

Lesson (title) Iron. Properties of iron	Subject: Man and nature Topic: <i>Properties of substances. Chemical reactions</i>
Language competence level A1X A2 <input type="checkbox"/> B1 <input type="checkbox"/> B2 <input type="checkbox"/> C1 <input type="checkbox"/>	Prerequisites / requirements (e.g. revision or preparation as regards the foreign language or the content of the subject, using the mother tongue in some parts of the lesson) <i>Consolidating vocabulary and grammar in German as regards the educational content of the second part (chemistry): revision / applying knowledge on chemical reactions and the properties of substances: partial use of the Bulgarian language in the experiments.</i>
Class/grade: 6 Number of students in class: 20	Age of students: 12 Duration of lesson(s): 40 min
Lesson content: Physical and chemical properties of iron. Basic types of chemical reactions – chemical cleavage, chemical compound, chemical reaction and replacement.	

The current Lesson Plans was developed by Ms. Monica Lutowa, Ms Radostina Kirina and Ms Elena Trifonova

Teaching aims/objectives

Content: **Students will be able to answer the questions:** *Where do we find iron in nature? Why is iron important to individuals? How was iron used in the past and how nowadays? Which are the physical and chemical properties that make it precious for people's lives?*

Communication: **Students will be able to** *describe and define notions, compare and collate phenomena and facts, give examples, express opinions and explain why they think in a certain way.*

Cognition: **Students will be able to** *remember previously acquired knowledge, define the physical and chemical properties of iron, identify facts and phenomena (based on known elements and characteristics) and compare information regarding the properties of iron, and formulate hypotheses on how to distinguish iron from other minerals.*

Culture/ community/ citizenship: **Students will learn** *that iron is extracted from the interior of earth and is produced from iron ore in special blast furnaces. It is one of the ten most common minerals in the earth's crust. Iron is an active substance and is rarely used in pure form. It is used in alloys and is applied in automotive and construction industry. Iron alloy is found in nails, knives, stoves, sinks and elsewhere.*

**FL/NS Lesson Planning/Template based on 4 Cs (see next page)
(content, communication, cognition, culture)**

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Phase

Time Contents

C1 Objective/Competence
(„can-do“ statements)

C1:

C2:

C3:

C4: Student activity Social form/ setting C2, C3, C4 Material, media, mobile lab Language: C2 subject specific terminology
Language: C2 communication & interaction Teacher activity Notes, comments on processes & outcomes = including affective
outcomes, (self-) evaluation

**

trigger

The core of the Earth consists of iron and nickel. Iron is one of the ten most common minerals in the earth's crust. In the past, tools, arms, armor, helmets etc. were made of iron. Students know how iron was used in the past and can give examples in German. They study the diagram of the earth's crust and can express in German the proportion of every component.

They answer to the teacher's question, giving at the same time examples of how iron was used in the past and with the assistance of a diagram they state the substances consisted in the earth's crust.

The whole class

Data sheet, nail, screw,

FL/STEM and the domains of the 4Cs

C1	Content / Learning outcomes	“know” (content) “be able to” (content, communication) “be aware” (content, cognition)
C2	Communication: Language learning & Interaction	Vocabulary (revisited/new) Vocabulary (new): subject matter specific (CALP) Vocabulary (new): general (BICS) Structures (focus on grammar) Language functions (information, argumentation, questioning, reasoning)
C3	Cognition / cognitive processing: LOTS & HOTS	Remembering / Identifying Comparing Classifying Predicting Reasoning Synthesizing / creating
C4	Culture / Community	Awareness (of scientific topic as relevant for the culture / community) Involvement (project continuation outside of classroom) Communication (proliferation of scientific results in community)

****Note:** this column refers to the lessons implemented during the school year 2015-2016. The comments concern exclusively the academic hours the lesson was made and because of the uniqueness and diversity of each class, it should not be expected to be exactly the same during another lesson.

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