8K Energy Transfers

Draw a ring around a number of stars for each statement. If you are very confident about a statement, draw your ring around all the stars. If you do not know anything about a statement do not draw a ring.

| Topic | At the end of the unit: |  |
| --- | --- | --- |
| 8Ka |
|  | Recall that energy will be transferred from hotter to cooler objects or materials. | \* \* \* \* \* |
|  | Explain how thermal (or internal) energy and temperature are different, and recall the factors that affect the temperature of an object. | \* \* \* \* \* |
|  | Recall that evaporation can cool a liquid, and ways of reducing this. | \* \* \* \* \* |
|  | Use the particle model of matter to explain cooling by evaporation. | \* \* \* \* \* |
| 8Kb |
|  | Describe how energy is transferred in conduction, convection and radiation. | \* \* \* \* \* |
|  | Recall some examples of thermal conductors and insulators, and explain why certain materials are used for given purposes. | \* \* \* \* \* |
|  | Use the particle model to explain how energy is transferred in conduction and convection. | \* \* \* \* \* |
|  | Explain which energy transfer processes are taking place in given situations. | \* \* \* \* \* |
| 8Kc |
|  | Describe ways of reducing energy transfers by conduction, convection and radiation. | \* \* \* \* \* |
|  | Recall which colours are good and poor emitters and absorbers of radiation. | \* \* \* \* \* |
|  | Evaluate ways of increasing or decreasing energy transfers. | \* \* \* \* \* |
| 8Kc Working Scientifically |
|  | State the meaning of accuracy and precision. | \* \* \* \* \* |
|  | Explain how to avoid systematic and random errors. | \* \* \* \* \* |
| 8Kd |
|  | Interpret Sankey diagrams. | \* \* \* \* \* |
|  | Explain what efficiency means, and identify useful and wasted energies. | \* \* \* \* \* |
|  | Describe what power means, and how to find the power rating of an appliance. | \* \* \* \* \* |
|  | Calculate energy efficiencies. | \* \* \* \* \* |
| 8Ke |
|  | Recall how electricity and natural gas bills are calculated and the units used. | \* \* \* \* \* |
|  | Calculate payback times. | \* \* \* \* \* |