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Forces

| Bronze | Silver | Gold | Platinum |
| :---: | :---: | :---: | :---: |
| - I can use diagrams to describe the forces on an object <br> - I can recall and use the equation: gravity force $(\mathrm{N})=$ mass (kg) x gravitational field strength, $g(N / k g)$ to calculate the weight of an object | $\square$ I can calculate the resultant forces on an object <br> - I can recall and use the equation: work done (J) = force ( N ) $\mathbf{x}$ distance (m) (along the line of action of the force) | $\square$ I can use a graph to describe the relationship between force and extension of a spring I can rearrange equations involving forces I can describe all of the forces on objects that are stationary, accelerating, decelerating and moving at constant speed | - I can recall and use the equation: moment of a force ( Nm ) = force $(\mathrm{N}) \times$ distance ( m ) (normal to direction of the force) |

## Genetics

| Bronze | Silver | Gold | Platinum |
| :---: | :---: | :---: | :---: |
| $\square$ I can order the size of DNA, genes, chromosomes and define each term I can state the meaning of heredity I can describe the structure of DNA as a double helix I can define the term species and population | $\square$ I can describe the importance of DNA in inheritance <br> - I can describe examples of what individuals within a population would compete for <br> - I can describe what adaptations animals could have in a hot and cold environments <br> - I can identify an example of continuous and discontinuous variation | $\square$ I can describe the differences in between the terms: variation, population, species, competition, adaptation <br> - I can explain how an adaptation aids an animal's survival in an environment <br> - I can select the most appropriate graph to display data on variation | I can explain the role of gene banks <br> - I can describe what biodiversity is and explain how it can be maintained I can describe the process of natural selection fully <br> - I can predict the probability of inheriting a characteristic |

## space

| Bronze | Silver | Gold | Platinum |
| :---: | :---: | :---: | :---: |
| $\square$ I can recall and use the equation: gravity force ( N ) = mass (kg) x gravitational field strength, g ( $\mathrm{N} / \mathrm{kg}$ ) to calculate the weight of an object <br> - I can describe the parts of our Solar System and their arrangement | $\square$ I can describe what the terms day, month and year mean I can define the term 'light year' | - I can explain how the Earth's tilt leads to different seasons I can rearrange the equation: <br> gravity force ( N ) $=$ mass (kg) $x$ gravitational field strength, $g$ ( $\mathrm{N} / \mathrm{kg}$ ) | $\square$ Predict how the size of a planet and its distance from a star would affect its characteristics. |

