



Federal Ministry
of Education
and Research

Classroom materials for teachers

Developed for the competition for teens and young adults

#futurework
challenge

THE EUROPEAN COMPETITION
that looks  beyondwork

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The competition

The work of tomorrow

Whether in industry, care or commerce, occupations are always changing. New fields are emerging, whilst old ones are evolving, melting together or even disappearing entirely. Innovative tools are changing daily tasks, just as factors like digitalization and working remotely are bringing about far-reaching changes in the professions of today.

Whilst we can't say with any certainty what our day-to-day work will look like in the future, we can help to shape the work of tomorrow. The teens and young adults of today, in particular, will help decide which fields, occupations and activities are relevant for the future, which is why the Federal Ministry of Education and Research is calling for them to take a creative look at the future as part of the beyondwork2020 conference: with the **#futureworkchallenge** competition.

Occupations with a future

How will electricians work 20 years from now? Will there be astrogardeners? The pupils of today will help make that decision.

The task:

Teens and young adults will present an occupation with a future, explain it in a few words (German or English) and submit the results **as a video or photo for the #futureworkchallenge competition by 30 September 2020**. It doesn't matter if they use props, paint or even dance, as long as they get creative!

Tip

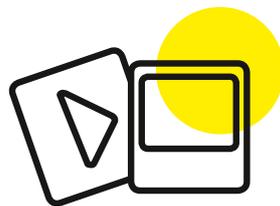
Inspiration for submissions can be found on the competition website:

beyondwork2020.com/challenge



Instructions for participation

Think of an occupation of the future



Present it in a **photo** or **video**



Write a short **description**



Win over the expert jury



Submit your entry on **Instagram** under **#futureworkchallenge** mentioning **@beyondwork2020** or via email to **challenge@beyondwork2020.com**

With a little luck, you just might win!



You can find further information at:

beyondwork2020.com/challenge



Worksheet 1

Assess predictions about the future

Work and working conditions are changing – but in which direction? There have been plenty of miscalculations about future developments throughout history, including the following:

'Rail travel at high speed is not possible because passengers, unable to breathe, would die of asphyxia.'

Dr Dionysius Lardner, Irish mathematician, physicist and natural philosopher, 1830

'Television won't be able to hold on to any market it captures after the first six months. People will soon get tired of staring at a plywood box every night.'

Darryl Zanuck, head of 20th Century Fox, 1946

'The worldwide demand for motor vehicles will not exceed one million – if for no other reason than there are not enough chauffeurs.'

Gottlieb Daimler, co-inventor of the first vehicle with internal combustion engine, end of the 19th century

'The Internet is just a hype.'

Bill Gates, co-founder of Microsoft, 1993

'I think there is a world market for maybe five computers.'

Thomas John Watson, CEO of IBM, 1943

'Two years from now, spam will be solved.'

Bill Gates, co-founder of Microsoft, 2004

Utopia and dystopia

The word **utopia** refers to a place which is too good to be true. Oxford describes utopia as an imagined place or state of things in which everything is perfect. It's a fictitious social order that couldn't be any more perfect in our imagination.

A **dystopia** is the complete opposite of a utopia. It's somewhere we don't want to exist, a place that embodies a pessimistic version of our society. Dystopian ideas are often presented to demonstrate developments harmful to society and warn of their consequences.

Exercises

1

Assess the accuracy of the different predictions about the future and consider where errors may have been made in the thought process.

2

Explain the various changes of work and everyday life resulting from modern-day means of transport, television, the computer and the Internet.

3

Discuss which new technical achievements could shape the work and everyday life of the future.

4

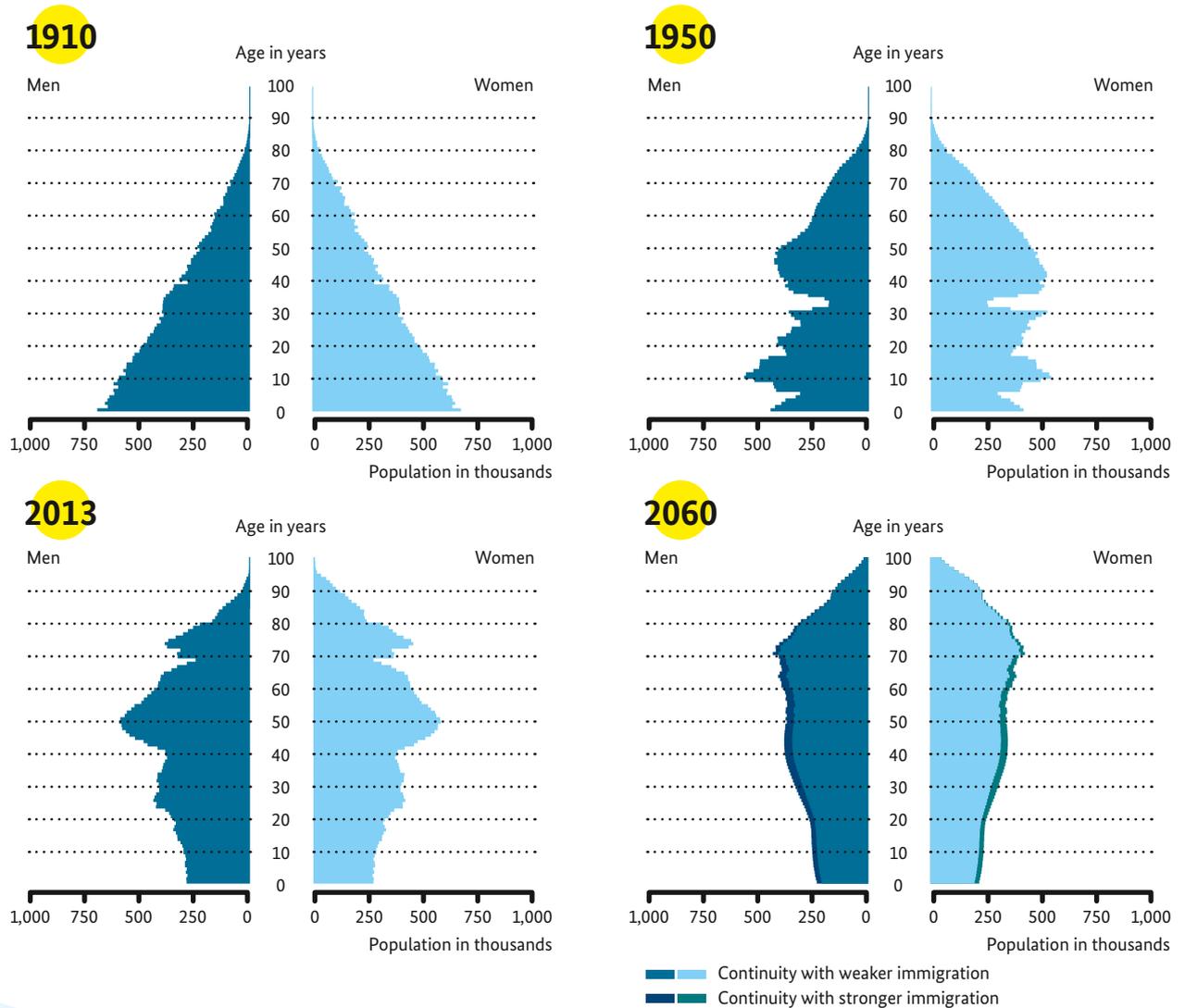
Read the definition of the terms utopia and dystopia and come up with a utopia or a dystopia in which you might work 10 or 20 years from now.



Worksheet 2

Work and changing demographics

How many people in different age groups live in our society? The graphics on this page show you how the population structure has changed in Germany, which has consequences for our work and pension system.



Source: Federal Statistical Office, 2015

Exercises

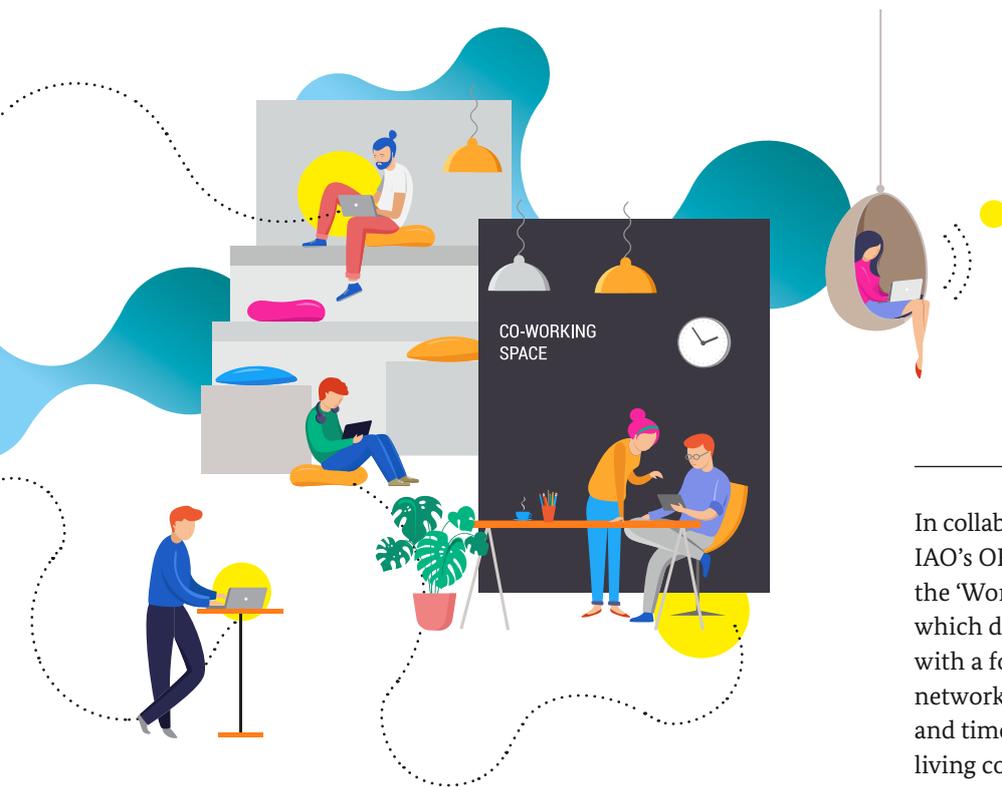
- 1 Describe which information the 'life trees' contain.
- 2 Find explanations for why the 1950 and 2013 life trees are shaped differently from that of 1910. Why has the highest concentration shifted upwards? And what led to the much lower numbers of people between the ages of 30 and 40 in the 1950 life tree?
- 3 Discuss the population structure predicted for 2060. Which factors could influence it?
- 4 Think about how the age structure of the population and the issue of work are connected.



Worksheet 3

The workplace of the future

What could your workplace of the future look like? What expectations do you have for your future working environment? Develop your personal future scenario!



Working Environments 4.0 – how we will work and live tomorrow

In collaboration with more than 100 experts, Fraunhofer IAO's OFFICE21 joint research project has developed the 'Working Environments 4.0' future scenario, which describes the work and everyday life of 2025, with a focus on a work structure which offers strong networking and flexible organisation in terms of space and time and accommodates employees' individual living conditions.

**Working Environments 4.0 –
how we will work and live tomorrow**
[youtube.com/watch?v=cei9Vet_uxA](https://www.youtube.com/watch?v=cei9Vet_uxA)

Exercises

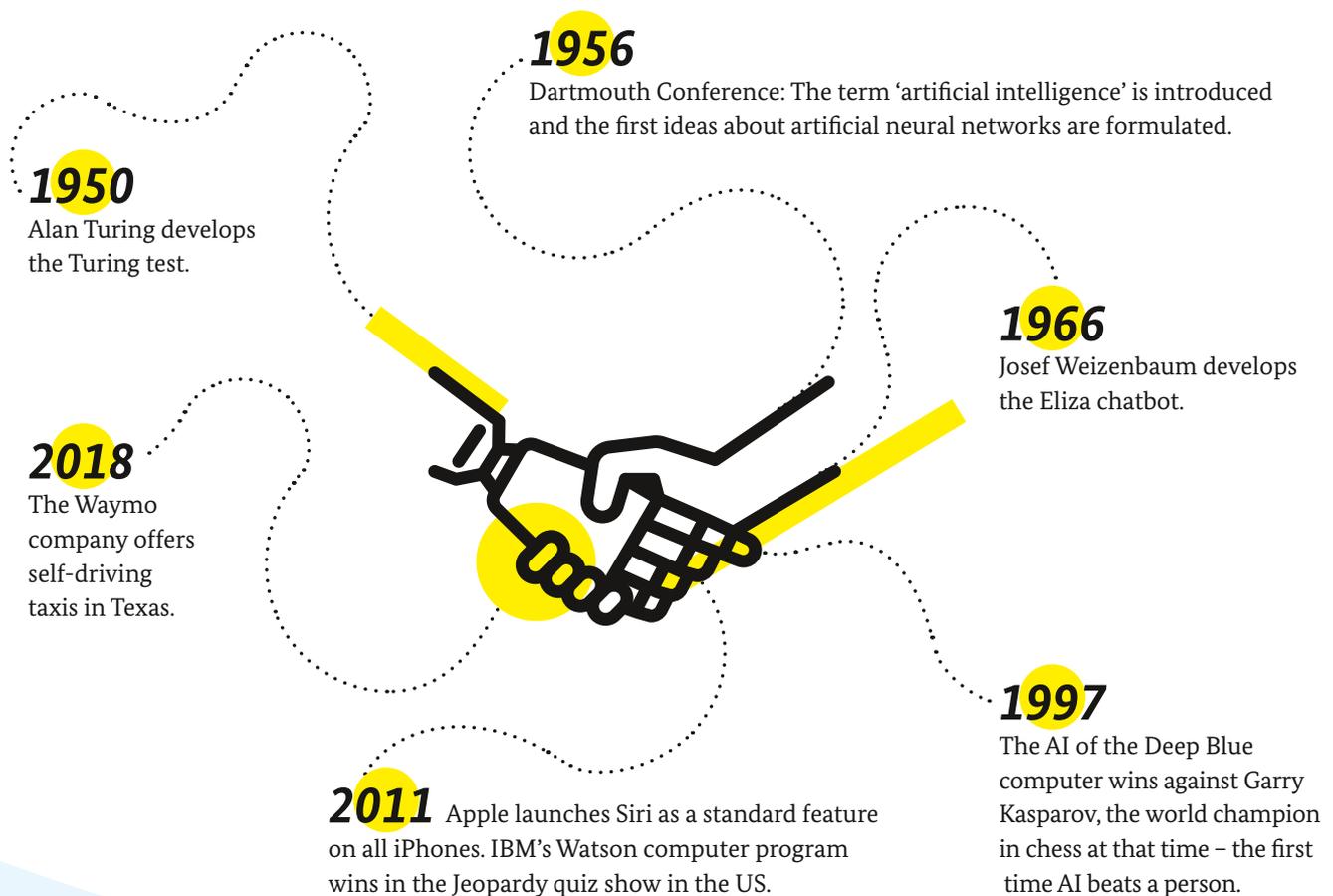
- 1 What expectations do you have? Sketch your ideas, paint, create a collage out of pictures or make a video about what your workplace of the future will look like.
- 2 Watch the film. Explain what is meant by 'digital appearance' and 'digital aura'. Look up any other terms you're unfamiliar with.
- 3 What could a typical working day look like in 2025? Using the information you have gathered, create a potential daily schedule.
- 4 Discuss with your classmates what expectations, hopes and fears you have when it comes to the work of the future.



Worksheet 4

Future trends and their consequences – artificial intelligence

We already encounter artificial intelligence (AI) in many aspects of everyday life today. And science and research agree that this development will only continue. But what does that mean for our future and how do we develop collaboration between people and machines?



Exercises

1. Talk about the milestones in AI development. Are you familiar with all the terms? Look up any terms you're unfamiliar with.
2. For each of the following four questions, write down the three thoughts most important to you.
 - a. What opportunities do I see in the everyday use of AI?
 - b. What are the risks associated with the use of AI?
 - c. What fears do I associate with AI?
 - d. What influence will AI have on my future workplace?
3. Now form groups of three or four people.
 - a. Compare what you have written down for each question.
 - b. Agree on the three most important answers for each question.
 - c. Discuss the answers as a class.



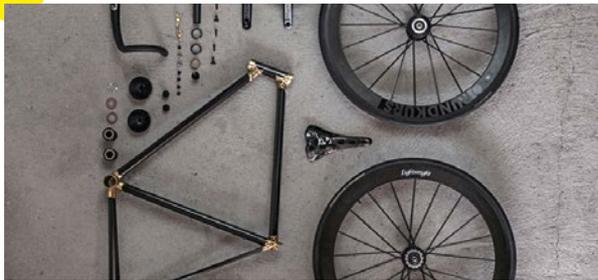
Worksheet 5

Future trends and their consequences – 3D printing

Future worlds of work will also include the development of new products. 3D printing is an innovative, contemporary production process that was initially used in industry alone, but can now also be found at companies in the fields of skilled trade, design and architecture. How could this modern-day production process be used in the future?

3D printing or the printer revolution

New products are developed and designed in the Integrated Product Design degree course at Coburg University. Prof. Peter Raab's coburg-designlab has resulted in a variety of works such as ...



VRZ 2 kit by Ralf Holleis



Silent Violin by Peter Boeckel



Peter Raab's printed cookies



The prototype of a bracket created with 3D printers using laser melting technology caused quite a stir. This connecting element for aircraft used to be milled from aluminium.

Exercises

- 1 Take a look at the images. Talk about the production opportunities that could be achieved with 3D printing.
- 2 Do some research on the extent to which 3D printing is already used in production today. Are there also some critical voices out there? Develop some ideas for further opportunities to use this technology in the future.
- 3 Something of yours such as an old cup is sure to have broken at some point or another – or perhaps the handle of your grandmother's valuable coffee pot has broken off. Discuss with each other what would change for you personally if you could simply print spare parts in accordance with the manufacturer's specifications using your 3D printer.

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