

Name of the Student: _____

Max. Marks : 18 Marks

Time : 18 Minutes

Mark Schemes

Q1.

(a) 80 (°C) 1

(b) **C** 1

temperature after 10 minutes was lowest

or

final temperature was lowest

reason only scores if material C is chosen

allow temperature after 10 minutes was lower

1

(c) lower total temperature rise (for all materials)
allow lower final temperature (for all materials) 1

(because) the rate of temperature increase would be lower

allow lower gradient lines

1

(d) higher resolution 1

reduced risk of misreading instrument 1

(e) polyurethane foam
no marks if polyurethane foam not chosen 1

(because it has the) lowest rate of energy transfer 1

[9]

Q2.

(a)

Level 2: Relevant reasons are identified, given in detail and logically linked to form a clear account.	3-4
Level 1: Relevant reasons are identified, and there are attempts at logically linking. The resulting account is not fully clear.	1-2

No relevant content	0
Indicative content nuclear <ul style="list-style-type: none"> • no carbon dioxide released (when generating electricity) or doesn't release greenhouse gases • reliable • high energy density • power stations already built • other power stations being built wind <ul style="list-style-type: none"> • no carbon dioxide released (when generating electricity) or doesn't release greenhouse gases • renewable energy resource • no fuel cost 	

4

(b) wind power is unreliable

1

(so) will be unable to meet demand when wind speed is low

or

when there is no wind

or

unable to maintain base load at all times

1

(c) electricity generation will need to increase (to meet higher demand)

1

(using)

nuclear power

or

wind power

or

other renewables

1

so that carbon dioxide emissions don't increase

or

reference to Paris Climate agreement

1

[9]