**Task 44 – Decreasing CO2 levels**

**Information about the task**

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| **Question** | **Level of difficulty** | **National curriculum mathematical context** | **Text type** | **Question types** |
| 44. Decreasing CO2 levels | Trial:High (Q44.1)High (Q44.2)High (Q44.3) | Patterns and relationships, understand and use number and notation, calculate in a variety of ways, handling data, analyse and interpret data. | Longer length continuous text with bar chart and mathematical data incorporated for interpretation. | Longer length answers – calculation with workings and open ended written response to justify opinions. |

**Skills assessed by the task**

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| **Thinking skills** | **Literacy & communication skills** |
| **Plan*** Asking questions
* Activating prior skills, knowledge and understanding
* Gathering information
* Determining the process/method and strategy
* Determining success criteria

**Develop** * Valuing errors and unexpected outcomes
* Thinking logically and seeking patterns
* Considering evidence, information and ideas

**Reflect*** Reviewing outcomes and success criteria
* Reviewing the process/method
* Evaluate own learning and thinking
* Linking and lateral thinking
 | **Reading*** Locating, selecting and using information using reading strategies
* Responding to what has been read

**Writing*** Organising ideas and information
* Writing accurately

**Wider communication skills*** Communicating information
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| **Numeracy Skills** |
| **Using mathematical information*** Using numbers
* Gathering information

**Calculate*** Using the number system
* Using a variety of methods

**Interpret & present findings*** Comparing data
* Recording and interpreting data and presenting findings
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**Scoring**

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| DECREASING co2 LEVELS SCORING 44.1Full credit: Correct subtraction, and correct calculation of percentage.Partial credit: Subtraction error and percentage calculation correct, or subtraction correct but dividing by 6727.No credit: Other responses, including just ‘Yes’ or ‘No’, and missing.To answer the question correctly students have to draw on skills from the connections competency cluster. |
| DECREASING CO2 LEVELS SCORING 44.2Full credit: No, with correct argumentation.*•* No, other countries from the EU can have increases e.g. the Netherlands so the total decrease in the EU can be smaller than the decrease in Germany.No credit: Other responses and missing.To answer the question correctly students have to draw on skills from the connections competency cluster. |
| DECREASING CO2 LEVELS SCORING 44.3Full credit: Response identifies both mathematical approaches (the largest absolute increase and the largest relative increase), and names the USA and Australia.*•* USA has the largest increase in millions of tons, and Australia has the largest increase in percentage.Partial credit: Response identifies or refers to both the largest absolute increase and the largest relative increase, but the countries are not identified, or the wrong countries are named.*•* Russia had the biggest increase in the amount of CO2 (1078 tons), but Australia had the biggest percentage increase (15%).No credit: Other responses and missing.To answer the question correctly students have to draw on skills from the reflection competency cluster. |