# P1H Edexcel PiXL Mark Scheme November 2014

Question	Answer	Additional Guidance
1 (a)	From left to right: radio/infra-red/x-rays (3)	In that order Allow 1 mark for each correct, maximum 3
1 (b) (i)	Infra-red (1)	
1 (b) (ii)	Microwaves (1)	
1 (c)	Any 2 from:  Cancer Kill cells Burns to skin	
	Snow blindness     (2)	
1 (d)	Reflects certain wavelengths (1) of visible light (1)	
1 (e)	A gamma (1)	Score 0 marks if more than one box is crossed
		for Question 1 = 10 marks
2 (a) (i)	Arrows going away from ray box (1)	
2 (a) (ii)	Emerging ray drawn correctly parallel to the incident ray (1)	
2 (a) (iii)	C Refraction (1)	Score 0 marks if more than one box is crossed
2 (a) (iv)	Nothing/it would go straight through (1)	
2 (b)	<ul> <li>Fish drawn to the left of the apparent position (1)</li> <li>Ray drawn from actual fish to surface and then refracted away from the normal (1)</li> <li>To the eye of the fisherman (1)</li> </ul>	The directional arrows are essential for maximum of 3 marks
	(Tota	for Question 2 = 7 marks
3 (a) (i)	C expanding (1)	Score 0 marks if more than one box is crossed
3 (a) (ii)	Distance from earth/how far away the galaxy is (1) Speed it is travelling at (1)	
3 (b)	Cosmic microwave background radiation (1)	
3 (c)	B Why was the Universe created? (1)	
3( d)	Frequency = Wave speed / wavelength (1)  3 x 10 <sup>8</sup> / 20 (1)  1.5 x 10 <sup>7</sup> or 15 000 000 (1)	Correct answer gains 3 marks with no working
3 (e)	Sound gets quieter (1) because pitch/frequency gets lower (1) due to the Doppler effect (1).	
		for Question 3 = 11 marks
4 (a)	C (1) as it uses the most energy (1)	
4 (b)	<ul> <li>Advantage – more efficient so uses less energy/costs less to run/contributes less to greenhouse gases (1)</li> </ul>	Need to link into efficiency to gain the advantage mark
	<ul> <li>Disadvantage - making new fridges uses up</li> </ul>	

# Pixl Edexcel November 2014

**Tao Wei** 



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web the heat of reaction  $\Delta$ hsoln is written after the products in units of kj mol rxn for example sodium hydroxide dissolves exothermically releasing 44 2 kilojoules per mole dissolved this process is represented as naoh s na aq oh aq  $\Delta$ hsoln 44 2 kj mol rxn write equations to similarly represent the dissolving process for

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web the goal of my experiment and research is to evaluate the various number of compounds to be used as hand warmers and locate the ones that can raise the temperature to 20 degrees celsius in 100 g water and costs as little as possible

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web in this lab you are challenged to use chemistry to determine which ionic compound makes the best hand warmer in this experiment you will collect data that will allow you to calculate the heat of solution  $\Delta hsoln$  or the amount of energy released or absorbed in kj mol of the substance being dissolved

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web lab investigation in today s experiment you will design and execute an experimental procedure to determine which of three ionic compounds is most suitable for use in a hand warmer the three compounds you will use is determined by the group number you are assigned the ideal hand warmer