

P1 Revision Questions

Higher only questions are in bold

Question 1 of 50

- What objects cool down the quickest?

Answer 1 of 50

- Hot objects

Question 2 of 50

- What is the specific latent heat?

Answer 2 of 50

- The energy required per kg to change the state of a substance

Question 3 of 50

- What colours represent the hottest and coldest parts of a thermogram?

Answer 3 of 50

- Hot = Red/ yellow
- Cold = Blue/ purple

Question 4 of 50

- What 3 ways can heat be transferred from one place to another?

Answer 4 of 50

- Conduction, convection, radiation

Question 5 of 50

- What is payback time?

Answer 5 of 50

- The time taken to save the original cost

Question 6 of 50

- What is a thermogram?

Answer 6 of 50

- Pictures where different temperatures are represented by different colours

Question 7 of 50

- What 3 things affects the amount of energy needed to change the temperature of an object?

Answer 7 of 50

- Volume, temperature change, specific heat capacity of material

Question 8 of 50

- Where does heat flow from?

Answer 8 of 50

- Hot objects to cold objects

Question 9 of 50

- What is conduction?

Answer 9 of 50

- Where heat is transferred from particles vibrating

Question 10 of 50

- Why are loft insulation and cavity wall insulation good at keeping heat in?

Answer 10 of 50

- They are made of fibre glass and have trapped pockets of air in them (this prevents convection and conduction)

Question 11 of 50

- What is heat measured in? What is temperature measured in?

Answer 11 of 50

- Heat measured in joules. Temperature is measured in degrees celcius

Question 12 of 50

- What experiment can you use to measure the energy required to change the temperature of a body?

Answer 12 of 50

- Heat up a certain amount of water and measure the temperature change. Then using its specific heat capacity use the energy equation

Question 13 of 50

- Why does the temperature not change when the state of material is changing?

Answer 13 of 50

- The energy is being used to break the bonds that hold the molecules together

Question 14 of 50

- What is convection?

Answer 14 of 50

- Where fluid (liquid or gas) is heated, particles become less dense and rise, they lose their heat to the surroundings and sink. This repeats itself

Question 15 of 50

- What is meant by efficiency?

Answer 15 of 50

- How much input energy is converted to useful output energy (as a percentage)

Question 16 of 50

- What is heat? What is temperature?

Answer 16 of 50

- Heat is energy, temperature is a measure of hotness (energy per particle)

Question 17 of 50

- What happens to the temperature of a material when it is being heated as it is changing state?

Answer 17 of 50

- It stays constant

Question 18 of 50

- What surfaces are good and absorbing and reflecting infrared radiation?

Answer 18 of 50

- Absorbing- black rough. Reflecting- silver shiny

Question 19 of 50

- What materials are good for convection?

Answer 19 of 50

- Liquids and gases (as the particles can move)

Question 20 of 50

- What is a Sankey diagram?

Answer 20 of 50

- A diagram that shows the efficiency

Question 21 of 50

- What is the specific heat capacity?

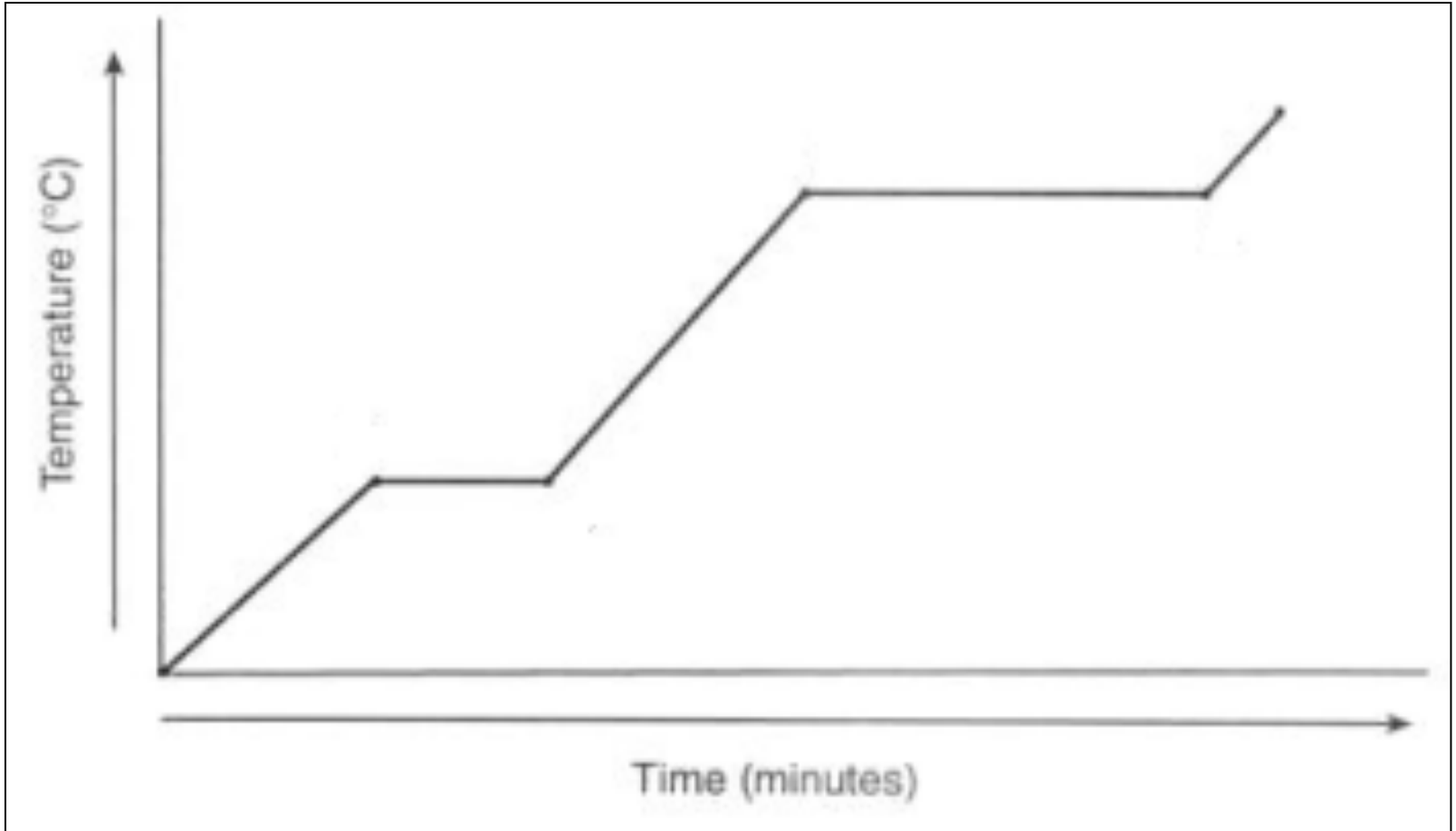
Answer 21 of 50

- The amount of energy required to increase the temperature of a substance by 1 degrees celcius per kg

Question 22 of 50

- What does a graph look like for when an Ice is being heated?

Answer 22 of 50



Question 23 of 50

- Why is air a good insulator?

Answer 23 of 50

- Particles are spaced out and are not in fixed positions

Question 24 of 50

- Name 5 ways to reduce heat loss for a house

Answer 24 of 50

- Cavity wall insulation, loft insulation, double glazing, draft excluders, aluminium foil behind radiators

Question 25 of 50

- What is the amplitude of a wave?

Answer 25 of 50

- The maximum displacement of a wave from its rest position

Question 26 of 50

- What is the wavelength of a wave?

Answer 26 of 50

- The distance between two successive wave peaks

Question 27 of 50

- What is the wavelength of a wave?

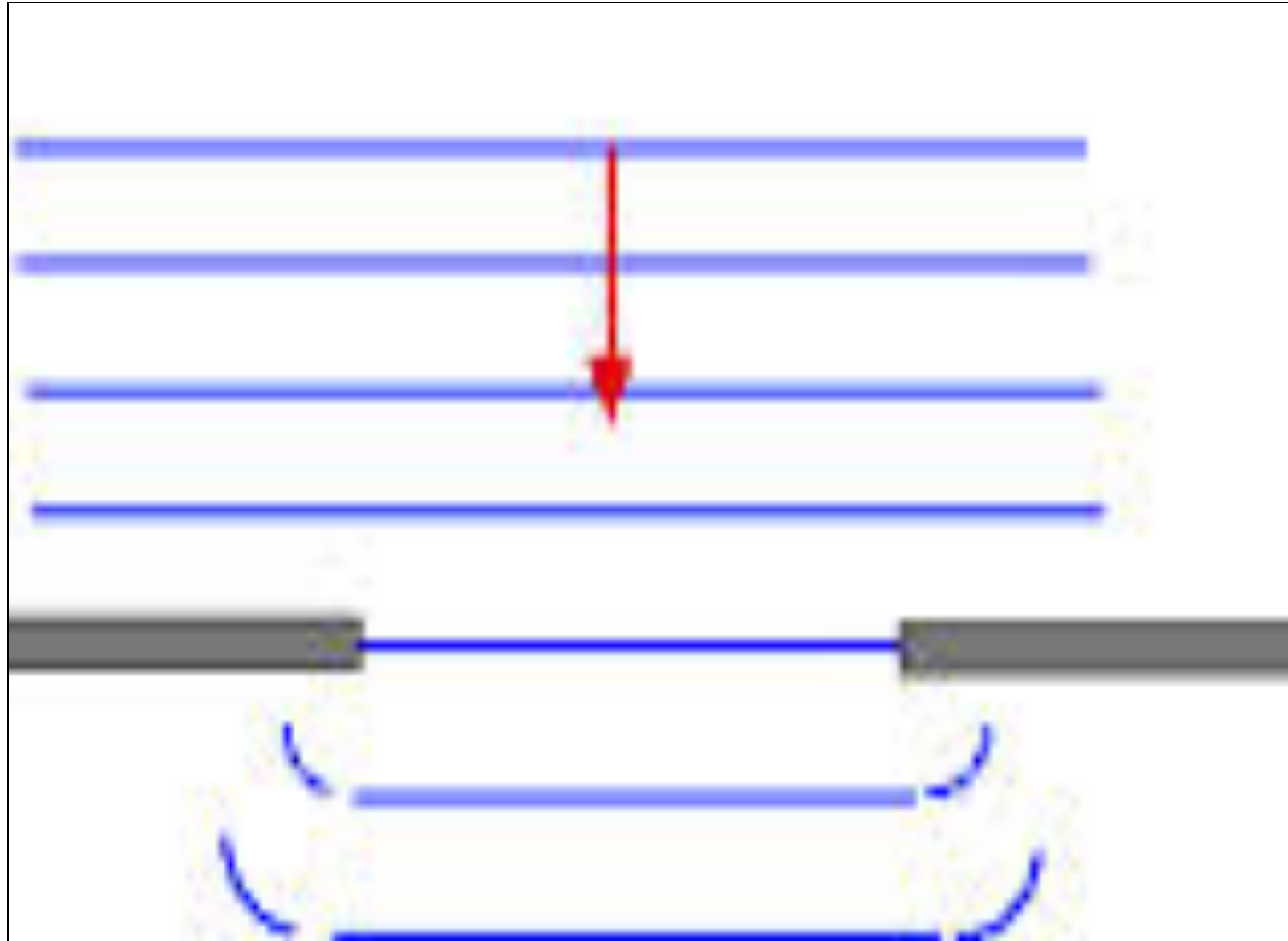
Answer 27 of 50

- How many successive waves pass a point per second

Question 28 of 50

- What does the diffraction pattern look like when the gap slightly bigger than the wavelength of a wave?

Answer 28 ... of 50



Question 29 of 50

- Name some uses of lasers

Answer 29 of 50

- Communication, dental treatment, surgery, weapon guidance, bar code readers

Question 30 of 50

- What 2 molecules absorb microwave radiation?

Answer 30 of 50

- Fat and water

Question 31 of 50

- What is the highest and lowest point of a wave?

Answer 31 of 50

- Highest = peak
- Lowest = Trough

Question 32 of 50

- What does the speed of a wave depend on?

Answer 32 of 50

- The medium it travels in

Question 33 of 50

- What is total internal reflection?

Answer 33 of 50

- The reflection of light inside glass. It happens where the glass meets the air (boundary) because of a difference in densities

Question 34 of 50

- What is Morse code?

Answer 34 of 50

- A code that uses dots and dashes to send messages

Question 35 of 50

- What happens to water and fat particles when they absorb microwaves?

Answer 35 of 50

- They gain energy and start to vibrate/ move around

Question 36 of 50

- What is refraction? Why does it happen?

Answer 36 of 50

- When a light ray changes direction as it travels from one medium into another, that has a different density

Question 37 of 50

- What is reflection? What is the law of reflection?

Answer 37 of 50

- Where waves bounce off a surface. Angle of incidence = angle of reflection

Question 38 of 50

- What is the critical angle?

Answer 38 of 50

- The angle (from the normal) above which the light starts total internal reflection

Question 39 of 50

- Why is Morse code a digital signal?

Answer 39 of 50

- The signal is either on or off

Question 40 of 50

- How does the kinetic energy of the warm particles inside cooked food get to the rest of the food?

Answer 40 of 50

- Conduction/ convection

Question 41 of 50

- What are the 7 different electromagnetic waves? (in order of ascending frequency)

Answer 41 of 50

- Radio, Microwave, Infrared, visible, UV, x-ray, gamma

Question 42 of 50

- Where does refraction occur?

Answer 42 of 50

- Between the boundaries of 2 mediums

Question 43 of 50

- Where does total internal reflection happen?

Answer 43 of 50

- At the boundary between air and glass

Question 44 of 50

- Name 3 properties of lasers

Answer 44 of 50

- Monochromatic (one frequency), coherent (in phase), does not diverge much

Question 45 of 50

- Describe 4 properties of microwaves

Answer 45 of 50

- Electromagnetic wave, travel through space, travels large distances, sent instantly

Question 46 of 50

- How can each of these waves be used in communication: Radio, micro, infrared, visible light

Answer 46 of 50

- TV, walkie talkies- mobile phones- remote controls-morse code

Question 47 of 50

- What is diffraction? Where does it happen and what conditions does it happen best at?

Answer 47 of 50

- Where waves spread out. Happens when waves travel through a gap (aperture). Happens best when the gap is the same size or smaller than the wavelength

Question 48 of 50

- Name a use of total internal reflection

Answer 48 of 50

- Fibre optics

Question 49 of 50

- How do CDs work? How are they read?

Answer 49 of 50

- CD has shiny and transparent layer. They have pits in them-lasers are used and are reflected. A digital signal is read

Question 50 of 50

- What happens when you increase the frequency of a wave?

Answer 50 of 50

- The energy of the wave increases, the wavelength of the wave decreases