight - idea of camouflage  	Day 1
2	**Going on a bear hunt … in the classroom** *(Guided; class)* ● Searching randomly in the classroom ● Thinking about a better searching strategy ● Dividing of searching task based on different spots in class (see downloads): - Who searches where in the classroom? - Marking if a bear is found or not at a certain searching spot (e.g. template to mark each searching spot with green or red color).	Day 2

	- Searching at the different spots can take place multiple times, e.g. also moving stuff around, other children taking a look, ... (No bear will be found by the children. They have to search outside of the classroom (see 3)). CT: debugging (why can't we find a bear?) - parallelism (division of searching task) - data collection, analysis & representation (marking different spots)	
3	**Going on a bear hunt … in the school** *(Guided; small group - class)*  ● Searching for bears that are hidden in school - Marking if a bear is found. (see downloads) - Searching within limited number of time thinking about searching strategy - Using tools to see better (loupe, binoculars, …) ● Discussing bear hunt of different groups - How many bears did the groups find, where did they find them, … ? - Comparing different searching strategies ● Discussing difficulties to find a bear - Which bears did the groups find? How? Which one was not found or was difficult to find? Why? - Talking about the importance of sight, tools to see 'better', observation of patterns, … - Linking with 'search for bears in real life' camouflage (or not?!) CT: algorithms & procedures (think of step-by-step searching strategy) - data collection, analysis & representation ('marking' bears) - pattern recognition ('detecting' bears)	Day 3
4	**Our own bear hunt?!** *(Guided; class)* ● Thinking about creating our own bear hunt - Brainstorming about what is needed, what needs to be done, … - Visualizing different ideas steps (bear, spot, walk, …) CT: problem decomposition (how can we create our own bear hunt?) - algorithms & procedures (thinking of step-by-step plan for creation bear hunt)	Day 4
5	**Choosing a spot to hide** *(Guided; class - individually - small group - class - small group)* ● Brainstorming about criteria for a good hiding spot (e.g. weather conditions, possibilities to hide bear, …) ● Searching individually for a hiding spot in school (or at another location) ● Presenting hiding spot to team members - Taking team members blindfolded to spot, letting them have a quick view, taking them back blindfolded to the starting point - Do they know where they were? Can they find the hiding spot again? ● Discussing experiences - About being blindfolded: difficulties to recognize surroundings, importance of sight, use of other senses, …) - Which hiding spots did they find? Are they suitable? ● Deciding about hiding spot per group based on criteria CT: abstraction (defining criteria) - pattern recognition ('detecting' hiding spot)	Day 4

6	**Creating a bear** *(Guided; small group)* ● Brainstorming based on '1H-3W' (see downloads) ● Creating a bear - Thinking creatively (relating to earlier contemplation of bears, different techniques/arts, …) ● Writing short story about the bear + name CT: abstraction (thinking about bear based on certain characteristics)	Day 5
7	**Setting up a 'bear hunt spot'** *(Guided; small group)* ● Implementing bear, decoration (see story), … at the chosen hiding spot - Taking into consideration characteristics of materials (e.g. regarding weather, ways to hide, …) ● Giving feedback by visiting the 'bear hunt spots' of the other groups ● Optimizing 'bear hunt spot' based on feedback ● 'Capturing' set up of 'bear hunt spot' (e.g. hiding instructions, placement of decoration, …) - Designing a simple plan, including measurements ● Reflecting about group work (e.g. 'top, flop & tip' (see downloads)) CT: abstraction (design plan) - debugging (what can we do better?)	Day 6
8	**Creating a 'bear hunt route'** *(Guided; class - small group)* ● Discussing the idea of creating 'a (coronaproof) route' passing by the different hiding spots - Drawing ideas for a 'route' (see downloads) - Summarizing ideas in visual overview (e.g. arrows, symbols, …) - Thinking also about blind people (e.g. spoken instructions for the route to follow, …) ● Dividing work based on the visual overview - Creating e.g. start-finish, road marking, arrows, instructions, … ● Testing 'the bear hunt route' to optimize the result CT: problem decomposition (detecting different tasks) - abstraction (creating visual overview with main ideas) - parallelism (simultaneous tasks) - debugging (what is wrong/missing/...?)	Day 7
9	**Organizing a 'bear hunt event'!** *(Guided; class - small group)* ● Brainstorming about organizing an event during which 'visitors' can go on a bear hunt by following the route (see 8) (invitation, fun, …) ● Dividing work, for example: - Guest list, invitations (on paper, by mail, blog, …) - Info brochure: map with route, measured estimated time, … - Fun book for during walk: stories about the bears, bear bingo, … ● Executing the bear hunt walk with other children at school / family / … - Taking pictures, creating an aftermovie, … ● Reflecting - Reminiscing about the process and the end result of the bear hunt - Thinking about group work e.g. based on 'dobbling game' with different reflection questions (see downloads)	Day 8

	CT: problem decomposition (detecting different tasks) - parallelism (simultaneous tasks) - algorithms & procedures (tasks consist of order of steps)	

Organization

Materials:

1. **Context**
   - Picture book 'We're going on a bear hunt' (Rosen & Oxenbury, 2016)
   - Pictures 'bear hunt' in neighborhood (bears in front of windows).
2. **Going on a bear hunt … in the classroom**
   - Template to mark bear hunt in different 'spots' in the classroom (see downloads).
3. **Going on a bear hunt … in the school**
   - Template to mark bear hunt in the school (or other location) (see downloads)
   - Bears to hide in the school (or other location) (see downloads)
   - Auxiliary tools to see better, e.g. binoculars, loupe, …
4. **Our own bear hunt?!**
   - White board or large piece of paper to visualize brainstorm
5. **Choosing a spot to hide**
   - White board or large piece of paper to visualize criteria
   - Blindfold per group
6. **Creating a bear**
   - Template '1H-3W' (see downloads)
   - Craft materials to create the bears, such as pencils, paint, recycled materials, …
   - Writing materials
7. **Setting up a 'bear hunt spot'**
   - Craft materials to set up the bear hiding spot, such as rope, tape, …
   - Writing materials and measurement tools
   - Reflection template 'Top, flop & tip' (see downloads)
8. **Creating a 'bear hunt route'**
   - Template 'brainsketch'
   - Drawing materials
   - White board or large piece of paper to visualize overview (ideas and work division)
   - Craft materials to set up the bear hunt route, e.g. cardboard, rope, …
9. **Organizing a 'bear hunt event'**
   - White board or large piece of paper to visualize overview (ideas and work division)
   - Writing and drawing materials
   - Camera, tablet, computer, …
   - Reflection template 'dobbling game' (see downloads)

Use of ICT:

ICT can be used at different moments, for example:

- children write a story about their bear on a computer;
- they organize their 'bear hunt event' with the help of a computer (e.g. sending an email to invite 'visitors', creating an info brochure, …);
- they take pictures or make a movie of their 'bear hunt event' that they can share online.

Opening of classroom:

The bear hunt is organized in the school, e.g. playground, corridors, cafeteria, … If possible, the bear hunt can also take place in the neighborhood around the school or at another location, such as a wood or park.

The ‘bear hunt event’ can be organized for the other children at school, but it is also possible to invite family members of the children.

Coaching

Useful questions:

1. **Context**
   - What is the story about? What is a bear hunt?
   - Who has already been on a bear hunt?
   - Why can it be difficult to find a bear?
2. **Going on a bear hunt … in the classroom**
   - Who has found a bear?
   - Why can you not find a bear?
   - What can you do differently?
3. **Going on a bear hunt … in the school**
   - How will you search for the different bears in the school?
   - What can you use to look more carefully for bears?
   - Why can you find certain bears easily? Why are other bears difficult to find?
4. **Our own bear hunt?!**
   - If we want to create our own bear hunt, what do we have to do?
   - What will we do first? And then?
   - How can we do … ? What do we need?
5. **Choosing a spot to hide**
   - What is important for a hiding spot?
   - Where is the spot that your team member has chosen? Can you find it?
   - Which hiding spot do you choose as a group? Why?
6. **Creating a bear**
   - What is your bear like? How does he look? What does he like?
   - Which materials do you need to create your bear?
   - What is the story of your bear? What is he doing at the bear hunt spot?
7. **Setting up a ‘bear hunt spot’**
   - How will you hide the bear? How can you make the story of your bear more vivid?
   - How can you rebuild the ‘bear spot’ at another moment?
   - How do you experience the group work? What do you appreciate? What can be better?
8. **Creating a ‘bear hunt route’**
   - How can you connect the different spots so that people walk from spot to spot?
   - How can you help blind people to find their way?
   - What have you forgotten? How can you improve the clarity of the route to follow?
9. **Organizing a ‘bear hunt event’**
   - How can you make the bear hunt even more attractive for ‘visitors’?
   - What do you think ‘visitors’ want to know? How can you share this information?
   - How do you look back on this project? What would you do differently next time?

Stimulation of self-management:

Throughout the project different tools are included to help the children to self-manage their group work, e.g. templates to help them brainstorm and find a consensus.
The children are also asked explicitly to reflect on their group work: at least once during the project and once at the end of project (see 7 and 9).

Stimulation of cooperation:

Teamwork:

- Groups consist of 2 or 3 (not more!) students.

- Competences needed in a group: a mix as the project demands a lot of thinking but also doing. Children need to think creatively as well as practically. Important is that children are combined who can share ideas and can be stimulated to make decisions together.

Formative assessment:

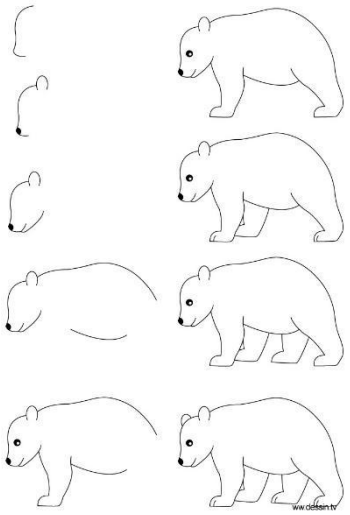
As a teacher you observe the children throughout the project.
Throughout the project different tools are included that can help you as a teacher to get a more clear idea of the work of the children, especially as a group, e.g. templates to brainstorm and find a consensus, reflection templates, … These outputs can help to evaluate the project, the results as well as the process of the different groups.

Adaptations

- This project is also suitable for older children. With older children you can follow the same methodology. However, the results can be expected to be more elaborate.

Tips & tricks

- The context can only exist of the picture book 'Going on a bear hunt' (Rosen & Oxenbury, 2016), if children are not familiar with bear hunt walks organized due to corona.
- In relation to the CT-skill of 'algorithms & procedures' you can give children the opportunity to learn to draw bears based on a step-by-step plan. For example:



- Different ideas for a 'gamification' of the bear hunt can be found online, e.g. a bear hunt bingo, an overview with tasks to do when a certain bear is found, …
- Idea to add more mathematics: when the children have to search for the bears on the school domain, the map of the school could be divided into quadrants and in each quadrant there is one bear. One group of children could have to search for the bear in B3 for example.

Downloads:

- Bear hunt in classroom
- Bear hunt in school
- Template '1H-3W'
- Template brainsketch
- Reflection 'Top, flop & tip'
- Reflection 'Dobbling game'