

Trend task

Physical World Questions

Approach: Independent

Level: Year 4 and year 8

Focus: Student knowledge in areas covered by these multiple choice questions.

Resources: None

Questions/instructions:

1. A litre of water at a temperature of 30°C is mixed with a litre of water at 50°C. The temperature of the water just after mixing will be **about**

- a. 20°C
- b. 30°C
- c. 40°C ✓
- d. 50°C
- e. 80°C

% responses	
1999 ('95) year 4	1999 ('95) year 8
4 (5)	9 (8)
3 (4)	3 (2)
11 (14)	20 (21)
6 (7)	6 (7)
76 (70)	62 (62)

2. Which makes its own light?

- a. a burning fire ✓
- b. a red reflector on a bike
- c. a glass window
- d. the moon

31 (29)	-
14 (15)	-
6 (5)	-
49 (51)	-

3. Blowing or fanning can make a wood fire burn hotter because it

- a. makes the wood hot enough to burn.
- b. adds more oxygen needed for burning. ✓
- c. gets rid of the smoke more quickly.
- d. provides the energy to keep the fire going.

% responses	
1999 ('95) year 4	1999 ('95) year 8
21 (18)	3 (4)
39 (38)	80 (80)
12 (10)	5 (3)
28 (34)	12 (13)

Commentary:

For reasons of economy, a material world question (question 3) has been included here. Results for 1995 students and 1999 students are almost identical. The results for question one are quite remarkable, suggesting that students responded without much thought. Other evidence (see page 30) indicates that they do not really believe warm water mixes with quite hot water to produce very hot water. The responses to question two are also disturbing.