

Appendix 7

Change detectives equipment list

EQUIPMENT ITEM	QUANTITIES	LESSON	1	2	2	2	3	3	4	5	6	7
		SESSION		1	2	3	1	2				
Equipment and materials												
balloons	4 per team							•				
candles, identical	3 per class								•			
chocolate button, melted	1 per team			•								
chocolate button, non-melted	1 per class			•								
containers, transparent glass or plastic												
– 100 ml container	1 per team						•					
– 200 ml container	1 per team						•					
cups, plastic	3 per team										•	
equipment to investigate melting an ice cube (towel, aluminium foil, glass of hot water)	1 collection per team			•								
foil tray	1 per class								•			
frozen milk cube, in container	1 per team			•								
funnel	1 per team							•				
heating equipment (eg, electric hot plate, fry pan, stove)	1 per class					•						
ice cubes, 3 in containers	1 set per team			•								
ice pole, frozen in a clear wrapper	1 per class				•							
ice pole, melted in a clear wrapper	1 per class				•							
jars												
– glass (eg, 200 ml jar)	1 per class								•			
– different sizes (eg, 100 ml, 250 ml and 500 ml)	4 per team								•			
labelling pen	1 per team							•				

EQUIPMENT ITEM	QUANTITIES	LESSON	1	2	2	2	3	3	4	5	6	7
		SESSION		1	2	3	1	2				
Equipment and materials (continued)												
marbles or small beads	1 tray per team				•							
adhesive tape	1 per team							•				
matches	1 per class and 1 per team								•			
measure, cup	1 per team							•				
measure, half cup	1 per team										•	
measuring jug, 300 ml	1 per class						•				•	
measuring spoons	1 set per team											
– ½ teaspoon	1 per team						•					
– 1 teaspoon	1 per team							•				
‘Mess scene’ equipment	1 collection per class		•									
– burning candle			•									
– burnt chocolate			•									
– frozen milk in the carton			•									
– glass full of bubbles from bicarbonate and tartaric acid reacting together in water, with a packet of sodium bicarbonate and tartaric acid next to it			•									
– glass with a fizzing tablet (eg, antacid tablets)			•									
– ice poles melted in their clear wrappers			•									
– melted chocolate			•									
– open salt container fallen in a bucket of water			•									
– perfume bottle tipped over (or vinegar if students have allergies)			•									
milk, 1 glass	1 per class			•								
paper, A3 sheet or butcher’s	1 per team									•		
paper towel	4 pieces per team							•				

EQUIPMENT ITEM	QUANTITIES	LESSON	1	2	2	2	3	3	4	5	6	7
		SESSION		1	2	3	1	2				
Equipment and materials (continued)												
perfume, vinegar or essence, small bottle	1 per class					•						
plastic sheet (eg, overhead transparency)	1 per class					•						
props for particle representations (eg, marbles or small beads)	1 set per team				•							
rope, 1 length	1 per team				•							
salt	3 tablespoons per team						•					
sodium bicarbonate	6 teaspoons per team							•				
spoon	1 per team										•	
straw	1 per class					•						
tablet, fizzy	1 per class and 3 per team										•	
tartaric acid	6 teaspoons per team							•				
tea-light candle	1 per class and 4 per team								•			
timing device (eg, stopwatch or watch with a second hand)	1 per team			•					•		•	
transparent bottles, all the same size (350–400 ml approximately)	4 per team							•				
water												
– 10 ml	1 per team					•						
– 1 glass	1 per class					•					•	
– 300 ml	1 per team						•					
– 3 cups, non-acidic	1 per team							•				
– hot, enough to fill a plastic cup	1 quantity per team										•	
– ice-cold, enough to fill a plastic cup	1 quantity per team										•	
– room temperature, enough to fill a plastic cup	1 quantity per team										•	
wax, on a metal skewer	1 per class								•			
wick, 1 length	1 per class								•			
transparent containers, 200 ml or more	2 per team						•					

EQUIPMENT ITEM	QUANTITIES	LESSON	1	2	2	2	3	3	4	5	6	7
		SESSION		1	2	3	1	2				
Resource sheets												
'PROE record: Purely physical' (RS1), enlarged	1 per class			•								
'PROE record: Purely physical' (RS1), enlarged	1 per student			•								
'Salt dissolving table' (RS2), enlarged	1 per class						•					
'Salt dissolving table' (RS2)	1 per team						•					
'Fizzing investigation' (RS3), enlarged	1 per class							•				
'Fizzing investigation' (RS3)	1 per team							•				
'Changes card sort' (RS4), enlarged	1 per class									•		
'Changes card sort' (RS4)	1 per team									•		
'Tablet investigation planner' (RS5), enlarged	1 per class										•	
'Tablet investigation planner' (RS5), A4 or A3 sized	1 per student										•	
Teaching Tools												
class science journal	1 per class		•	•	•	•	•	•	•	•	•	•
cooperative learning wristbands	1 set per team		•	•		•	•	•	•	•	•	
cooperative learning team roles chart	1 per class											
cooperative learning team skills chart	1 per class											
student science journal	1 per student		•	•	•	•	•	•	•	•	•	•
word wall	1 per class		•	•	•	•	•	•	•	•	•	•
Multimedia												
digital camera <i>optional</i>	1 per class		•					•				