

Lesson (title) Estructura y características de las —hojas.—	Subject/Topic: Structure and functions of leaves.
Language competence level A1 <input checked="" type="checkbox"/> A2 <input type="checkbox"/> B1 <input type="checkbox"/> B2 <input type="checkbox"/> C1 <input type="checkbox"/>	Prerequisites / requirements: (e. g.: language or content revision or preparation; use of L1 in specified teaching segments) In order to correctly understand the content of the lesson, students, in their mother tongue, are required to: - be acquainted with the external structure of leaves; - be able to explain the function of chlorophyll in plants; - be able to elaborate on the function of red leaf cabbage as a pH bio-indicator; - be able to explain substrates and photosynthesis' products; - be acquainted with the basic principles of laboratory safety.
Class/grade: 5 th Number of students in class: 8	Age of learners: 10 Duration of lesson(s): 45 min
Content of lesson: Lesson dealing with the structure and properties of leaves; - external structure of leaves, - properties of leaves, - process of photosynthesis.	
Teaching aims/objectives Content: students will be able to name the different parts of the leaf structure, name substrates and photosynthesis' products, Communication: students will be able to ask simple questions and answer them as well as comprehend the teacher's instructions, working in groups or in pairs, Cognition: students will be able to identify methods of employing the properties of cabbage leaves through pH, Culture/ community/ citizenship: -	

FL/STEM Lesson Planning / Template / Warsaw 28-08-2015



phase

time Content

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

10 min Structure of leaves

Ss can name the parts of structure of leaves:

leafstalks, leaf tops, leaf veins, leaf blades Students answer questions, observe names for 2 min., fill out task cards Team work, individual work Attachment 1 - picture of leaf and names of parts of leaves

el limbo,

el peciolo,

la nervadura,

el ápice, ¿Qué es esto?

The teacher attaches names of leaf parts to the board and asks questions -

hypothesis

5 min Chlorophyll and its role in photosynthesis Ss can formulate a hypothesis about Chlorophyll properties Students perform an experiment

Attachment 2

Work in pairs, individual work Attachment 2

Mobile labs, instruction In Attachment 2 ¿Porque la hoja es verde? Lee las instrucciones. En parejas haz el experimento Responde a las preguntas. Escribe las conclusiones.

The teacher asks questions and checks the correctness of performed experiments

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experimentation,

(processes, results) verification of hypothesis

20 min Cabbage leaf juice as a pH indicator Ss can employ cabbage leaf juice in calculating pH in solutions Students perform an experiment

Attachment 3 Work in pairs, individual work Attachment 3

Mobile labs, instruction

In Attachment 3

The current lesson plan was developed by Ms Diana Saja and Ms Izabella Frackowiak

C1	Content / Learning outcomes	<p>“know” (content): nomenclature of parts of the leaf structure</p> <p>“be able to” (content, communication): comprehension of simple instructions and the ability to respond to them</p> <p>“be aware” (content, cognition): ability to draw conclusions on the basis of experimental observation</p>
C2	Communication: Language learning & Interaction	<p>Vocabulary (revisited) - color names</p> <p>Vocabulary (new): subject matter specific (CALP) - acid / alkaline reaction</p> <p>Vocabulary (new): general (BICS) -</p> <p>Structures (focus on grammar) – answers to questions ¿Qué has observado?; ¿Cuál es tu conclusión?</p> <p>Language functions (information, argumentation, questioning, reasoning) – informative language functions, reasoning, argumentation</p>
C3	Cognition / cognitive processing: LOTS & HOTS	<p>Remembering / Identifying – leaf structure, substrates and photosynthesis’ products</p> <p>Comparing – Comparison of foodstuffs in relation to pH</p> <p>Classifying – Classification of foodstuffs in relation to pH</p> <p>Predicting - substrates and photosynthesis’ products naming</p> <p>Reasoning – Performing experiments according to instructions, answering questions relevant to the film</p> <p>Synthesizing / creating – drawing conclusions on the basis of experiment results</p>
C4	Culture / Community	<p>Awareness (of scientific topic as relevant for the culture / community) prepared lesson facilitates knowledge and comparison of possibilities of employing leaf properties of certain plants</p> <p>Involvement (project continuation outside of classroom) –</p> <p>Communication (proliferation of scientific results in community) -</p>