**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 |