



PHYSICS

BOOKS - ICSE

MODEL TEST PAPERS

Model Test Paper 1 Section I

1. Name the particles which matter is made up of



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2. The force of attraction between the molecules of the same kind is called



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3. Out of solids, liquids, and gases, which can be compressed the most?



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4. When the rivers and lakes start freezing, the weather becomes warm. Give reason.



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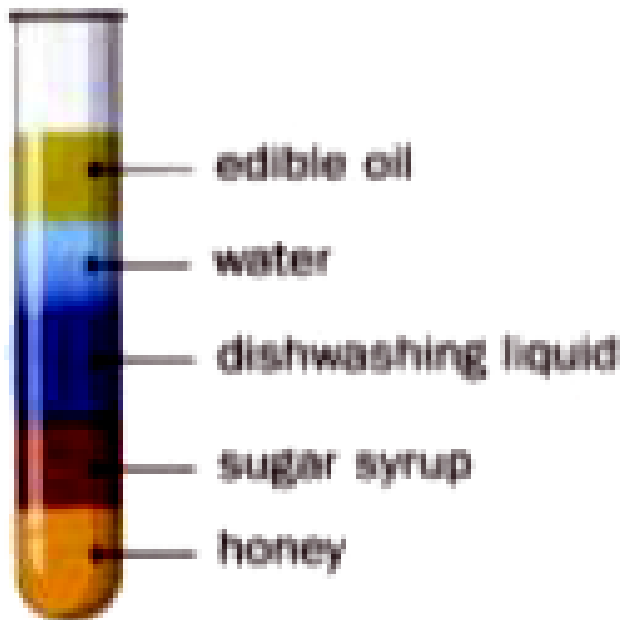
5. Name a solid that sublimates.



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6. Observe the figure given below and identify the liquid which is the most dense and the

one which is the lightest.



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7. Can density be used to identify what a substance is made of ? Give reason for your

answer.



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8. The density of cooking oil is $1.2\text{g}/\text{cm}^3$. What is its density in kg/m^3 ?



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9. Give another name for the turning effect of force.



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10. Heavy vehicles that carry loads, such as trucks and buses, have thick and wide tyres.

Give reason.



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11. What is the value of atmospheric pressure at sea level and on Mount Everest?



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12. Pinto pushed a huge rock for 2 minutes. Although he felt very tired after this, the rock didn't move at all. According to Physics, how much work has Pinto done? Give reason for your answer.



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13. Define energy.



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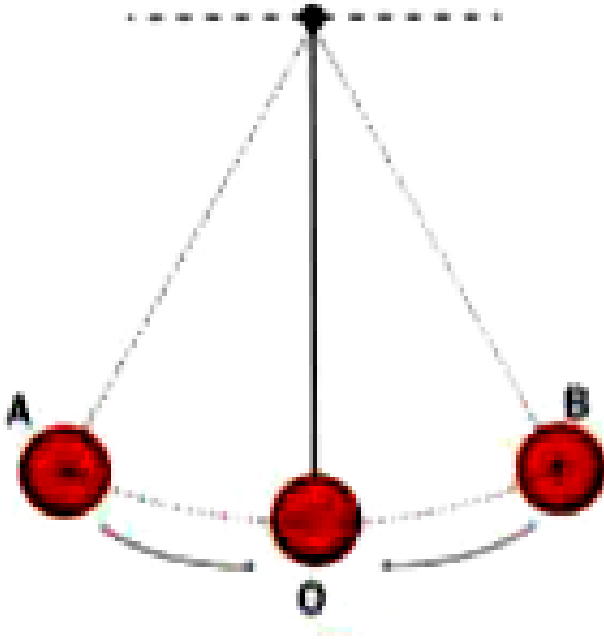
14. What kind of energy does a tightly drawn bow and arrow have?



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15. Observe the movement of the pendulum in the given figure. If its PE at A is 90J, how much

and what type of energy will it at O and B.



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16. Why is it difficult to aim and hit targets under water, such as fish?



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17. The refractive index of alcohol is 1.36 and that of benzene is 1.5. Which of them has a higher optical density?

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18. Where should the object be kept if a concave mirror has to form a real, inverted, and highly magnified image?

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19. Which spherical mirror is used by doctors to check eyes and nose?



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20. Name two factors that affect evaporation.



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21. During boiling, the temperature remains constant. Why?



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22. Define the coefficient of linear expansion.



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23. Define the wavelength of a wave. What is its SI unit?



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24. Can sound pass through solids, liquids, and gases? Give reason.



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25. How do you change the pitch of a wind instrument?



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26. Name the material that is used to make a fuse.



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27. When an ebonite rod is rubbed with wool, the rod becomes negatively charged. How?



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28. How do you charge a gold leaf electroscope negatively by induction?



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Model Test Paper 1 Section II

1. Water wets wood, whereas mercury does not. Give reason.



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2. The specific latent heat of fusion of ice is 336×10^3 J/kg. What does this statement mean?



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3. Why are burns caused by steam more severe than those caused by boiling water at the same temperature?



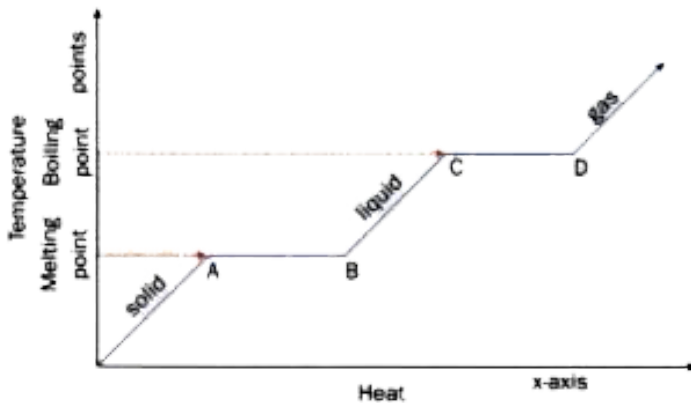
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4. What is condensation? Give an example.



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5. Observe the graph given below and answer the following questions:



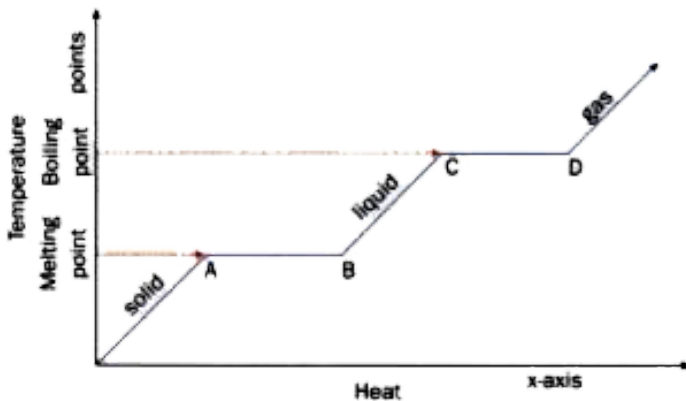
At two places, the graph is parallel to the x-axis. What does this mean?





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6. Observe the graph given below and answer the following questions:

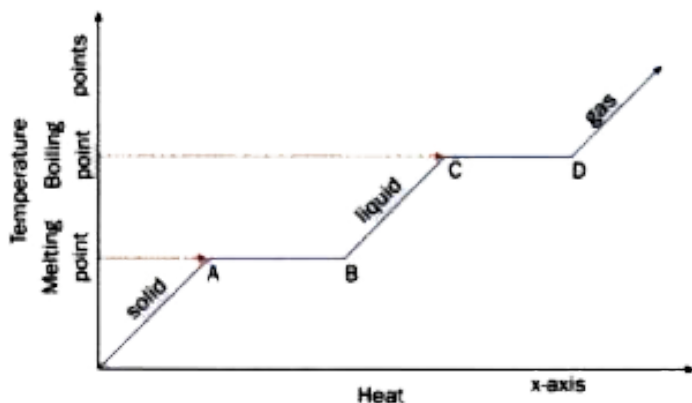


During melting of a solid, certain amount of heat is absorbed without any change in temperature. Which part of the graph shows this change?



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7. Observe the graph given below and answer the following questions:



During vaporization of a liquid, certain amount of heat is absorbed without any change in temperature. Which part of the graph shows this change?



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8. If the density of wood is 0.6 g/cm^3 , what is the mass of 10cm^3 ?



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9. Ice floats in water but sinks in kerosene.
Why?



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10. What do you mean by upthrust?



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11. How does a submarine float and sink?



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12. Which physical quantities are represented by the SI units (a) Nm and (b) Joule?



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13. A spanner is used to unscrew a nut. A force of 40 N is applied to the end of the spanner, which is 10 cm away from the centre of the nut. Calculate the moment of force when the spanner is horizontal.



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14. If a person wearing a narrow-heeled shoe accidentally steps on you, it will hurt more in

comparison to a shoe with a wider base. Give reason.



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15. As we go higher, what happens to the atmospheric pressure?



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16. A car of mass 800 kg is moving at 300 m/s, and an autorickshaw of mass 100 kg is moving

at 500 m/s. Which of them will have higher KE?



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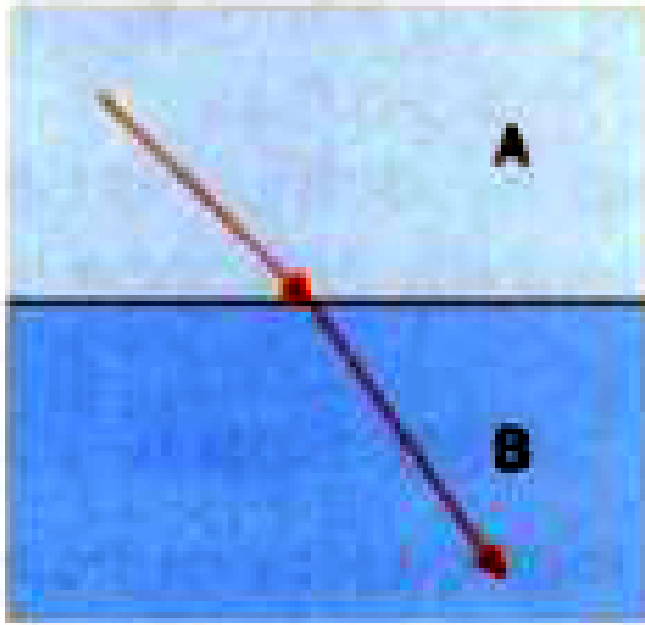
17. The power of a bulb is 60 W. What does this statement mean?



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18. Observe the given figure and identify which medium is optically denser and which is

optically rarer.



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19. What do you mean by dispersion of light?



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20. For an incident ray directed towards centre of curvature of a spherical mirror, the reflected ray:



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21. If the focal length of a concave mirror is 12 cm, what would be its radius of curvature?



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22. What is the nature of the image formed by a convex mirror?



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23. Write two principles on which a refrigerator works.



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24. Distinguish between Boiling and evaporation



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25. What is the relationship between coefficient of cubical expansion and coefficient of linear expansion?



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26. What is anomalous expansion of water?



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27. Bridges, roads, and railway lines are made in sections separated by rubber strips or gaps.

Why?



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28. What do you mean by timbre or quality of sound?



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29. What do you mean by pure tone? Which instrument can produce it?



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30. What is the function of an earth wire? Why is it necessary to earth metallic appliances?



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31. If a geyser is rated at 1.5 kW. - 220 V, what does it mean?



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32. Observe the picture given below. Which one would be a negatively charged object and which one would be a positively charged

object?



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Model Test Paper 2 Section I

1. What is the fourth state of matter called?



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2. Write any two assumptions on the basis of kinetic theory on interparticle spacing and motion of particles that comprise matter.



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3. What do you mean by force of adhesion?



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4. Soft drinks are cooled by placing them in ice rather than water at $0^{\circ}C$. Why?



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5. If the relative density of three substances A, B, and C are 0.8, 1.2, and 8.01, state whether these will sink or float in water.



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6. If the mass of a solid is 31.2 g, and if the initial and final volume of water level in a graduated cylinder when immersed is 63 mL and 59 ml, respectively, find the density of the solid.



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7. What are the two factors on which the torque applied on a body depends?



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8. The edges of cutting tools such as knives, blades, and axes are always sharpened before use. Give reason.



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9. Differentiate between gravitational potential energy and elastic potential energy.



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10. A car has 3000 J of energy. What will happen if the speed is doubled?



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11. Define power. What is its SI unit?



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12. Arrange air, glass, and water in the ascending order of optical density.





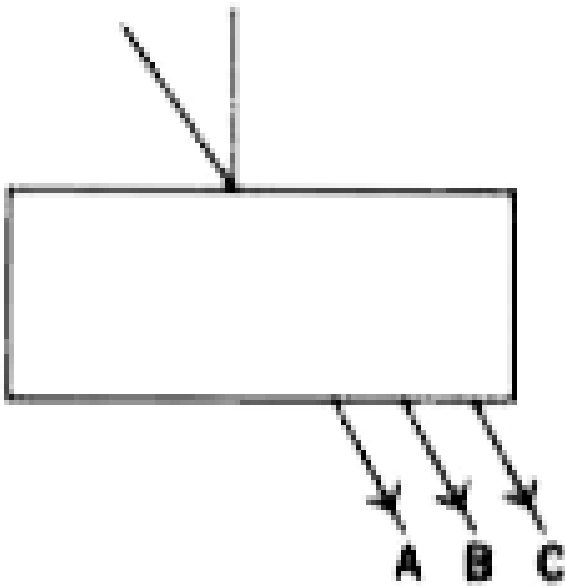
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13. Consider a ray of light passing from one medium to another. If the angle of refraction is less than the angle of incidence, will the speed of light in the second medium be less or more than that in the first medium?



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14. Mark the correct light ray as it travels through different mediums.



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15. An imaginary line passing through the pole and the centre of curvature of the spherical mirror





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16. Which spherical mirror is used as a reflector in street lamps to diverge light over a large area?



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17. The change of state from liquid to gas that takes place at the surface of a liquid



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18. How is anomalous expansion of water useful for aquatic animals?



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19. State one application of thermal expansion of liquids.



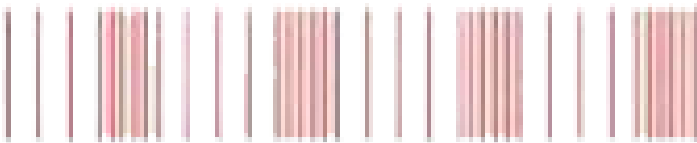
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20. What property of pyrex glass makes it suitable for cooking?



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21. Observe the given figure and mark the following:



compressions



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22. Observe the given figure and mark the following:

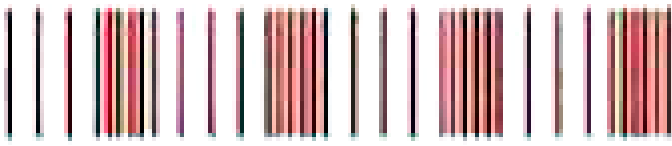


rarefactions



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23. Observe the given figure and mark the following:



one complete wavelength



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24. Which one would have a lower pitch: a small thinner string under tension, or a long thicker string under not much tension?



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25. Write two differences between pitch and loudness.



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26. What is the voltage of live wire in India?
What is the colour of the live wire?



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27. What is the function of a fuse?



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28. Name the unit of energy that is used to measure the amount of electrical energy consumed at home.



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29. How do you charge a gold leaf electroscope negatively by induction?



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Model Test Paper 2 Section II

1. How do you explain the cleaning action of detergent on the basis of intermolecular forces?



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2. Solids are not easily compressible. Give reason.

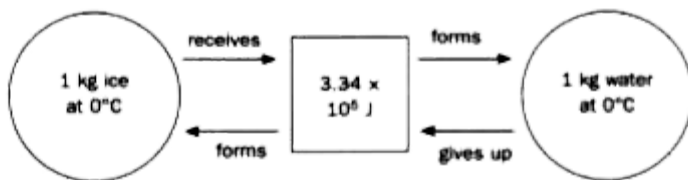


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3. When you come out of a swimming pool on a windy day, you feel cold. Give reason.

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4. Look at the given figure and answer the following questions:

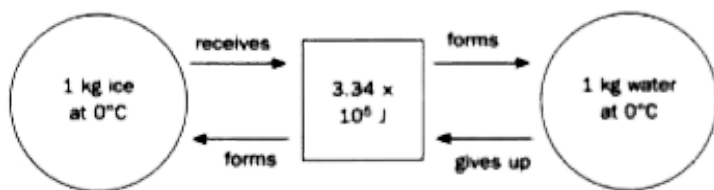


When ice changes into water, which phenomenon takes place?



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5. Look at the given figure and answer the following questions:

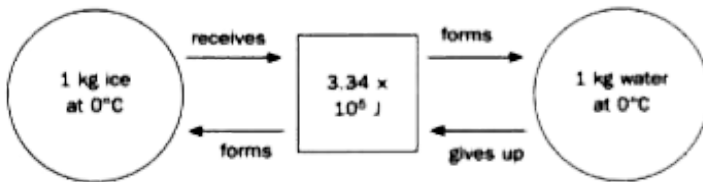


What change in temperature is seen when this change takes place?



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6. Look at the given figure and answer the following questions:

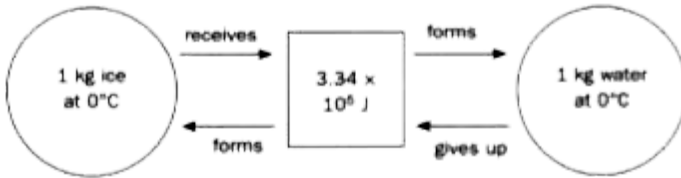


What is the quantity of heat absorbed by the ice to change its state?



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7. Look at the given figure and answer the following questions:



How is the heat energy gained by the ice used?



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8. Swimming in sea water is easier than in fresh water.





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9. Iron has a density of $7.8\text{g}/\text{cm}^3$ and mercury has a density of $13.5\text{g}/\text{cm}^3$. What happens if an iron nail is put in mercury? Why?



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10. What is the mass of 5m^3 of cement of density $3050\text{kg}/\text{m}^3$?



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11. How does a hot air balloon work?



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12. Why are solids generally denser than liquids?



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13. It is easier to open a door by pushing at a point away from the hinge than at the point

close to the hinge.



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14. If the weight of a box is 500 N and the area of contact is 300cm^2 , find the pressure exerted by the box.



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15. Name the device with which atmospheric pressure is measured.



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16. The walls of dams are made stronger and thicker at the bottom. Why?



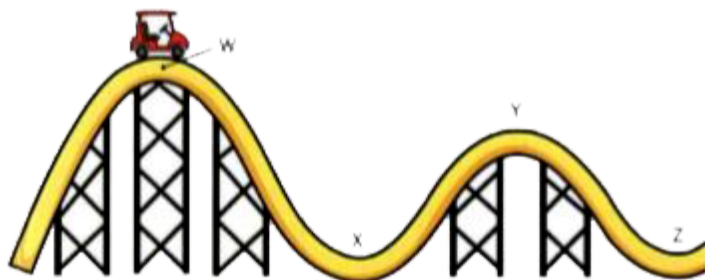
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17. Rahul pushed a toy car and it moved a distance of 5 m. If the work done by Rahul is 1500 J, how much force did he apply through the push?



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18. Look at the figure given below and answer the following questions:



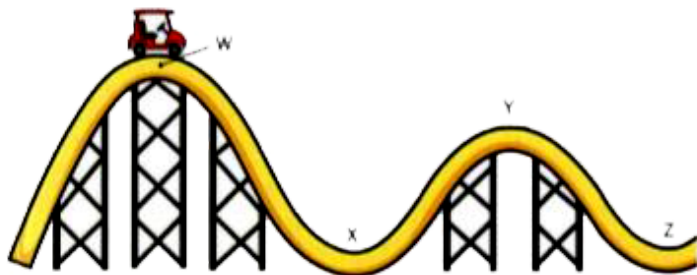
If the car is at rest at W and has a maximum PE of 6000 J

What will be its KE at X, if PE = 0?



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19. Look at the figure given below and answer the following questions:



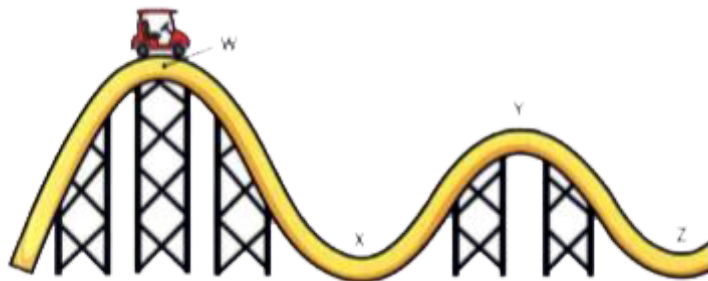
If the car is at rest at W and has a maximum PE of 6000 J

If the PE at Y is 2800 J, what will be its KE at Y?



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20. Look at the figure given below and answer the following questions:



If the car is at rest at W and has a maximum PE of 6000 J

At Z, if the KE is 4000 J, what would be the PE at Z?



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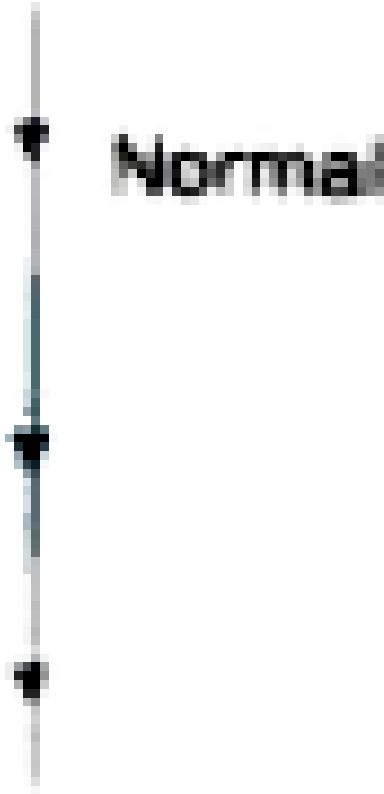
21. What is the principle of least time?



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22. In the figure, you can see a light ray travelling from air to glass. Why is there no

refraction?



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23. The angle between the incident ray and emergent ray, when the ray is passing through an equilateral prism is called angle of _____.



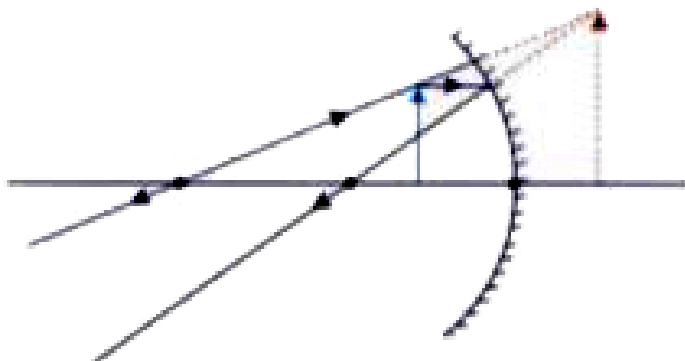
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24. When light is passed through a prism when.....colour shows maximum deviation.



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25. Look at the figure and answer the following questions:

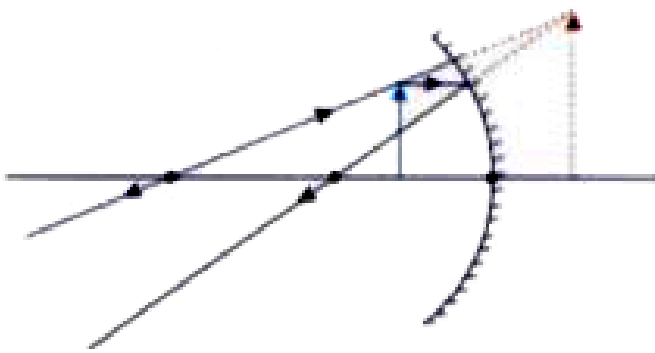


What kind of mirror is used here?



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26. Look at the figure and answer the following questions:

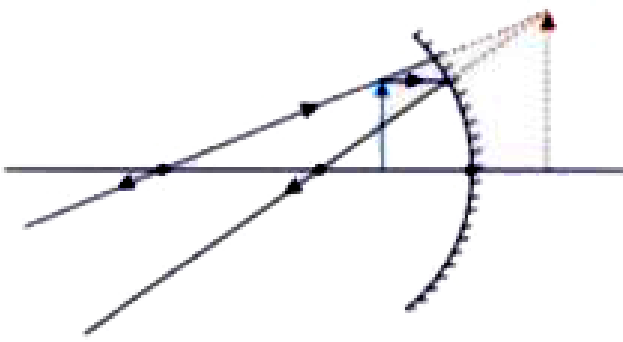


Where is the object placed?



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27. Look at the figure and answer the following questions:

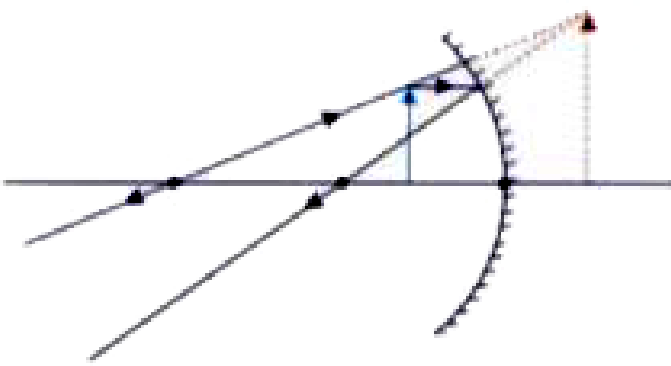


Where is the image formed?



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28. Look at the figure and answer the following questions:



Write three characteristics of the image.



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29. We spread the clothes while drying. Give reason.



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30. Evaporation causes cooling. Give an example.



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31. What do you mean by coefficient of superficial expansion?



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32. Liquid does not have linear or superficial expansion. Why?



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33. How is apparent expansion of liquid different from absolute expansion?



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34. A balloon fixed to the neck of a bottle gets inflated if the bottle is placed in a bowl of hot water. Why?



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35. What is a bimetallic strip made of?



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36. Where is bimetallic strip used?



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37. What is the principle behind diffusion of gases?





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38. The time period of a vibrating body is 0.020. What is its frequency?



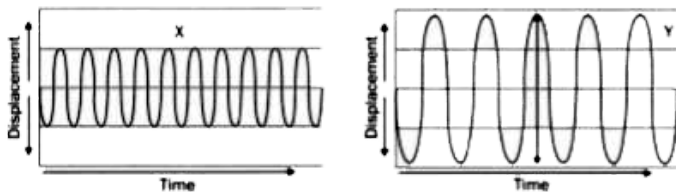
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39. How is the waveform of music different from that of noise?



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40. Look at the figure given and identify which sound wave is louder, X or Y?



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41. Loudness of a sound depends on



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42. The parts of electrical objects that need to let electricity pass through are always made of metal, whereas the plastic covering that surrounds wires is an electrical insulator. Give reason.



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