

Teacher notes

Pre-event materials – Our life our future

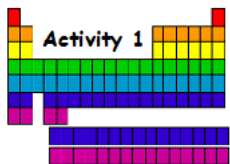
These pre-event materials are designed with the following objectives:

- to **generate interest in the topic** of the lecture
- to **scaffold key language** of the lecture
- to **practise communication skills** relevant to the topic

Please note:

1. Detailed procedures are described, focusing on key teaching techniques and methods used by English language teachers.
2. You can adapt, omit and extend activities to suit your students.
Suggestions for these changes are marked in the lesson plan in blue.
3. Answers are marked on the lesson plan in red
4. Timings should be adapted to suit the needs of the students.

Level	Senior Secondary
Aims	By the end of the lesson the students will: <ul style="list-style-type: none"> • be familiar with a range common adjectives and nouns used to describe the role of chemistry in our society • be able to discuss opinions about the role of chemistry in our society
Skill focus	Main skill = speaking Sub-skill = reading
Time	45 min lesson time plus 15 min web research time (activity 2d)
Materials and preparation	Required – worksheets Optional – access to internet for student research



Chemistry and society



1a. Which words do you think about when you think of chemistry?



2 minutes! Brainstorm some ideas with your group.

Words around
chemistry

1b. Divide the words below into 3 groups.

toxic

Positive words

harmful

.....

exciting

Negative words

environmental

.....

protecting

Neutral words

hazardous

.....

monitoring

essential

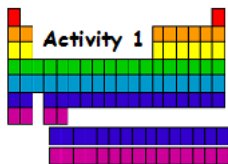
Which words have 3 syllables?

1c. Which word in the box has the same stress pattern as chemistry?



1d. Circle the words in box A that you associate with chemistry.

Why do you associate these words with chemistry?




1e. How many *common* combinations can you make with words on the left and right in this box? e.g. exciting breakthrough, essential role

toxic	.....	pollutant
harmful		disaster
exciting	.....	role
environmental		issues
protecting	.....	methods
hazardous		effect
monitoring	.....	impact
essential		policy
	.....	breakthrough

1f. Circle the combinations can you use to talk about chemistry in our society.

1g. Discuss your ideas to the following web discussion board.

Post title	last comment	replies
 Chemistry – good or bad for our environment? Chemist88 2 days ago	5 min ago	29

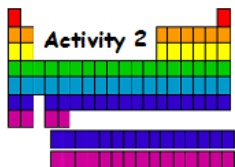
Do you agree?

What do you think?

It depends if...

What I think is that...





Chemistry and you



2a. Chemistry plays an important role in the following research areas.

Tick the ones that you think affect *your* life

1. *monitoring* CO₂ levels in the atmosphere
2. the *composition* of ground water
3. the *acidification* of oceans
4. *developing* green energy
5. *producing* plastics
6. *manufacturing* pharmaceutical drugs

2b. The words in *italics* above are all used as nouns.

What are the verbs of these nouns? Write them above.

Example: 1. monitor

2c. Discuss your ideas from 2a. Which ones affect *your* life? Explain your ideas.

Tell your partner.

2d. Choose one of the chemistry topics from 2a. Find out more about it!

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Aim	Time	Procedure
To activate ideas around the lecture topic	5 min	<ol style="list-style-type: none"> 1. Seat students in groups of four. 2. Write “chemistry” in the middle of the board 3. Elicit words that students associate with chemistry e.g. experiments, dangerous, reactions, etc. Write 3 of their ideas on the board. 4. Ask students to do the same on their tables and complete activity 1a in 2 minutes. Can be adapted into a competition or race if suitable. 5. Give one or two students board pens and ask them to act as the teacher and call on other students for their ideas and to write them on the board in a mind map. Address any pronunciation issues at this point by asking students to correct each other first before you correct them.
To provide students with useful adjectives related to the topic	5 min	<ol style="list-style-type: none"> 1. Students complete activity 1b. 2. Check answers and repeat the words together. Focus on the stress patterns. (The stressed syllable is underlined in the answer box below.) You can hum the words with the stress pattern. Ask students to guess which word you are humming. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Possible answers for activity 1b</p> <p>Positive – <u>exc</u>iting, <u>pro</u>tecting</p> <p>Negative – <u>to</u>xic, <u>harm</u>ful, <u>haz</u>ardous</p> <p>Neutral – <u>envi</u>ronmental, <u>moni</u>toring, <u>essen</u>tial</p> <p>Students may place “<i>environmental, monitoring, essential</i>” as positive – teacher can use this as a discussion point.</p> </div> <ol style="list-style-type: none"> 3. Ask students to say the words in the box with their partner, and write down which words have 3 syllables (exciting, protecting, hazardous, essential). Explain activity 1c to students. The 3 balls represent the 3 syllables. The larger ball represents the main stressed syllable. Therefore we have CHE-mi-stry. Ask students to consider the 3 syllable words and complete activity 1c, deciding which word has the same stress pattern (Answer: hazardous) 3. Students complete activity 1d. Ask students to compare answers together and practise with the correct stress pattern. 4. Teacher elicits student ideas from 1d and reviews pronunciation.
To provide students with useful adjective-noun combinations related to the topic	5 min	<ol style="list-style-type: none"> 1. Explain instructions for activity 1e together. Tell students that they can use words more than once, or not at all. 2. Students complete activity 1e in groups of 4. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <p>Possible answers for activity 1e</p> <p>Other answers are possible, but these are the <i>common ones</i>.</p> <p><i>toxic/harmful/hazardous pollutant</i></p> <p><i>toxic disaster</i></p> <p><i>protecting/harmful/monitoring/essential role</i></p> <p><i>environmental issues</i></p> <p><i>harmful/environmental/monitoring methods</i></p> <p><i>harmful/environmental/protecting effect</i></p> <p><i>environmental impact</i></p> <p><i>environmental/essential policy</i></p> <p><i>exciting breakthrough</i></p> </div> <ol style="list-style-type: none"> 3. Check answers together.

To practise giving opinions using common adjective-noun combinations.	5 min	<p>1. Students complete activity 1f. Allow students time to discuss their answers and encourage them to give reasons. You can give 2 of your own ideas as examples (in speaking, not writing) to encourage students.</p> <div> <p>Possible adaptations of activity 1f</p> <p>Adaptation 1: provide sentence starters for lower level of English class: <i>I think chemistry has...I think chemistry plays...I think chemistry can...I think chemistry creates...</i></p> <p>Adaptation 2: in groups of 4 students- make flashcards of the word combinations. Lay out all the cards so all students can see them. Students then call out a sentence using one combination. If other students accept the sentence the student keeps the card. Aim: to collect as many cards as possible.</p> </div> <p>Give a time limit e.g. 1 minute. While the students are speaking, walk around the class and note down 5 or 6 interesting things they say (either correct English or with mistakes).</p> <p>2. After the time limit, write your 5 or 6 notes on the board. Give students 2 minutes with their partner to decide if the sentence is correct English or not. Give the board pen to students who act as the teacher to correct mistakes on the board.</p> <p>3. Now the opinions on the board are correct, so give students 1 minute to tell their partner if they agree or disagree with the opinions on the board.</p>
To practise discussing opinions on the topic of the lecture	15 min	<p>1. Students work in groups of 4-6 for activity 1g.</p> <div> <p>Possible adaptations of activity 1g</p> <p>Re-group students and give students different roles if suitable e.g. one student is a old man, one student is a child, one student is a scientist, etc. Or choose more abstract roles e.g. one student is the sea, one student is an animal, one student is the earth.</p> </div> <p>2. Give students 3 minutes to prepare ideas alone. Help with any individual vocabulary needs.</p> <p>3. Give students 8 minutes to discuss opinions together.</p> <p>4. Elicit group conclusions from the group captain as they finish.</p>
To generate interest in key lecture topics	2 min	<p>1. Students complete activity 2a. Check any unknown vocabulary either before or after the activity, as suited to your students needs.</p>
To focus on key verbs and nouns in the lecture	2 min	<p>1. Students complete activity 2b alone.</p> <p>2. Elicit answers and spelling onto board.</p> <div> <p>Answers for activity 2b</p> <p>1. monitor 2. compose 3. acidify 4. develop 5. produce 6. manufacture.</p> </div>
To practise discussing opinions	5 min	<p>1. Students complete activity 2c</p> <div> <p>Considerations when adapting activity 2c</p> <p>a) all of the research areas affect your life – some <i>directly</i>, some <i>indirectly</i>. b) some research areas affect your <i>everyday life</i> or your <i>quality of life</i> or <i>convenience</i></p> </div> <p>2. In feedback sessions, focus language corrections on the language of activity 2a and 2b.</p>
To generate interest in the lecture topics	15 min	<p>1. Students complete activity 2d</p> <div> <p>Possible adaptations of activity 2d</p> <p>Adaptation 1: ask students to write 5 interesting facts they learned from their research, to teach other students on their table next lesson.</p> <p>Adaptation 2: after research, debate which area deserves the money from a research grant.</p> </div>