

II.C.8.7

Landeskunde – Science, Technology and Environment

Talking about ecological, technological and social challenges – Abiturthemen anhand der Netflix-Serie „Explained“ erarbeiten (S II)

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© Figure: Netflix

Wie wird sich die globale Wasserkrise auf unser Leben auswirken? Wie sieht der Fleischkonsum der Zukunft aus? *Genome-editing* am Menschen – Fluch oder Segen? In dieser Unterrichtseinheit setzen sich Ihre Schülerinnen und Schüler mit globalen Herausforderungen des 21. Jahrhunderts auseinander, die sie anhand der Netflix-Dokumentation „Explained“ erarbeiten und diskutieren. Dabei festigen die Lernenden schwerpunktmäßig sowohl ihr Hör-Seh-Verstehen als auch ihre Sprechkompetenz.

KOMPETENZPROFIL



Klassenstufe:	11/12 (G8), 12/13 (G9)
Dauer:	2–13 Unterrichtsstunden + LEK
Kompetenzen:	1. Hör-Seh-Verstehen: einer Dokumentation zentrale Informationen entnehmen; 2. Sprechkompetenz: ökologische, technologische und soziale Herausforderungen beschreiben, Lösungsansätze diskutieren und dazu Stellung beziehen; 3. Medienkompetenz: eine Internet-Recherche durchführen
Thematische Bereiche:	<i>ecological challenges, science and technology, world of work, social challenges</i>
Material:	digitale Kreuzworträtsel als Wortschatzsicherung (<i>LearningApps</i>), Vorschlag für eine mündliche Prüfung im Tandemformat
Zusätzlich benötigt:	Dokumentarreihe „Explained“ (2018 und 2019) von Ezra Klein und Joe Posner (Netflix)

Auf einen Blick

1. Stunde

Thema: Global challenges in the 21st century: An introduction

M 1 **Talking about global challenges – A picture stimulus /** Bilder zum Thema „Global challenges“ beschreiben (PA) und eine Mindmap erstellen (EA)

2./3. Stunde

Thema: Environmental challenges: Water crisis I

M 2 **Our most precious resource – Talking about water consumption /** sich anhand eines Rankings mündlich über das Thema „Water consumption“ austauschen und Annahmen formulieren (PA/UG)

M 3 **Explained: The World's Water Crisis – Understanding an episode /** Inhalte einer Dokumentation verstehen und wiedergeben (EA)

Benötigt: Laptop/Tablet mit Netflix-Zugang und Beamer/Whiteboard zum Ansehen der Folge

4./5. Stunde

Thema: Environmental challenges: Water crisis II

M 4 **How much water is needed to produce our food? – Describing a graph /** ein Diagramm beschreiben und analysieren (PA) sowie mögliche Lösungen diskutieren (UG)

M 5 **Creating awareness – The UNICEF Dirty Water Vending Machine Campaign /** den Inhalt eines Videos verstehen und wiedergeben (EA); eine eigene Umwelt-Kampagne entwickeln und umsetzen (GA)

6./7. Stunde

Thema: Environmental challenges: Meat consumption I

M 6 **How much meat do you eat? – A questionnaire /** den eigenen Fleischkonsum mit einem Fragebogen reflektieren (EA) und mit anderen vergleichen (PA)

M 7 **Explained: The Future of Meat – Understanding an episode /** Inhalte einer Dokumentation verstehen und wiedergeben (EA)

Benötigt: Laptop/Tablet mit Netflix-Zugang und Beamer/Whiteboard zum Ansehen der Folge

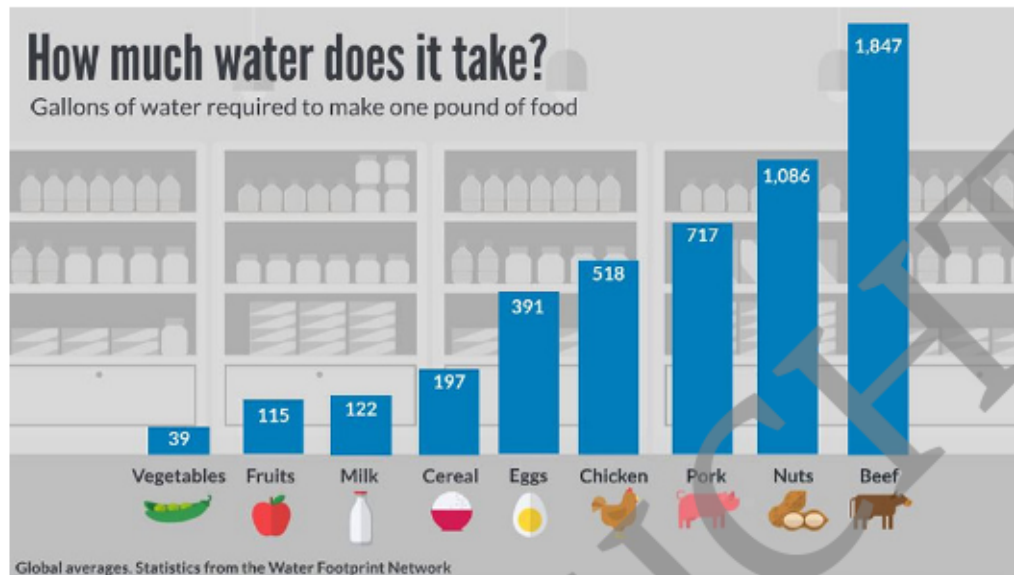


M 4

How much water is needed to produce our food? – Describing a graph



How much water is needed to produce vegetables or eggs? Find out!



© Figure: Denver Water

Tasks

- Speaking:** With a partner, describe and analyse the information presented in the graph. Relate it to the documentary *The World's Water Crisis*.
Tip: You may use the phrases in the box below.

Language support: describing a graph

Description

- The bar chart "...", published by ... shows ...
- Each bar represents ...
- ... the highest amount of water ...
- ... the least amount of water ...
- ... much more water than ...

Analysis

- The figures clearly show that ...
- It is striking that ...
- This leads to the assumption that ...
- All in all, one can say that ...

- Speaking:** What can you do to reduce your water usage in your everyday life and help conserve this resource? Include your knowledge about personal water consumption as well as about water usage by industries. Come up with at least five suggestions.

Explained: The Future of Meat – Understanding an episode

M 7

Find out more about meat consumption, its consequences and alternatives.



Pre-watching activities

- In the sentences a)–d) the numbers are missing. Discuss them with a partner, then fill in the gaps using the following numbers.

455 million	one billion	24,000	quadrupled
23 billion	doubled	1.5 billion	

- Every ten seconds, humans kill _____ animals for food.
- The global population has more than _____ in the last 50 years. In the same period of time, the amount of meat we produce has more than _____.
- There are now _____ pigs, _____ cows and _____ chickens on this planet.
- By 2050, global meat production is expected to increase to _____ tons.

- Watch the intro of the documentary *Explained: The Future of Meat* and check whether your guesses were correct. Which of the numbers do you find surprising or worrisome? Give reasons.

While-watching activities

- Watch the documentary until minute 9:30. Tick whether the following statements are true or false. Correct the false statements on a sheet of paper.

statement	true	false
a) Humans have always consumed meat.		
b) Some of the nutrients that meat contains are not easy to find in plant-based products.		
c) Meat consumption did not only change human's bodies, but also had an impact on social structures.		
d) If you compared a chicken from the 1950s to a chicken nowadays, it would look more or less the same.		
e) The top meat-eating countries can be found on the African continent.		
f) Meat consumption is increasing considerably in industrialised countries.		
g) Meat is one of the most efficient ways to feed people.		

2. Watch the second part of the documentary and answer the following questions. Take notes while watching.

a) Which characteristics should meat alternatives have to be able to compete with real meat products?

b) Why does the “Impossible Burger” taste like a real burger?

c) What is cultured meat or cell-based meat? What are its advantages and disadvantages?

Post-watching activity: discussion

1. Explain the following quotation from the documentary.

“People think of corn and beef as natural. They are not natural, of course. They are highly domesticated products.”

2. Work in small groups and discuss the following questions.

- What do you think will the future of meat look like?
- Which of the meat alternatives presented in the documentary offer sustainable solutions for the future?
- Report your ideas to the class.

Working with words

Revise the new vocabulary with the help of a crossword:

<https://learningapps.org/view31165411>



Global challenges – Oral mock exam

LEK

Topic: Global challenges in the 21st century

Student A – The growing global hunger for meat



MONOLOGUE

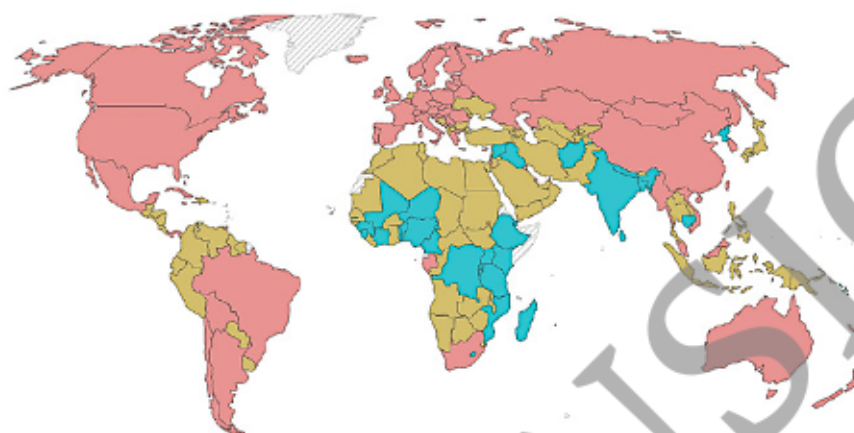
Prepare a five-minute talk about the topic *The growing global hunger for meat*. Use the scheme below as a starting point:

1. Describe and analyse the diagram below.
2. Explain in which way meat consumption is problematic for the environment.

Daily meat consumption per person, 2020

Daily meat consumption is shown relative to the expected EU average of 165g per person in 2030. This projection comes from the livestock antibiotic scenarios from Van Boeckel et al. (2017).

Our World
in Data



No data Below 40g 40-165g Over 165g

Source: Food and Agriculture Organization of the United Nations

OurWorldInData.org/antibiotic-resistance-from-livestock • CC BY

Note: Data shows per capita meat supply, which does not subtract consumer waste. Actual meat consumption will be lower than these figures.

© Map: Our World in Data/ cc by

DIALOGUE

Be prepared to discuss the following question in-depth:

Which environmental and social challenges are we facing in the 21st century and which solutions might help us to solve these problems in the future?