

SCHOOL-SCOUT.DE



Unterrichtsmaterialien in digitaler und in gedruckter Form

Auszug aus:

Visions of the future: Part III

Das komplette Material finden Sie hier:

[School-Scout.de](https://www.school-scout.de)



Visions of the future – Part III:
The environment and climate change

by Rainer Jacob



In der dritten Einheit zu dem abiturrelevanten Bereich *Visions of the future* beschäftigen sich die Lernenden mit dem Unterrichtsthema *Environment and Climate change*. Sie untersuchen die aktuelle Bewusstseinslage, betonen Aspekte des Klimawandels und setzen sich kritisch mit dem Konzept *Georegierung* auseinander. Ein weiterer Schwerpunkt der Einheit liegt auf *Climate Fiction*. Die Schülerinnen und Schüler lernen das literarische Genre, einige seiner Vertreter sowie Beispiele daraus kennen.

RAABE
LEARNING SYSTEMS

Visions of the future – Part III: The environment and climate change

by Rainer Jacob

© RAABE 2022



© sveta/AdobeStock

In der dritten Einheit zu dem abiturrelevanten Bereich *Visions of the future* beschäftigen sich die Lernenden mit dem Unterthema *Environment and Climate change*. Sie untersuchen die aktuelle Bevölkerungslage, betrachten Aspekte des Klimawandels und setzen sich kritisch mit dem Konzept *Geoengineering* auseinander. Ein weiterer Schwerpunkt der Einheit liegt auf *Climate fiction*. Die Schülerinnen und Schüler lernen das literarische Genre, einige seiner Vertreter sowie Beispiele daraus kennen.

Visions of the future – Part III: The environment and climate change

by Rainer Jacob

Facts	1
Notes on the material	1
Topic 1: Population growth or decline	3
Topic 2: Climate change	13
Topic 3: Geoengineering	22
Topic 4: Climate writing	26
Topic 5: Working with a short story	42

Competences and skills:

By working with several factual texts, an extract from a short story and a diagram, students enhance their **reading** as well as their **analysing competences**. Throughout the unit, they continually apply and improve their **writing skills** and enhance their **vocabulary knowledge**. Students also train their **listening and viewing skills** by engaging with videos and podcasts.

Overview:

List of abbreviations:

C	Comment	CT	Creative Task
D	Discussion/debate	LVC	Listening/viewing comprehension
M	Mediation	PR	Presentation
R	Research	RC	Reading comprehension
T	Working with a text	V	Vocabulary
VI	Working with a video	W	Writing

Topic	Material	Methods/Skills
1: Population growth or decline	M1–M2	C, RC, T, V, W
2: Climate change	M3–M5	LVC, M, PR, T
3: Geoengineering	M6	D, LVC, VI, W
4: Climate writing	M7–M11	C, CT, LVC, R, RC, T, W
5: Working with a short story	M12–M14	T, W

Visions of the future – Part III: The environment and climate change

Facts

The world is talking about the future of our planet Earth. The most pressing problems facing humanity are climate change and population growth, both of which are closely connected. At the 2015 Paris Agreement, world leaders committed to keeping the global temperature rise below 2 °C or as close as possible to 1.5 °C above the pre-industrial average. However, environmentalists protest and complain that the pledges have not been fulfilled. Unless efficient measures, such as stringent emission cuts are adopted, global average temperatures since the Industrial Revolution might rise by 2.7 °C with catastrophic consequences worldwide – more heat waves, droughts, floods and other extreme weather events. Furthermore, human population growth will add to the issue of climate change. When more babies are born, more space, energy, water, and food is needed, which means people will invade ecologically sensitive areas and cut down forests for cultivation. On the other hand, there are also projections that the world's population will decrease because girls and women today are better educated and have easier access to methods of birth control.

© RAABE 2022

Notes on the material

Part III of the series *Visions of the future* comprises five topics which offer students a deeper insight into issues connected with environment and climate change.

Topic 1 deals with the question whether there will be more or fewer people living on earth in the future, which is important in as much as population growth will affect living conditions and climate. The description and analysis of a diagram informs about population growth since the year 1500 and is the basis for further discussions and comments.

In the first part of **topic 2** students listen to a podcast of a discussion in which participants exchange their views of the problem and compare it with the Corona pandemic. In the

second part, students prepare a presentation based on an article from the German newspaper *Süddeutsche Zeitung*. The mediation exercise further illustrates the urgency of tackling global temperature rise.

Topic 3 presents a video in which experts explain the new technique of geoengineering as a method of countering global warming. Students discuss the pros and cons of the process and express their opinion in a “letter to the editor”. This exercise offers the opportunity to revise the rules of formal writing.

Topic 4 centres on a relatively new but very popular literary genre, which writers use to address the issue of climate change from different angles. Listening to and working with a podcast makes students familiar with renowned authors of the genre. A reading text, *Environmental disasters in literature*, introduces the arguments of climate change sceptics and asks learners to express their opinion in writing or in the form of a speech.

Topic 5 focuses on an excerpt from John Brunner’s classic science fiction story *The Windows of Heaven* which shows a destroyed world after an inferno. Students interpret the message of Brunner’s text and relate it to the vision of Chinese science fiction writer Cixin Liu. An interview with one of the most popular American science fiction authors of today, Kim Stanley Robinson, which can be used as a listening comprehension exercise or test, concludes the unit.

The topics can be dealt with separately or in any order, depending on the interest and abilities of the learners.

Topic 1: Population growth or decline

M1 *Population growth or decline?*



Life on Earth has become unbearable. Far too many people live on the planet now. There is no room to breathe, no privacy, no beauty, no comfort, no luxury. The endless noise, the continuous rush of crowds and the cramped living conditions have made many people ill. The fight for survival is on, but people's power of the will to live, their fighting spirit is getting weaker every day.

This is the gloomy vision of the disastrous consequences of the population explosion which science-fiction writer J. G. Ballard projected in his story *Billemium* in 1961. It was a warning for the readers of his time to stop the world of becoming uninhabitable due to overpopulation.

So far, Ballard's worst fears have not become true, but the question, "How many people will live on our planet in 50 or 100 years?" has lost none of its urgency – and is just as difficult to answer. Governments need reliable demographic projections because the implications of demographic trends go beyond family planning and reproductive health¹. Changes in population numbers and age structure in a society have considerable consequences on policy issues such as poverty, public finance, infrastructure, and climate change. So, what is the answer to the question, "Will there be more or fewer people living on earth in the years to come?" Opinions are divided.

Ballard's story reflects the traditionally accepted projection that the world population will increase steadily. Demographic statistics seem to support this assumption. In the early 1800s, about 1 billion people lived on this planet. Today, the number has risen to almost 8 billion. Some demographers expect the global population to increase further to more than 9 billion in the 2050s, generating economic and social problems that will far outstrip all previous experience. A closer look reveals that the world population is distributed rather unevenly, which means some areas are very crowded and congested while others are sparsely² populated.

Fertility rates are especially high in currently low and middle-income countries. For example, in Niger, West Africa, women are having about 7 or 8 children on average, but in the USA, the UK, Germany and most Western European countries women give birth to only one or two. To limit or stop population growth, many

governments introduced specific policies and programmes – with varying success. Owing to declining mortality levels (due to improved health care that prolongs people’s lives) and the persistence of high levels of fertility, most developing countries continue to have large numbers of children and young people in their populations. Consequently, demographers and environmentalists are concerned about the pressure of overpopulation on the world’s resources, wondering how many people our planet can really support.

In contrast, a recent study presents a different vision of future global population trends and structures. Researchers at the Washington School of Medicine forecast a peak of 9.7 billion people in about 50 years from now, which will then be followed by a steady decline to 8.8 billion by the end of the 21st century. In many countries, birth rates will not be high enough to maintain current population levels. Among the main reasons for this development they argue is the fact that fertility rates will fall due to the educational progress of girls and improved easier access to modern contraception methods. The decline in birth rates will also transform the age structure in most countries, with the current trend of ageing societies becoming more evident. Fewer births and deaths mean that the population in many developed countries will become older on average. Researchers predict that there will be twice as many seniors over 80 than young children under 5. To illustrate this uneven age distribution, demographers use a so-called “constrictive population pyramid”, a triangle which is narrowed at the bottom to describe populations that are elderly and shrinking.

In addition, this trend also means that the workforce in industrialised countries will be decreasing. To make up for the shortage and enable economies to cope with the challenges, policymakers will have to rethink their views about immigration. There will be no room for populist propaganda against aliens as most industrialised countries will have to open their doors wider to compensate population decline by immigration.

Forecasting the future demographic development is still a highly speculative field with many uncertainties. In 1968, the American biologist Paul Ralph Ehrlich published a controversial book, *The Population Bomb*, in which he warned of catastrophic famines³ as a result of population growth. However, the widespread famines Ehrlich predicted never happened because birth rates decreased and food production increased.

SCHOOL-SCOUT.DE

Unterrichtsmaterialien in digitaler und in gedruckter Form

Auszug aus:

Visions of the future: Part III

Das komplette Material finden Sie hier:

School-Scout.de

