

Trend Task

Finger Games

Approach: One to one

Level: Year 8

Focus: Students interpreted how their finger responds to heat and cold, and relate this to the use of a thermometer for more objective data.

Resources: 4 cups labelled A, B, C and D, cold water and hot water, thermometer.

Questions/instructions:

Before the session starts you will need have boiled the water and put it in the thermal mug.

Before the student arrives: Arrange the four labelled cups in order A, B, C, D. The water in each cup to be of differing temperatures like this:

Cup C coolest water
Cup A 2nd coolest
Cup D 3rd coolest
Cup B warmest

In this activity you are going to test water temperatures in two different ways.

1. Here are four cups of water.

First I want you to test the water temperature with your fingers, using the same finger each time.

Now put the cups in order from coolest to warmest.

Fill in the results sheet for question 1.

Write the letter from the cup.

1. Water tested with my finger	Coollest cup letter	2nd cup letter	3rd cup letter	Warmest cup letter
2. Water tested with a thermometer	thermometer reading for this cup	thermometer reading for this cup	thermometer reading for this cup	thermometer reading for this cup

Allow student to do this.

correct order

2. Now check the temperature with the thermometer. Write down the thermometer measurements on the results sheet. not marked

3. Which is the better way of testing water temperature?

thermometer better

Can you explain to me why you think that is the better way.

clear, appropriate explanation

4. Now think about your finger.

How is it able to tell the water is hot or cold? not marked

% responses
1999 ('95) 1999 ('95)
year 8

5. On the results sheet the parts that make up your finger are listed. Tick the parts that help your finger to feel the heat or the cold.

Which of these parts of my finger affect how my finger feels heat and cold?

- bone 7 (9)
- nerves 88 (80)
- skin 79 (77)
- muscle 30 (23)
- blood 60 (61)
- finger nails 9 (10)

6. Can you tell me how these parts of your finger work so that your body feels heat and cold?

good explanation of role of nerves

36 (27)

good explanation of other components

14 (9)

Check temperatures and record on student sheet.

% responses
1999 ('95) 1999 ('95)
year 8

82 (82)

87 (91)

56 (69)

Commentary:

Performance on this task was similar in 1995 and 1999. Understanding of the role of nerves in sensing temperature was quite limited.