

## Mark scheme March 2004

## GCSE

## Science (Modular) Double Award and Physics

## Module 09

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## Energy: Foundation Tier

| $\begin{aligned} & \hline \text { Question } \\ & \text { No. } \end{aligned}$ | KEY |
| :---: | :---: |
| One | $\begin{aligned} & 1 \text { - light } \\ & 2-\text { movement (kinetic energy) } \\ & 3-\text { sound } \\ & 4-\text { heat (thermal energy) } \end{aligned}$ |
| Two | 1 - radiation <br> 2 - reflection <br> 3 - conduction <br> 4 - convection |
| Three | $\begin{aligned} & 1 \text { - uranium } \\ & 2-\text { steam } \\ & 3 \text { - turbine } \\ & 4-\text { generator } \end{aligned}$ |
| Four | 1 - draught excluder <br> 2 - fibreglass insulation <br> 3 - thick carpet <br> 4 - double glazing |
| Five | 1 - produces harmful waste gases <br> 2 - may cover farmland and forest with water <br> 3 - produces radioactive waste <br> 4 - often on hills and can be unsightly |
| Six | the efficiency of the lamp is 0.25 ( $25 \%$ ) the power of the lamp is 100 W |
| Seven | R - solar cells are often the best source of electricity in remote locations S - solar cells are often used in calculators |
| Eight | $8.1-\mathrm{D}, 8.2-\mathrm{C}, 8.3-\mathrm{B}, 8.4-\mathrm{C}$ |
| Nine | $9.1-\mathrm{B}, ~ 9.2-\mathrm{B}, ~ 9.3-\mathrm{C}, ~ 9.4-\mathrm{C}$ |
| Ten | 10.1-A, $10.2-\mathrm{A}, 10.3-\mathrm{B}, 10.4$ - C |

## Energy: Higher Tier

| Question No. | KEY |
| :---: | :---: |
| One | 1 - produces harmful waste gases <br> 2 - may cover farmland and forest with water <br> 3 - produces radioactive waste <br> 4 - often on hills and can be unsightly |
| Two | 1 - increases <br> 2 - decreases <br> 3 - rises <br> 4 - is unchanged |
| Three | $\mathbf{R}$ - solar cells are often the best source of electricity in remote locations <br> $\mathbf{S}$ - solar cells are often used in calculators |
| Four | $\begin{aligned} & \mathbf{P} \\ & \mathbf{S} \end{aligned}$ |
| Five | $5.1-\mathrm{D}, 5.2-\mathrm{C}, 5.3-\mathrm{B}, 5.4-\mathrm{C}$ |
| Six | 6.1-B, $6.2-\mathrm{B}, 6.3-\mathrm{C}, ~ 6.4-\mathrm{C}$ |
| Seven | $7.1-\mathrm{A}, ~ 7.2-\mathrm{A}, ~ 7.3-\mathrm{B}, ~ 7.4-\mathrm{C}$ |
| Eight | 8.1 - A, $8.2-\mathrm{B}, 8.3-\mathrm{A}, 8.4-\mathrm{D}$ |
| Nine | $9.1-\mathrm{A}, ~ 9.2-\mathrm{A}, ~ 9.3-\mathrm{B}, ~ 9.4-\mathrm{D}$ |
| Ten | 10.1 -D, 10.2-B, 10.3,-A, 10.4-B |

