Lyminster Primary School Subject: Science Unit Title: Materials Date:

**Working Scientifically Skills Coverage in This Unit:**

- Questioning and enquiring planning
- Observing and measuring
- Pattern seeking
- Investigating
- Recording and reporting findings
- Identifying, grouping and classifying
- Research
- Conclusion
- Vocabulary

**Common Misconceptions:**

- Plastic is not breakable. ***Fact:*** **Plastics can be broken. Different types of plastics have different properties. Some types of plastics can be broken more easily than others, e.g. the plastic used to make cling-wrap breaks more easily than the plastic used to make a plug cover.**
- Confusion about hardness and strength. ***Fact:*** **The differences between the common usage and the scientific definitions of the terms 'hardness' and 'strength' should be emphasised to pupils. In science, hardness refers to the ability of a material to withstand scratching and strength refers to the ability of a material to support a heavy load without breaking or tearing. Thus, a piece of chalk which is conventionally considered to be hard is not considered hard in the scientific sense. It can easily be scratched.**
- Heat insulators are non-conductors. ***Fact:*** **Matter which are heat insulators do conduct heat, albeit poorly. Thus, it is more appropriate to call them poor conductors of heat rather than non-conductors. Vacuum, which does not have particles (atoms, molecules or ions) to pass on heat can be considered to be a non-conductor. However, in reality, it is difficult to obtain a true vacuum.**

**Key Questions:**

Q: Why is glass used to make windows?
Q: Does heat travel well through all materials?
Q: What is a thermal insulator?
Q: How would you separate salt from water?
Q: Give an example of any change which cannot be reversed?
Q: What materials are attracted to magnets?
Q: What material can electricity pass through?

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| | Learning Objective: | Success Criteria: | Main Activities & Teaching Points: | Differentiated Activities: | Plenary Opportunities: |
|---|---|---|---|---|---|
| Lesson 1 | | | | | |
| Lesson 2 | | | | | |
| Lesson 3 | | | | | |
| Lesson 4 | | | | | |
| Lesson 5 and 6 | | | | | |
| **Notes: Use of Light levelled questions.** | | | | | |