UNIVERSITY OF LEEDS

Discovering Science: Atmospheric Chemistry

Lesson plan

<table>
<tr><th>Starter activity</th><th>Learning objectives</th></tr>
<tr><td>Students brainstorm and list everything they know about:

• global warming
• stratosphere
• greenhouse gases
• the ozone layer.</td><td>• To define key terms in atmospheric chemistry.

• To explain the role that greenhouse gases play in atmospheric chemistry.

• To explore how chemistry may be able to address issues of global warming.</td></tr>
<tr><th>Main activities</th><th>Resources required</th></tr>
<tr><td rowspan="5">The class watches the video in Step 1.3 (The role of chemistry in climate change) and students take notes. Ask questions to check understanding, including:

• What is the role of the hydroxyl radical?
• What is ozone?

Put students into small groups, and hand out the exercise from Step 1.4 (Radiation and greenhouse gases exercise). In their groups, students use the internet to research and answer the exercise questions. Hand out the educator’s feedback for the exercise, and ask groups to self-assess their answers.

Still in their groups, ask students to discuss the following question and note down their answers. They can conduct more research if they wish.

• Do you think chemistry will be able to solve the problem of global warming? If so, how?</td><td>1. Device for watching video.
2. Exercise from Step 1.4.
3. Devices to conduct research.
4. Materials to collect ideas and answers.</td></tr>
<tr><th>Assessment for Learning</th></tr>
<tr><td>Discussion contributions, exercise answers and feedback.</td></tr>
<tr><th>Differentiation</th></tr>
<tr><td>SEND: Videos have subtitles, teacher support.
Low ability: Peer-learning.
Gifted and Talented: Peer-teaching.</td></tr>
<tr><th>Plenary</th></tr>
<tr><td>Share and discuss the group answers to the question as a class. Collect a list of thoughts and ideas on the board.</td></tr>
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