

BIOLOGY: Worksheet for teachers with a key
TOPIC: Root water treatment plant and wastewater

Another tank is drawn to the right of the root treatment plant on the diagram. This can serve as a water source for both domestic and domestic use. Write at least two domestic uses where this water could be used, and why not elsewhere.

- + Flushing toilets, watering plants
- Due to contamination, water should not come into contact with drinking water in the kitchen or bathroom (even for washing, showering, brushing teeth, etc.)

5) A filter is a living system, so let's take a closer look at what and how it grows live.

Find and write down 5 species of plants that are often planted in the treatment plant:
Common Reed, Cattail, Marsh Marigold, Iris, Juncus

Choose two, draw them and write some interesting facts about them.

The project is funded by Iceland, Liechtenstein and Norway through the EEA Grants 2014 - 2021, programme Education*

TESLE - Teachers' Experience in Science and Language Education
EHP-CZ-ICP-4-007

Biology: Worksheet for student
TOPIC: Natural selection

Natural Selection

Using beads and cloth, natural selection can be simulated.

Students are divided into groups of 5, 1 of them will be the "gamekeeper", and the other 4 are the players or the "predator". The players "hunt" after beads in two different environments. The beads represent the "prey".

The "best" predator will win.

For each group with 5 students, we need:

- + 100 beads, in 4 different colors. 25 of each color. One of the colors must be white.

The Czech flag.

English: Worksheet for students
TOPIC: Environment

Introduction to the topic – If you decide to throw something away is it only trash?

Task one
 Discuss the following questions in pairs.

- How do we choose things we do not need anymore?
- Do you recycle or offer things you do not need for reuse?
- Could you imagine trash being changed into art or something useful?

Task two
 Now look at picture and answer the questions.

- What are the sculptures made of?
- Would you attend a gallery exhibiting such art? Why?
- Could you imagine you would use trash to create something new, beautiful or useful?
- Why do you think this use of trash is so admired?

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CHEMISTRY: Worksheet for teachers with a key
Topic: Freons (CFCs) – Ozone Hole

STATION 4 Freons- modelling

1. Discover what is hidden under the names Freon 11, Freon 12, Freon 13, Freon 114.
 Write these Freons by formula, name them by systematic name, plot their geometric formula- complete the table

	formula	systematic name	geometric formula
Freon 11	CCl ₃ F	trichlorofluoromethane	
Freon 12	CCl ₂ F ₂	dichlorodifluoromethane	
Freon 13	CClF ₃	chlorotrifluoromethane	
Freon 114	CF ₃ C Cl ₂	1,2-dichlorotetrafluoroethane	

2. Model the given freons using modelling clay and skewers.
 (C- black, H- white, F- yellow, Cl- green)

Take a picture of the models and their names: **Freon 11**

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Mathematics: Methodology for teachers with a key
TOPIC: Using geometric sequences in economics

Dismiss the bank fees in all of the following tasks.

Task 1
 Mr Stjiblo has saved CZK 200 000. He does not need the money now. He wants to make use of his money. He puts the money in a bank deposit with an interest rate of 5%. How much money would the bank pay him after 1 year? Interest is in the Czech Republic is 25%.

$$\text{After the 1st year (B)= } 200\ 000 + 0.05 \cdot 200\ 000 \cdot 0.85 = 200\ 000 (1 + 0.85 \cdot \frac{1}{100}) = 208\ 500 \text{ CZK}$$

$$\text{After 2nd year (B)= } 208\ 500 + 0.05 \cdot 208\ 500 \cdot 0.85 = 208\ 500 (1 + 0.85 \cdot \frac{1}{100})^2 = 217\ 361.25 \text{ CZK}$$

$$\text{After 3rd year (B)= similarly } 200\ 000 (1 + 0.85 \cdot \frac{1}{100})^3 = 226\ 599.103125 \text{ CZK}$$

$$\text{After n-th year (Create formula)} 200\ 000 (1 + 0.85 \cdot \frac{1}{100})^n$$

What is the quotient of the geometric sequence from this formula? $\text{B} = (1 + 0.85 \cdot \frac{1}{100})^n$

Task 2
 Generalize the formula from the previous problem for an annual interest rate of p % and an initial deposit denoted by B₀.

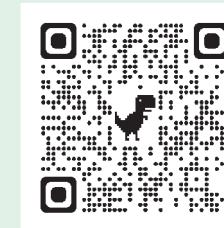
$$B_n = B_0 (1 + 0.05 \cdot \frac{p}{100})^n$$

What is the quotient of the geometric sequence from this formula? $B_n = (1 + 0.05 \cdot \frac{p}{100})^n$

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- Czech Republic
Teplice
Gymnázium Teplice



- Norway - Nore
Numedal videregående skole

Teachers' Experience in Science and Language Education



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Zkušenosti učitelů v přírodovědném a jazykovém vzdělávání

TESLE byl projekt bilaterální institucionální spolupráce mezi Gymnáziem Teplice v České republice a Numedal videregående skole v Norsku.

Učitelé z obou škol spolupracovali, sdíleli své osvědčené postupy v didaktice, pedagogice a v jednotlivých předmětech. Podělili se o své znalosti v různých přístupech k výuce, jak používat ICT v hodinách, jak postupovat při řešení problémů aplikované vědy, a to vše spojili s tematikou aktivního občana v Evropě. Pracovním jazykem projektu byla angličtina.

Během projektového období proběhla dvě setkání. Jedno se konalo v Norsku a druhé v České republice. Bylo vytvořeno deset výukových modulů, které byly odučeny na střední škole pro cílovou skupinu žáků ve věku kolem 18 let. Učitelé aktivně komunikovali a vyměňovali si nápady pomocí online platformy Google Drive i Microsoft Teams. Účastníci si vyzkoušeli, co to znamená být aktivním evropským občanem. Občanem, který může diskutovat, učit se, ovlivňovat, být v kontaktu s ostatními, účastnit se změn a být aktivní součástí naší demokracie. Motivací bylo porozumění dobře fungující společnosti a odvaha pracovat za evropskými hranicemi.

Mezinárodní projekt přispěl k lepšímu povědomí účastníků o školských systémech a kulturách obou zúčastněných zemí. Účastníci získali možnost se navzájem poznat prostřednictvím diskusí, sdílení osvědčených postupů a rozvinout vzájemnou odpovědnost. Rozvinuli též dovednosti týmové spolupráce a posílili vzájemné institucionální bilaterální vztahy.



Teachers' Experience in Science and Language Education

TESLE was a bilateral institutional cooperation project between Gymnasium Teplice in the Czech Republic and Numedal videregående skole in Norway.

Teachers from both schools worked together, shared their best practice in methodology, pedagogics, and subject specific topics. Teachers shared their knowledge in different approaches in teaching, how to use ICT in lessons, solving applied science problems and combine all this with how to be an active citizen in Europe. The working language was English.

There were two peer - learning meetings during the project period. One organized in Norway and one in the Czech Republic. Ten teaching modules were created and taught to the students who were about 18 years old. Teachers communicated, debated and exchanged ideas using the online platform Google Drive and Microsoft Teams. Teachers and students experienced what it means to be an active European citizen, who can communicate across borders, discuss, learn, influence, unite, connect with others, be part of changes and be an active part of our democracy. This again motivated teachers and students to learn more about healthy societies and not be afraid to work across European borders.

This international project contributed to more knowledge among the participants regarding our school systems and cultures. The participants had the possibility to get to know each other through discussions, sharing of best practice and fostering a sense of responsibility to each other. Participants developed teamwork skills and our institutional bilateral relation were strengthened.



Å dele læreres erfaringer innen realfag og språkundervisning

TESLE har vært et bilateralt skolesamarbeid mellom Gymnasium Teplice i Tsjekkia og Numedal videregående skole i Norge.

Lærere fra begge skoler har jobbet sammen og delt beste praksis innen metode, pedagogikk og fagspesifikke emner. Lærerne har delt kunnskap i hvordan man kan undervise fag på ulike måter, hvordan bruke digitale verktøy som en del av undervisningen, hvordan anvende realfag for å løse vitenskapelige utfordringer og til slutt kombinere alt dette med hvordan vi kan være aktive europeiske medborgere. Arbeidsspråket har vært engelsk.

Det har vært to samarbeidsmøter i løpet av prosjektperioden. Et møte ble arrangert i Norge, og et møte i Tsjekkia. Det har blitt utarbeidet 10 undervisningsmoduler som har blitt prøvd ut i klasserommet med elever i alderen 16 – 18 år. Lærerne har kommunisert seg imellom, debattert og utvekslet gode ideer ved å bruke Google Drive – plattformen og Microsoft Teams. Lærerne og elevene har fått erfare hva det betyr å være en aktiv europeisk medborger, som kan kommunisere på tvers av landegrensene, diskutere, lære, påvirke, forene, komme i kontakt med andre, være endringswillige og være aktive bidragsytere i vårt demokrati. Lærere og elevene har fått økt motivasjon og er ikke redde for å jobbe på tvers av europeiske landegrenser.

Dette internasjonale prosjektet har bidratt til økt kunnskap hos deltakerne også når det gjelder skolesystemet og kulturen i begge land. Deltakerne har blitt kjent med hverandre gjennom samtaler, deling av beste praksis og det har bidratt til en følelse av ansvar overfor hverandre. Deltakerne har videreutviklet sine samarbeidsevner, og blitt utfordret på å samarbeide på engelsk. Vårt bilaterale forhold har styrket seg.