

GLOBE - Environment and future

Coverage of science offer!

I. The following items are processed in a 2-year course, with the timelines or the seasons also determining the order of topics.

- Studies on biodiversity, depending on the overall ecological structure
- The reciprocal influence of the atmosphere, hydrosphere, lithosphere and biosphere on the Earth system
- The human being as a factor who is acting in and changing the environment. The impact of the humans' actions on the future of man/humanity
- Getting to know and understanding complex processes as well as their dependencies and influences among each other: climate change and its history, weather and climate, natural and anthropogenic greenhouse effect, the function and destruction of rainforests, oceans and deep water, the melting of the polar caps (and much more)
- Experiments to explain observed phenomena in different ecosystems
e.g. : physical, chemical and biochemical studies on a stream called 'Kortelbach'
- The conflict between the use and protection of the resources of energy, habitat, food, drinking water: a sustainable approach to environmental circumstances, the role of renewable energy sources in the future (and much more)

II. Learning scientific methods in the following steps

- Monitoring of the environment → analysis of observed phenomena → elaboration of hypotheses and experimental verification of hypotheses → conclusions and evaluation of the results → presentation of the results (in the study group /school public /press /student congresses)
- Use of new media and their application as a tool for data acquisition, display and presentation of the results
- Logs/minutes, reports, surveys, field trips, projects
- Instructions for creating a scientific work

III. Methods: Work under the GLOBE protocols for detection and evaluation of
Environmental data (birch project; water, soil and air research)
Ozone pollution in Bio-SOS method

Learning with partner organisations and in extracurricular/out-of-school learning sites:
water supply works, WWTP (waste water treatment plant), (EC + LV), EnergyLab / GE,
Ecology Station / NFG Kreis Unna, Klimahaus in Bremerhaven (an interactive house dealing
with climate issues)

Participation in competitions e.g. International Science Olympiad

There are 2 written exams within a semester (6 months). In the second semester one exam will be replaced by a term paper.