

Project idea: „Be a meteorologist for a day“

Competencies: Judgement

Age group: from 13 years

Project duration: 90 minutes

Link to learning module: www.teachtoday.de/en/meteorologist

Project objectives

The science of meteorology can serve as a meaningful framework and context for learning about the most important laws and concepts behind thermodynamics. Starting from group questions and current weather conditions, such as storms, rain, snow, fog, sunshine or wind, the learning revolves around the children's and teens' awareness and the related ability to consciously take their own observations to task, specifically developing these skills further.

The children and teens will

- be able to interpret weather maps and charts about conditions.
- differentiate between the concepts of weather, conditions and climate.
- analyze the methods used to collect weather data

Subject and methods

The children and teens will

- be able to use knowledge from the thermodynamic theory to explain simple weather phenomena.
- critically question digital representations of the weather data.

Activity and action competence

The children and teens will

- present their work, create evaluation criteria and train their ability to give feedback.
- work together with digital libraries and train their cooperative skills.

Social communications



The children and teens will

- be able to employ their knowledge of physical phenomena in different contexts and to make decisions based on that knowledge.
- train their interdisciplinary skills and abilities by documenting their results with the app Easel.

Personal competence

Introduction

Understand and even make your own weather forecasts

Everyone has something to say about the weather, so it is a popular and innocuous topic of conversation for small talk. People especially like to talk about the weather when the weather report in the news is completely wrong, once again, or their weather app is showing non-stop rain, while they are standing under a clear blue sky in which the sun is shining brightly.

To understand the steps for creating a weather forecast, children and teens get to be meteorologists for a day and get to engage with and analyze the weather, climate, weather conditions and learn the ins and outs of the exciting science of meteorology. They examine the functionalities of weather apps and weather websites and even give a shot at predicting their very own weather forecast.

Project procedure

The subject of meteorology provides for interdisciplinary learning. Thus within the bounds of this project, scientific content and topics can be covered with a much larger context. That which lies outside the subject matter also gets brought in and furthermore socially relevant tasks are illustrated in their entirety.

In groups, the children and teens find information on the Internet about the science of meteorology and the work of meteorologists. They research to find out what data meteorology uses and how reliable weather apps and weather sites are. Then they step into the role of a weatherman or weatherwoman and collect weather data in order to create an own weather report. To conclude, the class's own weather forecasts and work processes are presented and evaluated together in a group discussion.



Phase description | Social form

Phase 1 | Individual work

The children and teens research the term meteorology.

Bing/Google

They find out the definitions and backgrounds, record their research findings in writing and present them to the group.

Phase 2 | Group discussion

The children and teens research the topic of weather apps online and examine the question: "How reliable are weather apps?"

Bing/Google

The effects of different data sets are looked at and explained with the help of online resources about "Doppler radar" and "the farmer's almanac," which the children and teens look at in 2 groups.

Together as a learning group, they evaluate this new information with the question in mind: "What kind of data do meteorologists need in order to deliver accurate weather forecasts?"

Phase 3 | In-class discussion

Children and teens collect weather data about where they live in regard to the following aspects: temperature, precipitation, wind, 3-day forecast.

Easel/PowerPoint

They prepare their own weather reports using the programs Easel and PowerPoint.

Phase 4 | Group discussion

Children and teens present their own weather forecasts.

Easel/PowerPoint

They report on their experiences with the research, with the handling of the data and its visualization.

Continuation

Another starting point to this project could be the question of which occupations are affected by the weather. Other comparisons can also be used to introduce the lesson. Children and teens can closely examine two different climates, for example, such as the desert and tundra.



