projectday: weather - topic: winter on 25.01.2016

workshop: what is snow and how it is formed!

Sequence:

1.Declaration and practical investigation

- term STEM, "what is snow?" belongs to Science (Science)
  blackboard (Powerpoint): What is snow?
=> ideas of pupils
I: You are a scientist and are allowed to use the "microscope"
⇨ pupils examine snow (from outside) with magnifying glasses
- in front of the board:
  collecting the discoveries: water, temperature: melting-freezing, certain angular shape (powerpoint with picture of snow from a real microscope)

2. Learning video: What is snow?

- first watch of the learning video "What is snow?"
– Teacher: when a scientist has discovered something, he often shows it in a special kind of picture. Your task:
  Create a chart for "what is snow? "(1 picture) or" how snow is formed " (picture series)! Think about the pictures of the video!
- second watch of the video

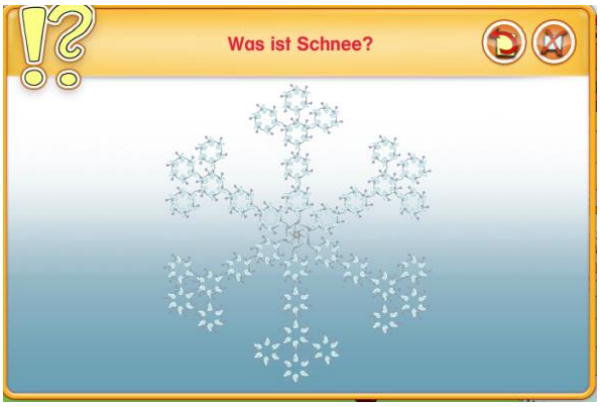
3. Create a chart

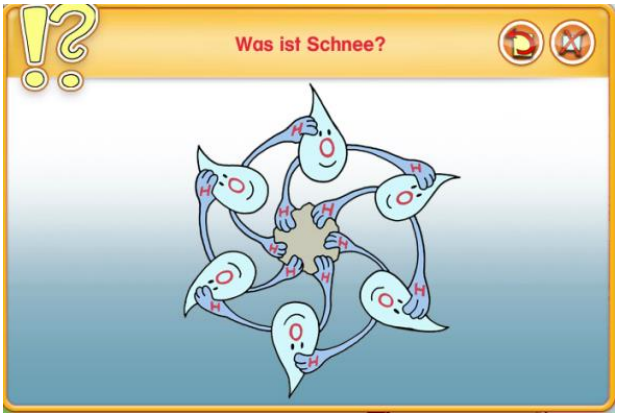
– pupils work on the task with or without helping material
- further work for very fast students: 3./4. Class: text with additional information; 1./2. Class: Forms of the snow cristals; learningapps for all
-short presentation of the charts (document camera)

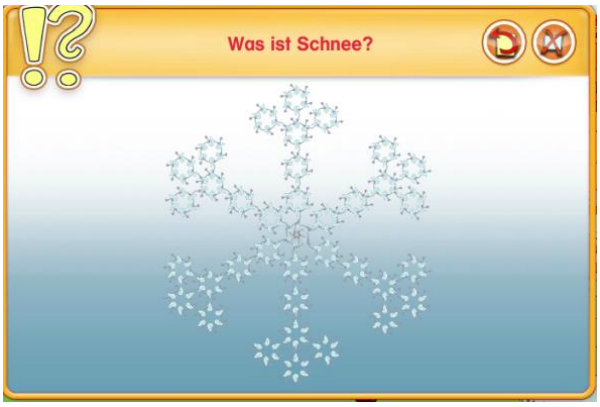
Equipment:

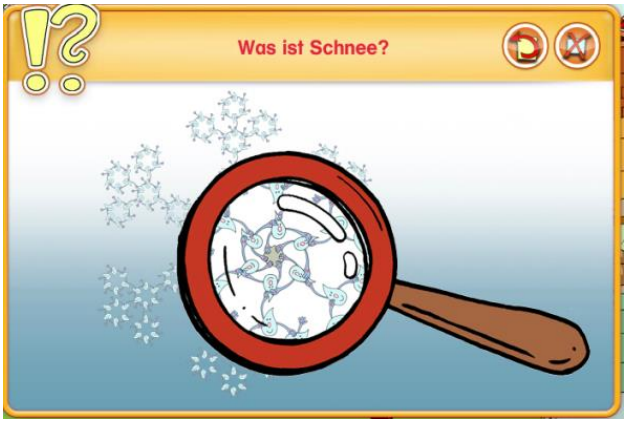
-magnifying glasses, snow in bowls
-Powerpoint: What is snow? (self made)
-Video from "Nelas Welt": What is snow?
(Http://www.nelas-welt.de/lexikon/was_ist_schnee.html)
Worksheets with text and images from the video (self-created)
-more text and search image for differentiation from http://lernarchiv.bildung.hessen.de/grundschule/Sachunterricht/jahreszeiten/winter/schnee_eis/index.html)
- document camera

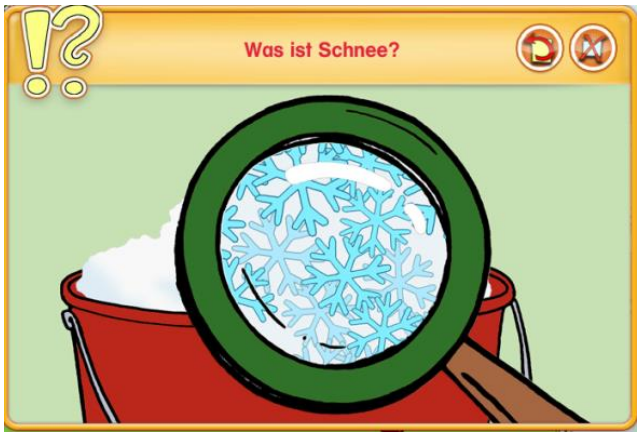
The 6 pictures from the video in the order:











Text video:

Snow is something special.

In nature, snow is created only in the clouds. There, ice crystals are assembled in a very specific pattern.

It works like this:

When it is really cold, tiny water particles freeze to ice crystals. An ice crystal looks like this: 6 water particles form a hexagon and stick to a dust particle. These ice crystals are growing. This happens when individual ice crystals are arranged star-shaped. There are six-lighted snow stars. As you can see with the magnifying glass, a dust core is only in the middle of the first ice crystal.

Snow stars are not snowflakes. Snowflakes form gradually from many individual snow stars, which glue together by brief melting and re-freezing. If you now have a strong magnifying glass, you may see some asterisks in the snow.

Sometimes, when it is very cold, it snowing individual snow stars. Pulne snow consists only of individual small snow stars.

Words for cutting for the graph: Classes 3 and 4

in the clouds
freeze
Tiny water particles
6 water particles
Hexagon dust particles
Ice crystals are growing
Star-shaped
Hexagonal snow stars
snowflakes
Glue snow stick
By melting and freezing
Pul snow flake
Single snow stars

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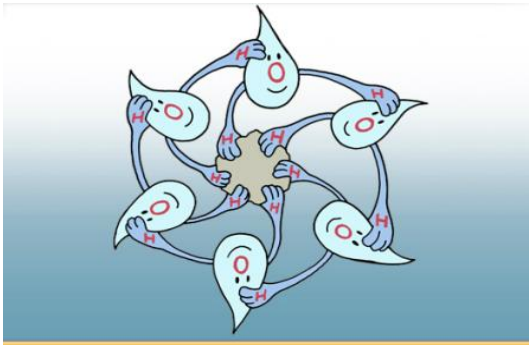
Images for cutting (dashed) for the diagram: Classes 3 and 4



Headings for sticking on the graph (especially for 1st class)

What is snow?
What is snow?
What is snow?
What is snow?
What is snow?
What is snow?
What is snow?
What is snow?
How snow is created?
How is snow created?
How is snow created?
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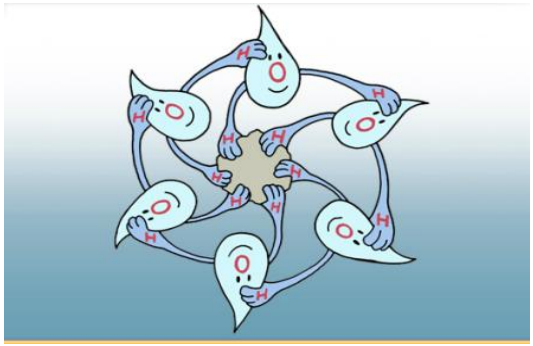
How is snow created?

Images and words for sticking on (for the first and second class):



snowflakes
snowstars
ice crystal

Results and reflection:

It was fun for the students to be a scientist and to study the snow. They made all important discoveries, as the snow melted quickly and the water was converted back into its original constituent. Also the crystal structure of the snowflakes could be seen well.

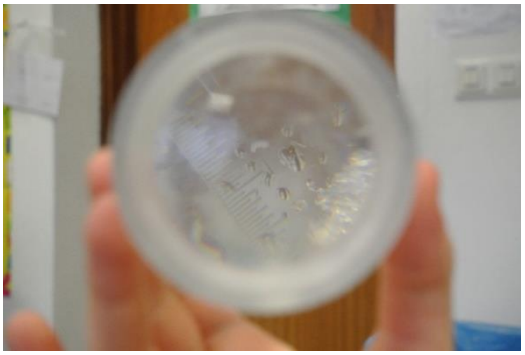
The learning video addressed the children. After commissioning the creation of a graph, it was important for the students to see the short video again, in order to remember pictures and the most important words.

Everyone could then work on his level and drew one or more pictures, while the correct labeling was important. Only a few children decided to stick the printed pictures (mostly first class children), but they saw this as a relief.

In the end some pupils presented their pictures on the document camera. Varied diagrams were presented in detail and accuracy.

The timeframe of about 20-25 minutes was exactly right, because the fastest children were already finished and the others could take their pictures in their portfolio and finish the next day in the weekly schedule.

Actions:



Children's charts: