

Reasoning and Problem Solving

Step 7: Temperature

National Curriculum Objectives:

Mathematics Year 2: (2M2) [Choose and use appropriate standard units to estimate and measure length/height in any direction \(m/cm\); mass \(kg/g\); temperature \(°C\); capacity \(litres/ml\) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels](#)

Differentiation:

Questions 1, 4 and 7 (Reasoning)

Developing Explain why the answer is correct or incorrect reading scales with increments of 1s and 10s. All increments marked and all temperatures fall directly on the marked increments.

Expected Explain why the answer is correct or incorrect reading scales with increments of 2, 5 and 10. Most increments marked and some temperatures fall between marked increments.

Greater Depth Explain why the answer is correct or incorrect reading scales with increments of 2, 5 and 10. Some increments marked and most temperatures fall between marked increments.

Questions 2, 5 and 8 (Reasoning)

Developing Explain which thermometer is the odd one out. Involves counting in 1s and 10s. All increments marked and all temperatures fall directly on the marked increments.

Expected Explain which thermometer is the odd one out. Involves counting in 2s, 5s and 10s. Most increments marked and some temperatures fall between marked increments.

Greater Depth Explain which thermometer is the odd one out. Involves counting in 2s, 5s and 10s. Some increments marked and most temperatures fall between marked increments.

Questions 3, 6 and 9 (Problem Solving)

Developing Use clues to investigate which temperature could be being described. All increments marked and all temperatures fall directly on the marked increments.

Expected Use clues to investigate which temperature could be being described. Involves increments of 2, 5 and 10. Most increments marked and some temperatures fall between marked increments.

Greater Depth Use clues to investigate which temperature could be being described. Involves increments of 2, 5 and 10. Some increments marked and most temperatures fall between marked increments.

More [Year 2 Mass and Capacity](#) resources.

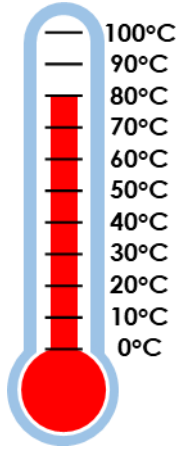
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Temperature

1a. Carter is reading the temperature outside. He says,



It is 8°C.



Is he correct?
Explain why.



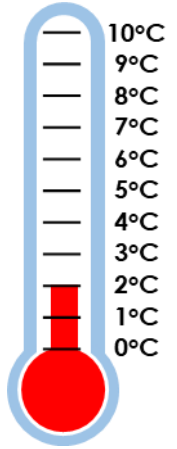
R

Temperature

1b. Evelyn is reading the temperature outside. She says,



It is 2°C.

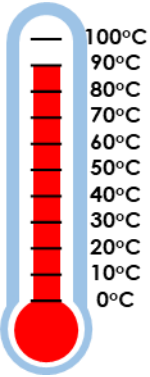


Is she correct?
Explain why.

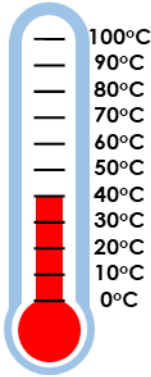


R

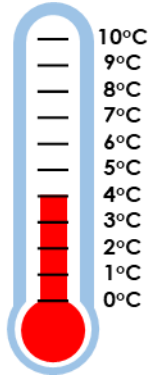
2a. Which thermometer is the odd one out? Explain why.



A



B

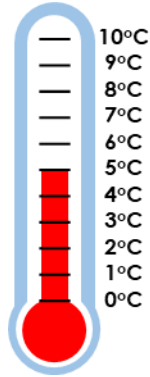


C

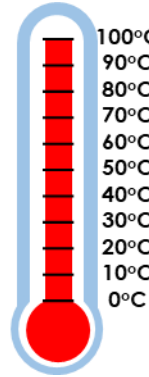


R

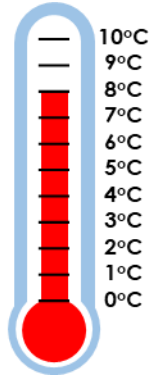
2b. Which thermometer is the odd one out? Explain why.



A



B



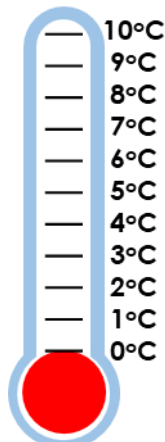
C



R

3a. Gabriel is describing a temperature. Draw on the thermometer, one possibility of what the temperature could be.

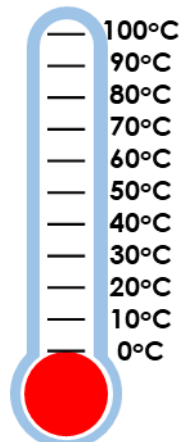
This temperature is an odd number which is higher than 3°C.



PS

3b. Camilla is describing a temperature. Draw on the thermometer, one possibility of what the temperature could be.

This temperature is a multiple of ten which is between 20°C and 70°C.



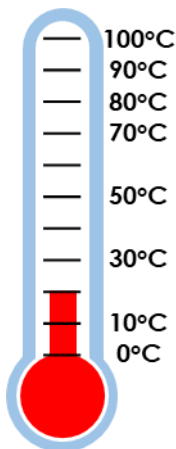
PS

Temperature

4a. Lewis is reading the temperature outside. He says,



It is 10°C.



Is he correct?
Explain why.



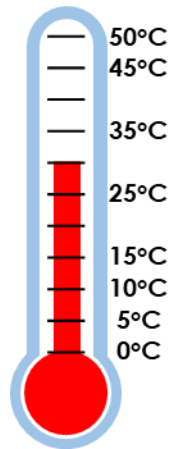
R

Temperature

4b. Rose is reading the temperature outside. She says,



It is 30°C.

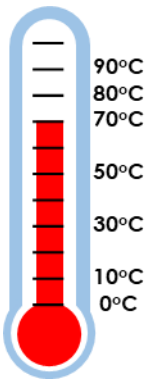


Is she correct?
Explain why.

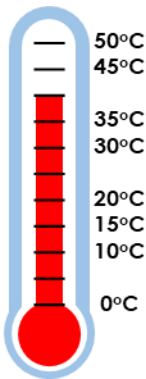


R

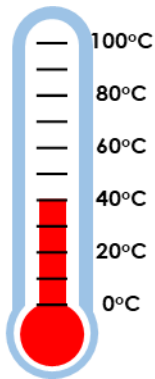
5a. Which thermometer is the odd one out? Explain why.



A



B

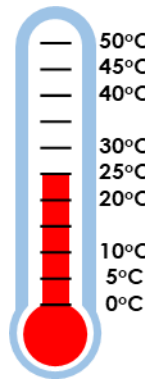


C

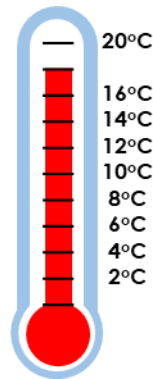


R

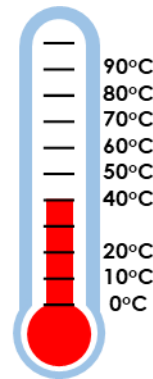
5b. Which thermometer is the odd one out? Explain why.



A



B



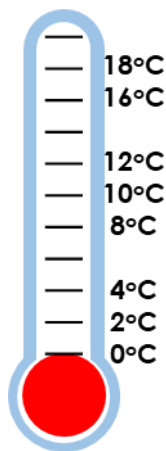
C



R

6a. Mason is describing a temperature. Draw on the thermometer, one possibility of what the temperature could be.

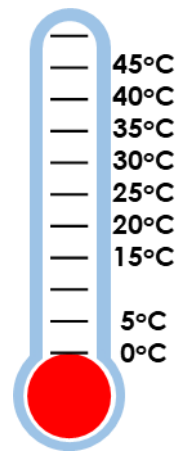
This temperature is an even number which is higher than 11°C.



PS

6b. Isabella is describing a temperature. Draw on the thermometer, one possibility of what the temperature could be.

This temperature is a 2-digit number which is in the 10 x table.



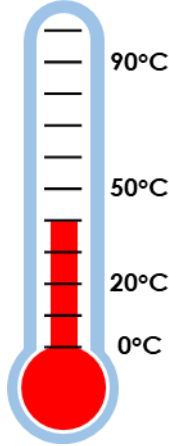
PS

Temperature

7a. Owen is reading the temperature outside. He says,



It is 40°C.



Is he correct?
Explain why.



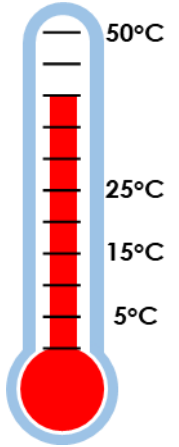
R

Temperature

7b. Hazel is reading the temperature outside. She says,



It is 35°C.

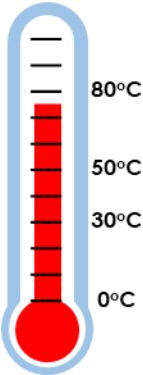


Is she correct?
Explain why.

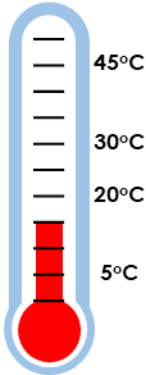


R

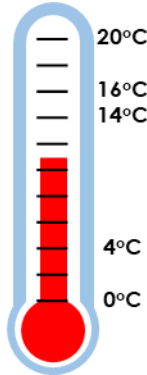
8a. Which thermometer is the odd one out? Explain why.



A



B

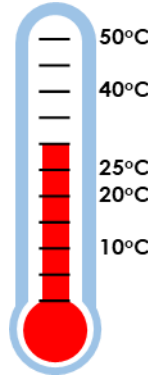


C

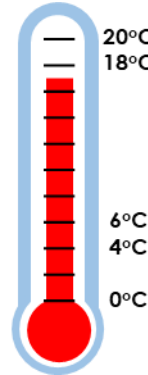


R

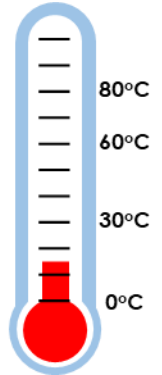
8b. Which thermometer is the odd one out? Explain why.



A



B



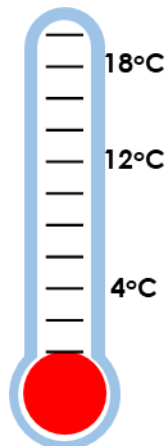
C



R

9a. Jaxon is describing a temperature. Draw on the thermometer, one possibility of what the temperature could be.

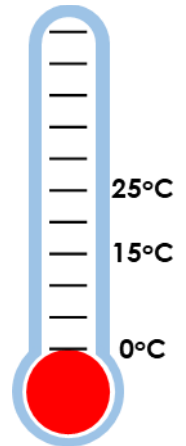
This temperature has 2 digits.
When you add the digits together, the total is a multiple of 2.



PS

9b. Aaliyah is describing a temperature. Draw on the thermometer, one possibility of what the temperature could be.

This temperature is greater than double 10°C but less than half of 80°C.



PS

Reasoning and Problem Solving Temperature

Developing

- 1a. Carter is incorrect because the thermometer is going up in increments of 10°C so the temperature is 80°C .
- 2a. Various possible answers, for example: C because it is the only temperature that has 1 digit. A could also be the odd one out because it is the only temperature which does not use the digit '4'.
- 3a. Various possible answers. Gabriel could be describing 5°C , 7°C or 9°C .

Expected

- 4a. Lewis is incorrect because the thermometer is going up in increments of 10°C so the temperature is 20°C .
- 5a. Various possible answers, for example: B could be the odd one out because it goes up in increments of 5°C . A could also be the odd one out because it shows a temperature of 70°C whereas B and C both show 40°C .
- 6a. Various possible answers. Mason could be describing: 12°C , 14°C , 16°C , 18°C and 20°C .

Greater Depth

- 7a. Owen is correct because the thermometer is going up in increments of 10°C so the temperature is 40°C .
- 8a. Various possible answers, for example: C because it is the only temperature which is not a multiple of 5. B could also be the odd one out because it is the only temperature that falls directly on a marked increment.
- 9a. Various possible answers. Jaxon could be describing: 11°C , 13°C , 15°C , 17°C or 20°C .

Reasoning and Problem Solving Temperature

Developing

- 1b. Evelyn is correct because the thermometer is going up in increments of 1°C so the temperature is 2°C .
- 2b. Various possible answers, for example: A because it is the only odd temperature. B could also be the odd one out because it is the only temperature that has 3 digits.
- 3b. Various possible answers. Camilla could be describing 30°C , 40°C , 50°C or 60°C .

Expected

- 4b. Rose is correct because the thermometer is going up in increments of 5°C so the temperature is 30°C .
- 5b. Various possible answers, for example: A because it is the only thermometer which shows an odd temperature. B could also be the odd one out because it is the only thermometer that has two missing labels.
- 6b. Various possible answers. Isabella could be describing: 10°C , 20°C , 30°C , 40°C and 50°C .

Greater Depth

- 7b. Hazel is incorrect because the thermometer is going up in increments of 5°C so the temperature is 40°C .
- 8b. Various possible answers, for example: A because it is the only even temperature. C could also be the odd one out because it is the only thermometer that has four labelled measurements on its scale.
- 9b. Various possible answers. Aaliyah could be describing: 25°C , 30°C or 35°C .