LESSON PLAN FORMAT

SUBJECT	Science	**GRADE**	9°
TOPIC	Types of solutions	**LENGTH**	60 minutes

AIMS

MAIN AIMS

(What are the main aims of your lesson (content, language skills and language items)? What do you want your learners to have learnt by the end of this lesson?)

Main aim: By the end of the lesson, learners will be able to identify types of solutions based on the amount of solute dissolved in a given amount of solvent.

Subsidiary aim:

Learners will be able to:
describe the basic properties of solutions and how they form.
explain why some solutions either produce or absorb heat when they form.

TEACHING OBJECTIVES

Content

(New knowledge, skills and understanding)

- Revising vocabulary related to the formation of solutions.
- Revision of a warming-up activity.
- The dissolution process

Cognition

(High-order thinking skills, problem-solving, challenges and reflection)

- Identifying the dissolution process.
- Analyzing the types of solutions and its characteristics.
- Describing the types of solutions and classifying them.

Culture

(Awareness of self and other, identity, citizenship, and pluricultural understanding)

- Working in pairs - groups in order to look for answers by respecting each other's ideas and opinions.
- Learning about solutions in order to understand the importance of preserving our planet by protecting the environment and reducing our carbon footprint.

Communication *(What and how)*

- Students will work in groups to observe what happens to the four glasses of water (solvent) when the different amounts of powdered drink mix (Frutiño)are added to the water.
- Students will read a text about the types of dissolutions in order to classify what they did in the previous step.
- The groups of students will share their thoughts, findings with the whole class.

Language of Learning

(Key vocabulary – content-obligatory) (Key vocabulary – contenry)

Alloy
Aqueous solution
Dispersed particles
Dispersed medium
Ideal solution
Non-aqueous solution
Solute
Solvation
Solvent
Spontaneous process
Types of solutions: diluted, concentrated, saturated and supersaturated.

Language for Learning

(Functional language e.g. language while learners participate in the lesson – thinking skills)

- It's your turn.
- That's it.
- You're doing great.
- Come on. You can do it.
- Do it one more time.
- Don't worry. Try again.
- That's awesome/amazing/wonderful.
- You haven't finished yet.
- Do not give up!
- I agree/disagree with you.
- I think you should/ Why don't you….
- What do you think about…

Language through learning

(Language progression, practice and extension – emerging language, and what you will do with this)

- The teacher will monitor all stages of the lesson to make sure students learn the key concepts, contribute and respect their peers, and receive proper guidance in order to achieve the objectives. The teacher will also provide feedback during the lesson.

CRITERIA FOR ASSESSMENT

(What kind of assessment will be used in class? (teacher, peer, self?) What are you assessing, how?)

Formative Assessment	**Summative Assessment**
Monitoring students' ideas throughout the lesson by asking them questions and by listening to their ideas while working in pairs and groups.	A kahoot activity

LESSON PROCEDURE / ACTIVITIES			
Time	**Stage**	**Procedure**	**Materials & Resources**
5 min	Warm up	The teacher will show some key words (Solute- solvent - solid - liquid - particles) to students along with images/pictures and ask them to say/explain what they know/understand from them.	- A laptop - A video-projector - PPT Interaction: T-Ss
15 min	Activate prior knowledge	Students will work in pairs. Each pair will have 4 disposable drinking cups. They will label each cup with a number (1-2-3-4). They will add water up to half the capacity of the cups 1-2-3. The students will add a pinch of the powdered drink mix (Frutiño) to the cup #1. They must observe a slight coloration (soluted solution). Then, they will add a little bit more of frutiño to the cup #2. The coloration should be more noticeable (concentrated solution). After that, they will add frutiño and shake the cup, and then add more frutiño until they notice lumps at the bottom of the cup (saturated solution). Finally, the students will take the cup #4 which must be empty in order to add half of the solution of cup #3 to the cup #4 and add more frutiño until the color is very dark and there is a lot of undissolved frutiño (supersaturated solution). Students have to write what they observe in each cup in their notebooks.	- Disposable drinking cups - Powdered drink mix “Frutiño” - Markers - Notebook Interaction: Pair work
15 min	Lead in	Once the students finish doing the previous experience, they will answer the following questions: In the first cup, what are the components of the solution? In the second cup, what are the components of the solution? The same question for cups 3 and 4. They then answer the question, if all 4 solutions have the same components, then what differentiates them? For the development of the topic, they also answer: What is the difference between solution 1 and 2? How do you describe solution 2? The same questions for solutions 2, 3, 4.	- Students’ notes - A laptop - A video-projector - PPT Interaction: T-Ss
15 min	Observation analysis and reading	Two pairs will join to share their answers. It is important that the students describe the solutions and tell the class that solution 1 is characterized by having little solute in relation to the large amount of solvent, that solution 2 has a little more solute but is still little in relation to the amount of solvent it has , solution 3 has a lot of solute which has begun to	- Students’ notes - Text (photocopy) given by the teacher. Interaction: group work - whole class

		accumulate at the bottom, that is, there comes a point where it does not dissolve, and solution 4 has so much solute that its dissolution is impossible) Then the students read the text and classify the solutions according to the reading.	
10 min	Evaluation	The students will play a kahoot with vocabulary and content of the lesson. This will help them and the teacher to determine how much they learn.	Kahoot Interaction: Whole class T-Ss