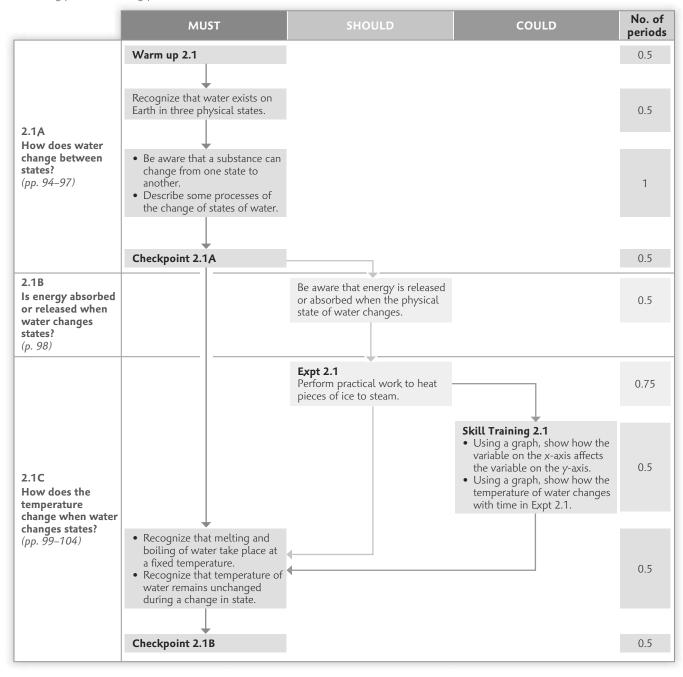
Chapter 2 Water

MUST – for ALL students SHOULD – for students of AVERAGE capability COULD – for students of HIGH capability

2.1 Water exists in three states (pp. 94-104)

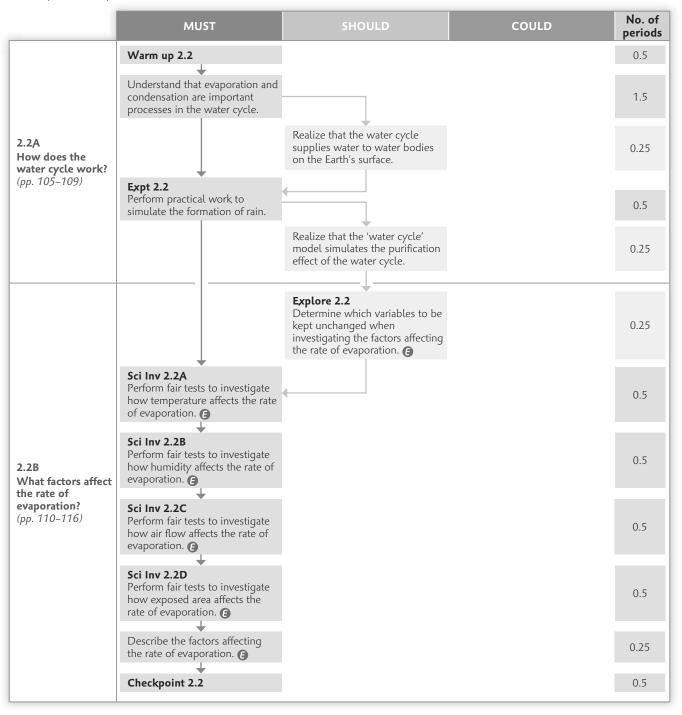
- Three states of water, and their properties
- Changes between states of water
- Melting point and boiling point of water



2.2 The water cycle (pp. 105-116)

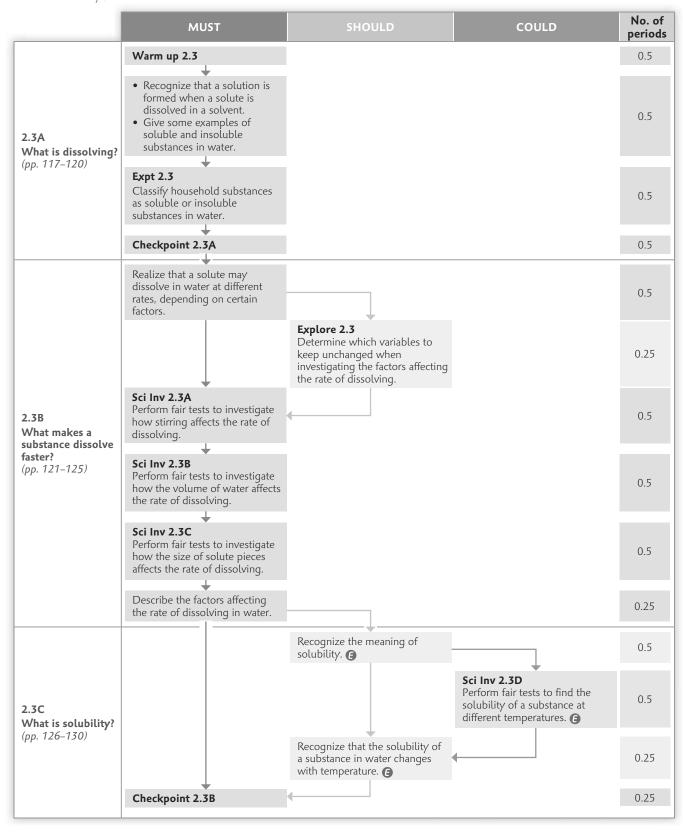
(Factors affecting the rate of evaporation are NOT introduced in the Primary curriculum. Ss may have vague ideas from personal experience, but these ideas have to be tested scientifically.)

- Basic concepts of the water cycle
- Rainwater is a major source of fresh water.
- Most plants take up water.



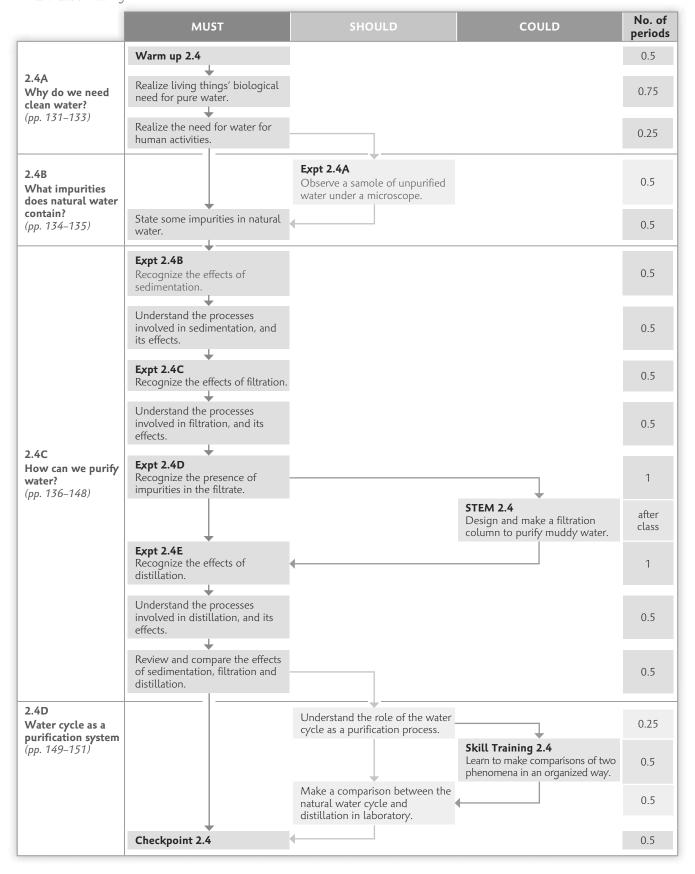
2.3 Dissolving and solubility (pp. 117-130)

(From personal experience, Ss may have a vague idea that different substances have different solubility in water, but this idea has to be tested scientifically.)



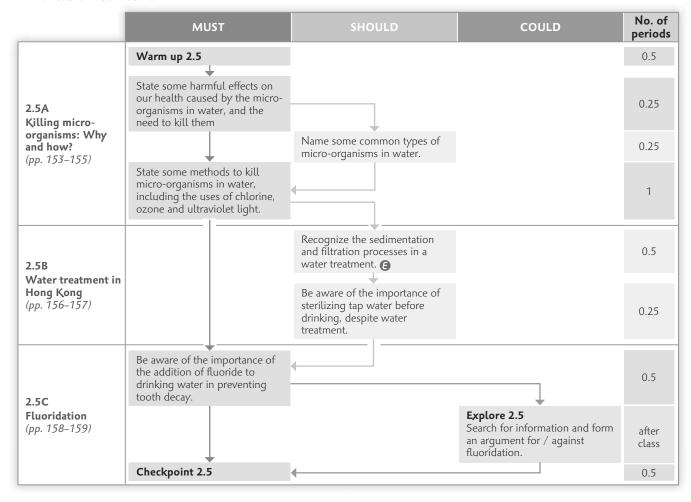
2.4 Water purification (pp. 131-151)

- Biological importance of water to the human body
- Importance of water for human activities
- Basic idea of filtering



2.5 Further treatment of drinking water (pp. 152-159)

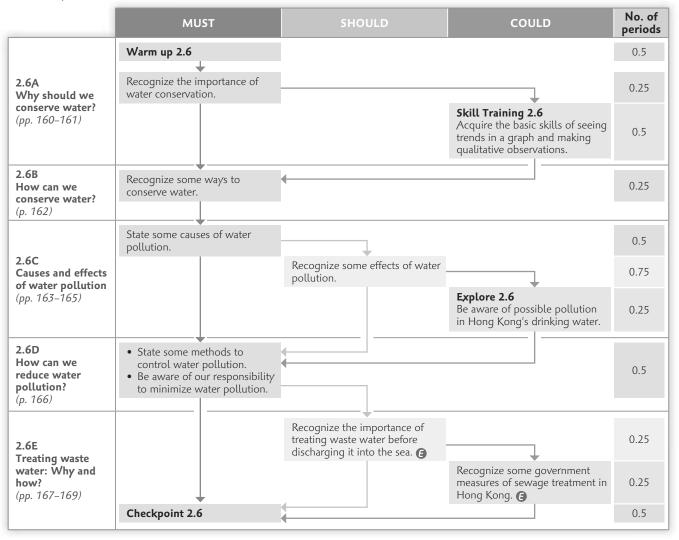
- Two major sources of Hong Kong' water: reservoirs and the Dongjiang
- The need for water treatment



2.6 Water conservation and pollution (pp. 160-169)

Background knowledge learnt in primary school:

• Some ways of water conservation

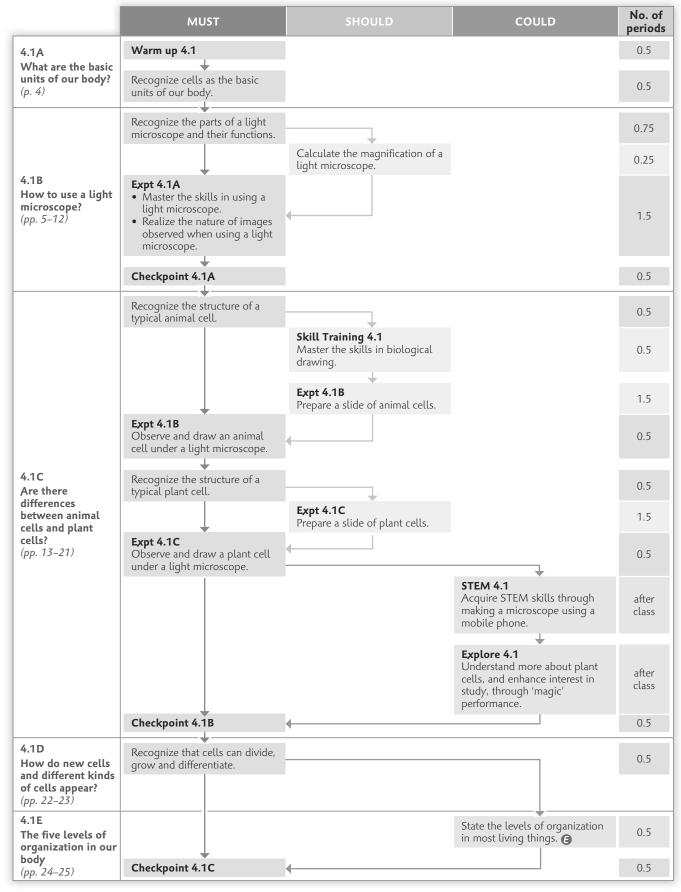


Chapter 4 Cells, Human Reproduction and Heredity

MUST – for ALL students
SHOULD – for students of AVERAGE capability
COULD – for students of HIGH capability

4.1 Cells - the basic units of our body (pp. 2-25)

(Cells were NOT introduced in the primary curriculum. Ss may have heard about them, but may not have clear ideas.)

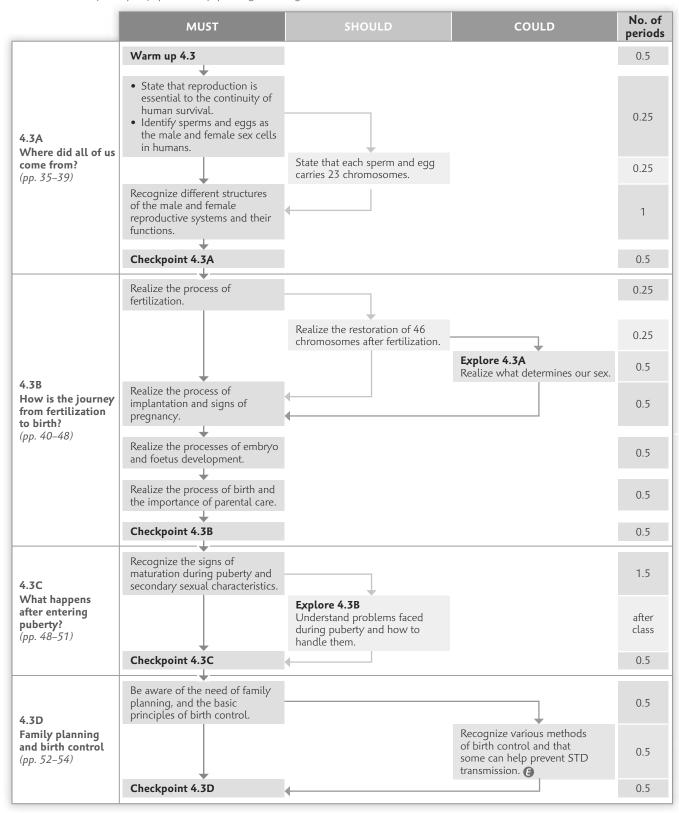


4.2 DNA – the book of our life (pp. 26–34)(DNA and chromosomes were NOT introduced in the primary curriculum. Ss may have heard about them, but may not have clear ideas.)

	MUST	SHO	ULD	COULD	No. of periods
4.2A What is DNA? (pp. 26–30)	Warm up 4.1				0.5
	 Recognize that DNA contains information that determines our body structure and functions. Recognize that DNA is present inside the nucleus, and can coil to form chromosomes. 				1
		chromosomes cell. • Recognize that	t male and ls have different		0.5
				Explore 4.2A Have an experience in extracting DNA from fruits.	1
4.2B How does DNA carry information? (pp. 31–34)				 State the four kinds of bases on DNA and their pairing on the double helix structure of DNA. Recognize that the instructions encoded in DNA depend on the base sequences. 	1
				Explore 4.2B Simulate how the base sequences of DNA carry information.	0.5
	Checkpoint 4.2				0.5

4.3 Human reproduction (pp. 35-54)

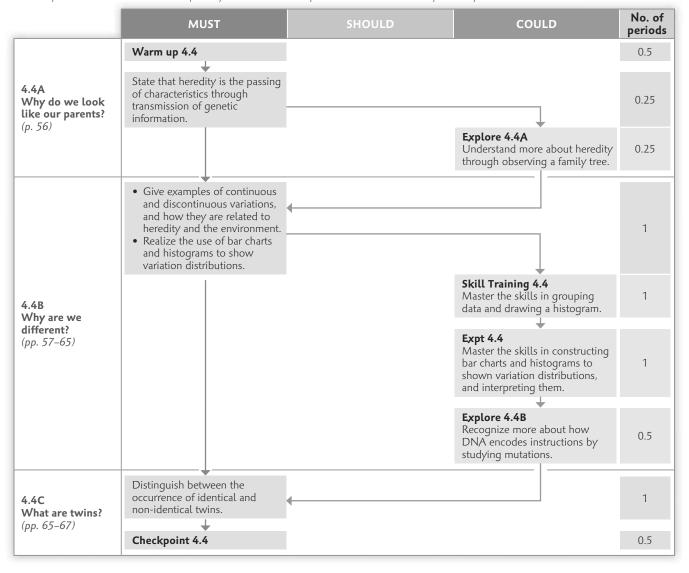
- Basic structures of male and female reproductive systems
- Puberty sexual maturation; secondary sexual characteristics; wet dreams and menstrual cycle
- How to face puberty physical and psychological changes, variations between individuals, reactions towards sex



4.4 Heredity and variation (pp. 55-67)

Background knowledge learnt in primary school:

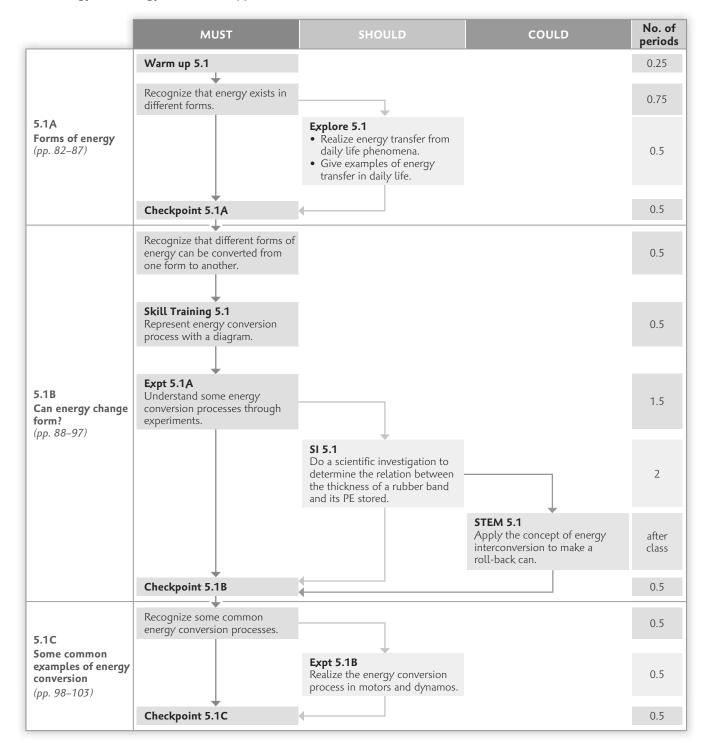
(Heredity was NOT introduced in the primary curriculum. Ss may have heard about heredity but may not have clear ideas.)



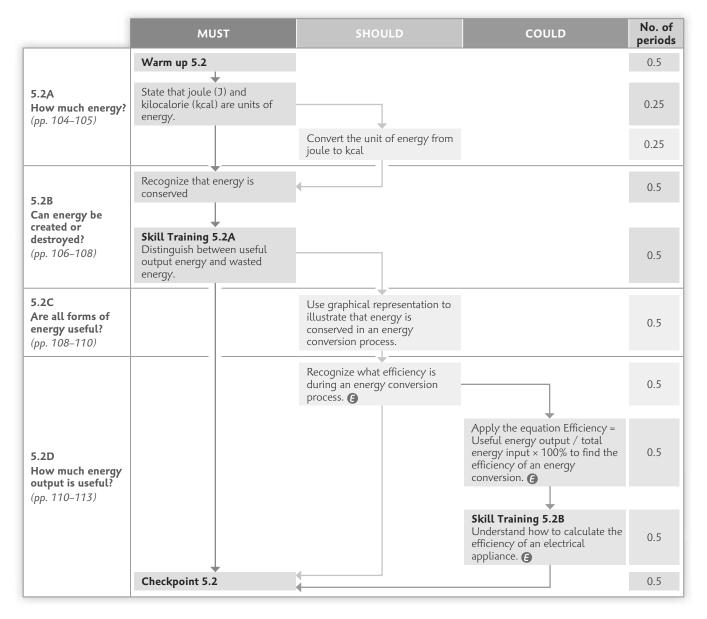
Chapter 5 Energy

5.1 Energy and energy conversion (pp. 82-103)

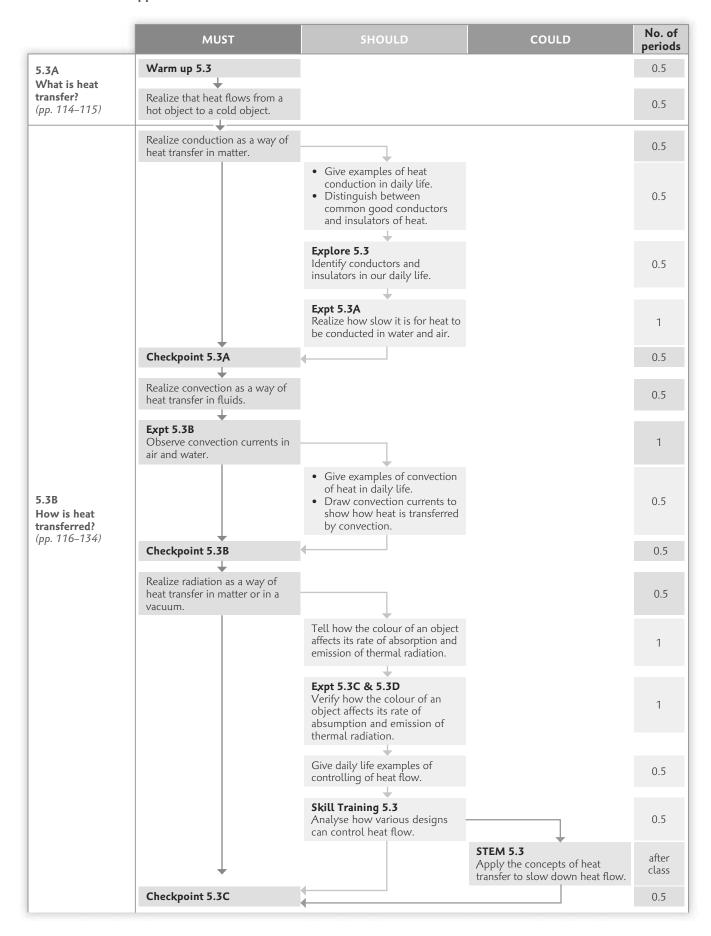
MUST – for ALL students SHOULD – for students of AVERAGE capability COULD – for students of HIGH capability



5.2 Conservation of energy (pp. 104–113)



5.3 Heat transfer (pp. 114-134)



5.4 Energy sources **(pp.** 135–144)

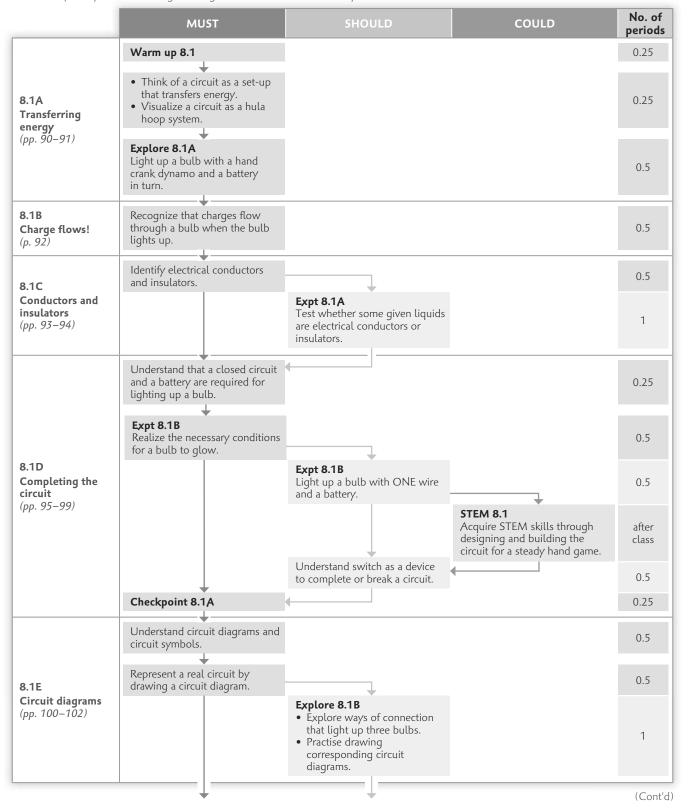
	MUST	SHOULD	COULD	No. of periods
5.4A What is our main energy source now? (pp. 135–137)		Warm up 5.4		0.5
		 Recognize that fossil fuels are non-renewable. Be aware of the concerns about using fossil fuels. 		0.5
		Skill Training 5.4A Understand how to handle data from graphs.		1
5.4B Are there other energy sources? (pp. 138–142)		Recognize the need for developing alternative energy sources.		0.5
			Explore 5.4A Understand more about biofuels.	0.5
		Be aware of the concerns arising from the use of different energy sources.		0.5
		Explore 5.4B Understand different concerns for various alternative energy sources.		1
5.4C What can we do to save energy? (pp. 143–144)		Recognize the need for saving energy in daily life.		0.5
			Skill Training 5.4B Design a poster to promote saving energy.	after class
		Checkpoint 5.4	—	0.5

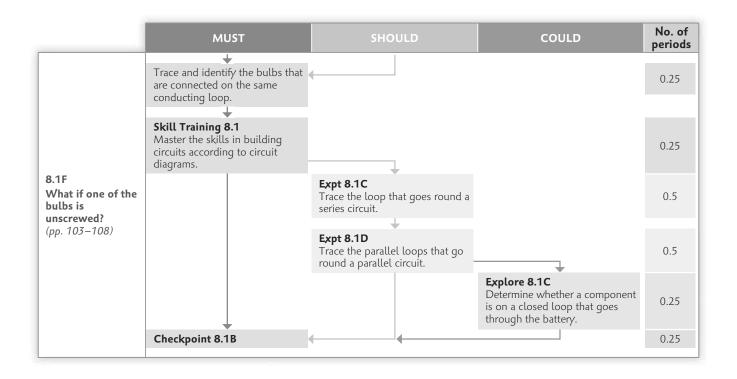
Chapter 8 Making use of electricity

MUST – for ALL students SHOULD – for students of AVERAGE capability COULD – for students of HIGH capability

8.1 Batteries and bulbs (pp. 88-108)

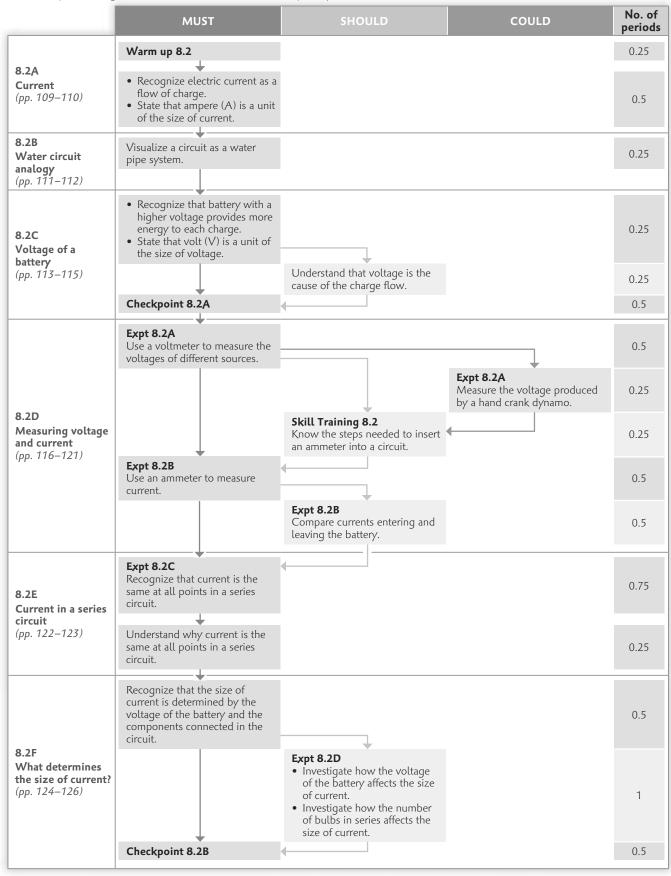
(In primary level, Ss have got a rough idea of the flow of electricity, conductors and insulators.)





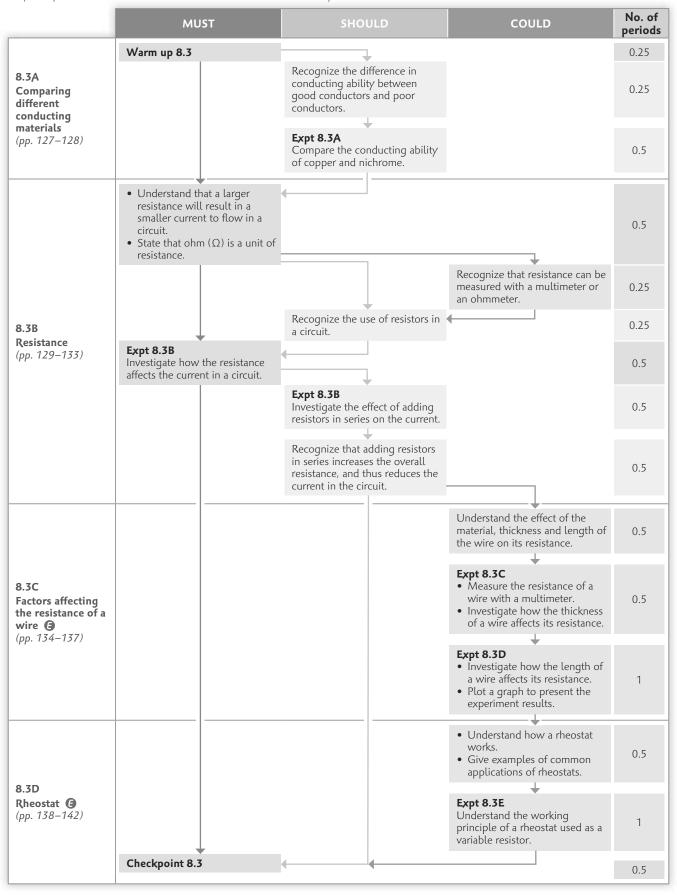
8.2 Voltage and current (pp. 109-126)

(The concepts of voltage and current were NOT introduced in primary level.)



8.3 Resistance (pp. 127-142)

(In primary level, Ss have learnt that some materials conduct electricity better than others.)

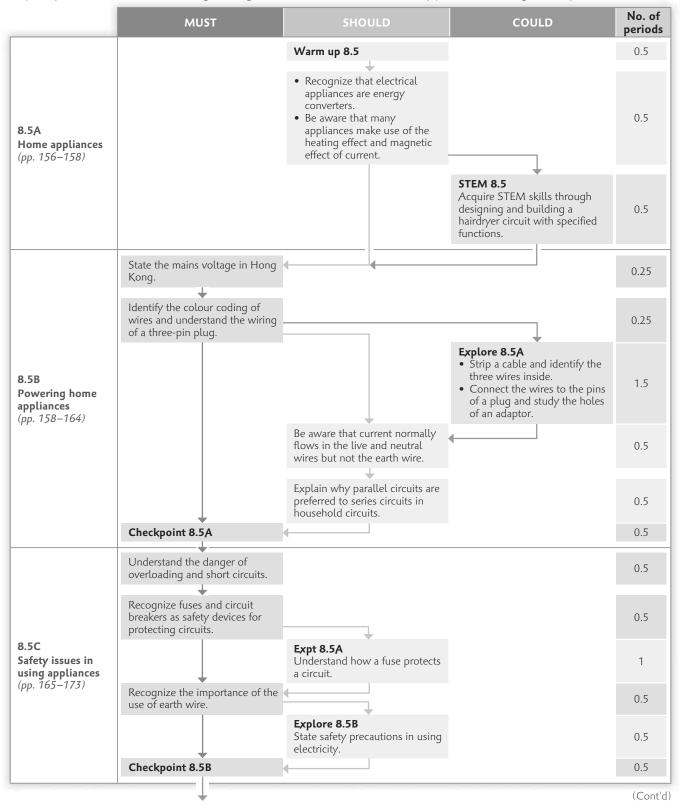


8.4 Parallel paths (pp. 143–155)(In primary level, Ss only come across single-loop circuits. Ss may have heard about the danger of short circuits.)

	MUST	SHOULD	COULD	No. of periods
8.4A Branches in a circuit (pp. 143–146)		Warm up 8.4		0.25
		Recognize that the voltage across parallel branches is the same.	he	0.5
		Recognize that a larger curre flows in the branch with a smaller resistance.	ent	0.5
		Expt 8.4A Study how the current in a branch depends on the resistance of that branch.		1
8.4B Total current in main path (pp. 147–151)		Recognize that the current ir main loop is the sum of the currents in the branches.		0.5
		Expt 8.4B Study the effects of adding r bulbs in parallel on the over resistance and the total curre	rall	1
			 Recognize that a brighter bulb demands energy more quickly from the battery. Realize that both current and voltage affect the brightness of a bulb. 	0.5
		Checkpoint 8.4A		0.5
8.4C What if one of the branches has almost no resistance? (pp. 152–155)			Understand the condition for shorting a bulb.	0.5
			Expt 8.4C Investigate the behaviour of the circuit when one of its bulbs is shorted.	1
			Explore 8.4 Trace the conducting loops and predict which bulb(s) will be shorted when switches are closed.	0.5
			Checkpoint 8.4B	0.5

8.5 Household electricity (pp. 156-180)

(In primary level, Ss have learnt the heating and magnetic effects of current and some safety precautions in using electricity.)

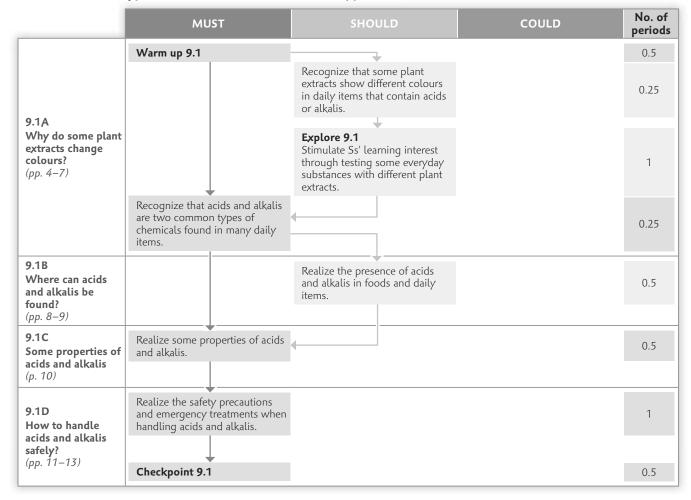


	MUST	SHOULD	COULD	No. of periods
			 Understand power as the electrical energy transferred to an appliance per second. State that watt (W) is a unit of power. Recognize that the amount of energy consumed = power x time of use. 	0.25
			Front 0 FD	
			Expt 8.5B Measure the power of a light bulb with a joulemeter.	1
			+	
8.5D Cost of operating an appliance (a) (pp. 173–180)			 State that kilowatt-hour (kW h) is a larger unit of energy. Understand the interconversion between kilowatt-hours and joules. 	0.25
			State that kilowatt-hour (kW h) is a unit for calculating the cost of electricity.	0.25
			Evalero 9 EC	
			Explore 8.5C Calculate the cost of electricity from the amount of electrical energy consumed.	0.5
			Recognize the efficiency of an electrical appliance as the ratio of useful power output to power input.	0.25
			Explore 8.5D Study the information provided by an energy label.	0.5
			Checkpoint 8.5C	0.5

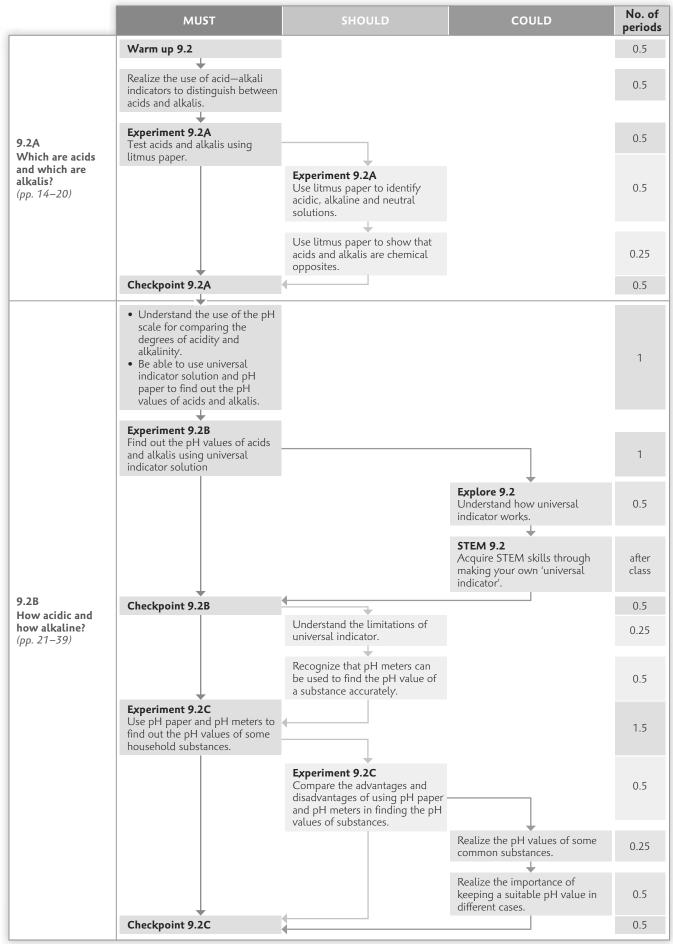
Chapter 9 Common acids and alkalis

9.1 Two common types of chemicals—acids and alkalis (pp. 4-13)

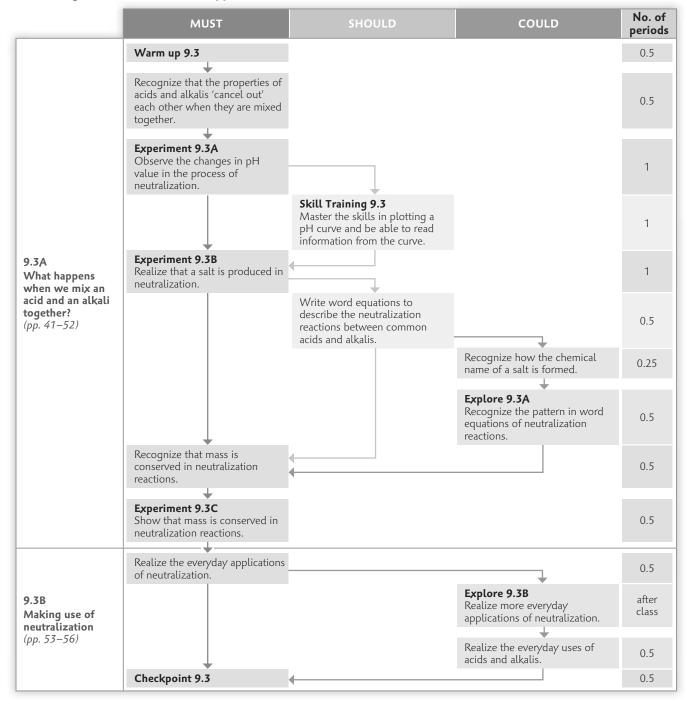
MUST – for ALL students
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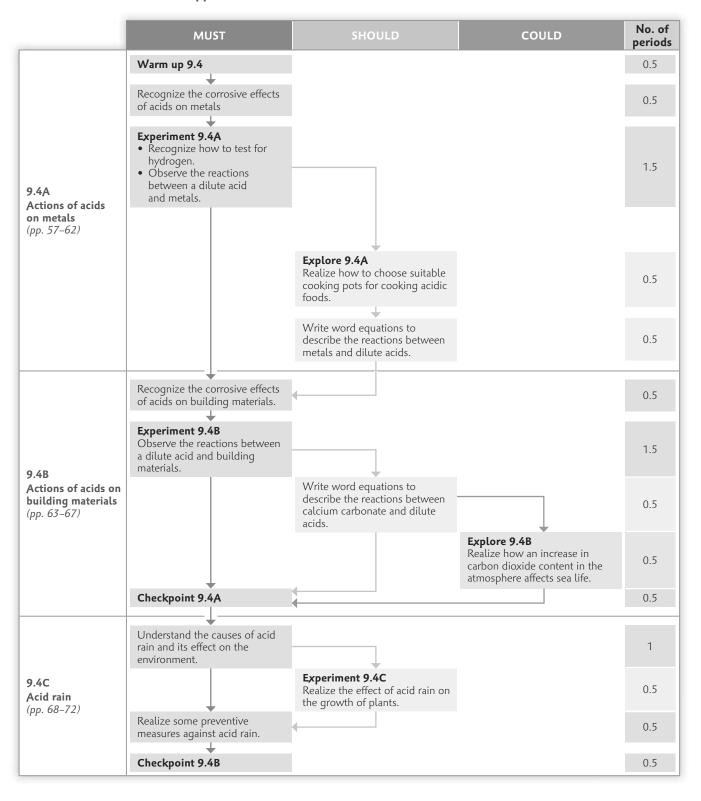
9.2 Testing acids and alkalis (pp. 14-39)



9.3 Mixing an acid with an alkali (pp. 41-56)



9.4 Corrosive nature of acids (pp. 57-72)



9.5 Potential hazards in using acids and alkalis (pp. 73-81)

