**Science – Common Misconceptions**

**Correct scientific language needs to be taught.**

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| **Area of Learning** | **🗸 Correct terminology** | **🗴 Incorrect terminology** |
| **Plant Growth – what is needed for plant growth?**  **Children need a good understanding of how water and light affect plant growth** | 🗸Light  🗸sunlight  🗸nutrients  🗸minerals  🗸O2/Co2 (beyond KS2, but acceptable)  🗸lack of sunlight | 🗴sun  🗴soil  🗴food  🗴fertiliser  🗴shade |
| **Leaves** | 🗸produce food/sugar  🗸absorb light  🗸take in/release Co2/O2 | 🗴make energy  🗴feed  🗴take in food from the sun  🗴breathe in Co2/O2 |
| **Roots** | 🗸absorb/take up/soak up water/ moisture/minerals  🗸stabilise plant | 🗴give the plant food  🗴drinking/sucking  🗴hold/balance plant |
| **Why do plants produce seeds?** | 🗸to reproduce  🗸to make more new trees/plants  🗸to continue the species | 🗴disperse  🗴make flowers  🗴continue cycle  🗴for survival |
| **Adaptation – needs to be specific for habitat ie. squirrel** | 🗸tail for balance  🗸claws for gripping tree  🗸sharp teeth for eating nuts | 🗴hands to help it grip  🗴fur keeps it warm |
| **Classification ie. plants** | 🗸needed because there is a large variety of plants – identification | 🗴to find plants |
| **Light** | 🗸**transparent** – a property that lets all light through  🗸**translucent** – a property that lets some light through  🗸**opaque** – a property that lets no light through | 🗴do not allow children to muddle transparent/translucent with reflection of light |
| **Circuit diagrams** | 🗸correct circuit symbols needed for components  🗸cell = battery | 🗴drawings of components |
| **To make a bulb brighter** | 🗸additional cell  🗸increased voltage | 🗴bigger battery |
| **Shape of sun** | 🗸sphere | 🗴round  🗴circle |
| **Duration of moon’s orbit** | 🗸approx 28 days | 🗴1 day  🗴24 days  🗴365 days |
| **Why does the sun appear to move across the sky?** | 🗸Earth is spinning/rotating | 🗴Earth orbiting  🗴We are spinning |
| **Magnetic forces** | 🗸develop understanding of direction of forces  🗸gravity  🗸weight  🗸opposite facing poles attract  🗸similar facing poles repel  🗸North and South poles  🗸magnets attract metals that contain iron | 🗴pulling down to Earth  🗴downwards pull  🗴 pull/push  🗴negative/positive  🗴poles are next to each other  🗴magnets attract metals |
| **Solids/liquids/gases** | 🗸powders are solids  🗸liquids flow, there can be changes in droplet size |  |
| **Melting, freezing, condensing, evaporation – processes need to be understood and recognised in a variety of situations (often muddled)** | 🗸change in state  🗸water droplets on window = condensation  🗸clothes drying = evaporation of water | 🗴drying  🗴steaming  🗴water gets warmer  🗴dissolve |