## National Curriculum links

## **KS3 Science:** Working scientifically: Scientific attitudes (paying attention to objectivity and concern for accuracy, precision, repeatability and reproducibility, publishing results and peer review) & Experiment skills and investigations (ask questions and develop a line of enquiry based on observations of the real world)

## **KS4 AQA:** Chemistry should be studied in ways that help students to develop curiosity about the natural world, insight into how science works, and appreciation of its relevance to their everyday lives.

## **KS4 OCR:** Chemistry: Applications of chemistry can be used to help humans improve their own lives and strive to create a sustainable world for future generations, and these challenges are considered in several topics.

## **KS4 Edexcel:** Working scientifically: development of scientific thinking 1c, d, e, f.

## Lesson Aim

## To evaluate reliability of news stories about air quality

## Lesson objectives

Students will learn:

## To apply questions to reported research in the media

## To reflect on reliability of news stories

## To compare the reliability of different stories

## Key vocabulary

Evaluation, reliability, SMURF, CASES, researching, research, findings, relevant, verifiable, unbiased, accurate, honest

## Resources required

## PowerPoint Presentation, news stories (1-5) enough for 1 between 2, behind the headlines questions (SMURF/CASES)

## Differentiation / expectations

|  |  |
| --- | --- |
| **Most pupils will**  | **Some pupils will** |
| Use the SMURF and CASES method to identify reliability and accuracy of news stories  | Justify their reasons in full detail |
| Recreate headlines using their understanding of the method used |  |

## Introduction

In this lesson students will apply questions to reporting research in the media that relate to the research about air quality itself. They will look at research using the acronym SMURF (Sample, Measures, Unbiased Research, Funding) and how it is presented – CASES (Contradictory or supporting evidence, Accuracy, Sources, Exaggeration, Selective).

## Group / Class activity

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| **Timings** |  **Activities** | **Notes / resources** |
| 5 minutes  | **Slides 1-2**Introduction to learning objectives and outcomes of the session |  |
| 5 minutes  | **Slides 3-4**Looking at how research is reported in the media - Pairs/small groups discuss ‘What is research?’ Lead discussion about ideas of what research is from the groups Research is… **Slide 5**Discuss the role of social media – as a filter for other links |  |
| 5 minutes  | **Slide 7**Discuss in pairs/small groups:‘What is a ‘headline’?’ ‘What does it look like?’ Headlines – eye catching, bold, key points, short |  |
| 10 minutes | **Slides 8-10**Example – ‘Psychotic episodes including hallucinations and paranoia linked to air pollution in ground breaking UK study’ Ask ‘How do you feel when you read this headline?* Obtain a few responses

‘What questions should you ask about this headline?’ - Pairs/small groups. Allow a few minutes for discussionThen ask ‘Are your questions about the research or how it is presented or reported?’ (slide 10)Allow a few minutes to answer this and think of any more questions under the two headingsCollect the questions under the two headings- Questions about the research- Questions about how the research is presented | News Story 1 – The Independent  |
|  | **Slide 11** ‘Questions about how the research was done‘ SMURF Sample, Measures, Unbiased Research, Funding Discuss what each question means  |  |
|  | **Slide 12**‘Questions about how the research is presented or reported’ CASES Contradictory or supporting evidence, Accuracy, Sources, Exaggeration, Selective Discuss what each question means  |  |
| 10 minutes | **Slides 13 -15**Immediate reaction to the headline *‘Air pollution linked to dementia London study suggests’* How do you feel when you read this headline? What questions would you ask about this headline? Give out handout of the article and the handout with the questions (SMURF and CASES) NOW rewrite the headline Compare headlines from different groups  | SMURF and CASES handout sheetStory 2 – BBC News  |
| 10 minutes | **Slide 16**Give out a range of headlines provided (headlines 3-5)What questions would you ask about this headline? Use the handout with the questions – with the whole article NOW rewrite the headline Compare headlines from different groups  | Story 3 – BBC News Story 4 – The SunStory 5 – The Independent  |
| 5 minutes  | Slide 17Review What have you learned about Research? What have you learned about communicating Research?  |  |

## Extension/homework

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| --- | --- |
|  **Activities** | **Notes / resources** |
| Find a similar heading about air quality (can easily be found using a search engine and typing keywords such as ‘air quality headline’ or a more recent headline can be provided. Students to apply the same technique as described in the lesson.  | Additional news stories may need to be provided for this activity  |