

AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES SCHOOLS ENRICHMENT CENTRE TEACHER NETWORK



SOLUTION



Ice	Water in	Temperature in	Normal temperature	Boiling water	The sun
	swimming pool	shade on a hot	of human body		
		summer day			
			37°C	100°C	15 million ^o C
0°	27°C	30°C	36.5°C to 37.5°C		
				Changes with	This is an
Fixed	Usually varies	In northern Europe	Hyperthermia <35°C	altitude due to	estimate and
	from 25°- 28°C	25°C is considered	Fever 37.5° to 38.5° C	lower air pressure.	scientific
		hot. In equatorial		96° at 1000 metres	opinion differs
		regions 40°C or		93° at 2000 metres	about it.
		more.		90° at 3000 metres	
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NOTES FOR TEACHERS

Diagnostic Assessment This should take about 5–10 minutes.

- 1. Write the question on the board, say to the class:
- "Put up 1 finger if you think the answer is A, 2 fingers for B, 3 fingers for C and 4 fingers for D".
- **2.** Notice how the learners responded. Ask a learner who gave answer A to explain why he or she gave that answer and DO NOT say whether it is right or wrong but simply thank the learner for giving the answer.
- 3. Then do the same for answers B, C and D. Try to make sure that learners listen to these reasons and try to decide if their own answer was right or wrong.
- 4. Ask the class again to vote for the right answer by putting up 1, 2, 3 or 4 fingers. Notice if there is a change and who gave right and wrong answers. It is important for learners to explain the reason for their answer otherwise many learners will just make a guess.
- 5. If the concept is needed for the lesson to follow, explain the right answer or give a remedial task.



Why do this activity?

This activity can help learners to make sensible estimates of the temperatures that they experience in their environment and to be alert to the reasonableness of measurements of temperature and results from readings.

Intended learning outcomes

Development of knowledge and understanding of the centigrade scale of measurement of temperature.

Possible approach

It is unlikely that learners will know these measurements but the activity of putting the measurements in order from smallest to greatest will help them to use their past experience and knowledge and this can be used by the teacher as a basis for a class discussion. Learners can be asked to make suggestions as some learners may know the temperatures of ice and boiling water from science lessons or they may know the normal temperature of a human body from experience of illness in their home.

Comparison of what learners consider a hot summer day in their own part of the world with what people in other regions might think can lead to multidisciplinary work on geography and climate.

You may like to show learners how to read a scale on a thermometer. They could measure the temperature of ice, boiling water, water from the hot and cold taps, a cup of tea at a temperature comfortable to drink etc.

Key questions

Do you think people in different parts of the world think the same about a hot day? Why is it important to know the normal temperature of the human body? Why do you feel cold when you get into a swimming pool or into the sea? Where does all the heat come from?

Possible extension

If appropriate you might introduce discussion about settings for central heating and air conditioning. For example a setting of 25°C (about 78°F) is usual for central heating and many people set their air conditioning in their home or car much lower than this (for example as low as 22°C (78°F). Making a higher setting for air conditioning in summer and a lower setting for central heating in winter saves energy and money.

Note: The Grades or School Years specified on the AIMING HIGH Website correspond to Grades 4 to 12 in South Africa and the USA, to Years 4 to 12 in the UK and up to Secondary 5 in East Africa.

Note: The mathematics taught in Year 13 (UK) and Secondary 6 (East Africa) is not included in the school curriculum for Grade 12 SA.							
	Lower Primary	Upper Primary	Lower Secondary	Upper Secondary			
	or Foundation Phase						
	Age 5 to 9	Age 9 to 11	Age 11 to 14	Age 15+			
South Africa	Grades R and 1 to 3	Grades 4 to 6	Grades 7 to 9	Grades 10 to 12			
USA	Kindergarten and G1 to 3	Grades 4 to 6	Grades 7 to 9	Grades 10 to 12			
UK	Reception and Years 1 to 3	Years 4 to 6	Years 7 to 9	Years 10 to 13			
East Africa	Nursery and Primary 1 to 3	Primary 4 to 6	Secondary 1 to 3	Secondary 4 to 6			