# CONCLUSION MODULE

INTRODUCTION

Scientific studies say that the earth was formed about 4600 million years ago. If you have a look at different stone layers in the ground, you can comprehend this figure. The deeper you go, the older the layers are. The science branch about this topic is called “Stratigraphy”. Every period of time leaves a specific layer. For example: If there was a warm time with tropical forests, rests of plants and animals living at this time can be found in the stone layer underground. If there is a hot and dry time, you can find sand and dust in the layer.

But what about the layer we humans are producing right now? Which content do you think it will have? How willour actions affect the environment in the future and how long will the consequences last?

In this module you will look back into the history of the earth and also into the future, which is determined by our present actions.

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| **Title** | **Module Conclusion** |
| **Aims** | 1. To be aware of the term “Anthropocene”. 2. To create environmental awareness. 3. To develop sustainable thinking and acting. |
| **Key competences** | **With this module our students will develop the following competences:**   1. **Linguistic competence**: researching and understanding the information, knowing how to discuss it, and reaching agreements and communicating it. 2. **Mathematical competence**, using mathematical tools to calculatetime with precision and analyse graphs. 3. **Competence in knowledge and interaction with the physical world**, discovering the consequences of our behaviour on the environment. 4. **Competence in the treatment of information and digital competence**, using Internet, pc, smartphones, etc. in the search of and the treatment of information. 5. **Social and citizenship competence**, working in groups in search of agreements. 6. **Cultural and artistic competence**, creating and designing a concept map. 7. **Competence in learning to learn**, encouraging students to enjoy the very process of learning and taking advantage of the knowledge gained in previous modules. 8. **Competence for autonomy and personal initiative,** empowering the critical thinking and search for responsible solutions. |
| **Approx. time** | 6-7 sessions |
| **Age** | 14– 18 |
| **Methods** | Brainstorming, group work, concept maps, discussion. |
| **Description of content** | Session 1: History of the Earth compared to one day  Session 2: Analysis of the growth of the world population before and after the Industrial Revolution and its connection with the New Age “Anthropocene”.  Session 3: Reading and working on the text *The Geology of Mankind*  Sessions 4-5: Creation and comparison of concept maps.  Session 6: Promotion of environmental awareness and sustainable thinking. |
| **Teaching material and necessary devices** | PC, projector, smartphone / tablet with access to Internet, board, pens, bilingual/monolingual dictionaries,etc. |
| **Website links** | <http://www.studgen.uni-mainz.de/sose04/schwerp3/expose/geology.pdf>  <https://en.wikipedia.org/wiki/Concept_map> |

# DESCRIPTION OF ACTIVITIES

1. Find a picture or chart on the internet showing the history of the Earth. Describe the picture in your own words. Helpful keywords are: stratigraphy, chronostratigraphic chart.
2. Compare the evolution of the Earth from the beginning until now with a day. How long are the different periods translated into hours and minutes?

Traces of the first humans (*Homo sapiens*) are 300 000 years old. Europe was populated about 40000 years ago. In 1804 the world population reached 1000 million. The next milestone will be hitting the 8000 million people mark in 2023.

1. Find a chart that shows the growth of the world population from the pre-industrial time (1750) until the future (2050/2100) and label different major events (inventions, improvements, historical events) in the graph.
2. Brainstorm with your class: How are we 7500 million humans affecting the environment in which we are living?
3. Some scientists are proclaiming the term “Anthropocene” for the geological timescale of the earth since 1750, the year when the Industrial Revolution began. Discuss the legitimacy of this new age considering the results of the brainstorming done.
4. Read the text “Geology of mankind” from Paul J. Crutzen. It is a quite difficult text. You can look up unknown words on the internet or your teacher will help you.

Here you find the text:

<http://www.studgen.uni-mainz.de/sose04/schwerp3/expose/geology.pdf>

1. Create a concept map which shows the connection of the influence of human behaviour and effects on the environment. You can find a description of the idea of concept maps here:

<https://en.wikipedia.org/wiki/Concept_map>

Describe how people in different countries consume resources. Compare the usage of resources in your own country to other countries that are not that developed.

1. Compare your concept maps. Maybe you can add all ideas to a big one?
2. Look back at the activities of modules you have worked on. Describe where you can find arguments for the enormous influence of us humans, which cause the new age “Anthropocene”. Where can you find chances to attenuate the influence on the environment?
3. “Create environmental awareness” and “develop sustainable thinking and acting”. These are the aims of this curriculum. Explain in your own words: What does environmental awareness and sustainability mean for you? Name ideas to promote environmental awareness and sustainable thinking and acting in our society and politics.