



# Ladybirds – Science KCV – Working Scientifically



## Key skills to do:

- Know how to make relevant predictions that will be tested in a scientific enquiry
- Know that a theory is an explanation of observations that has been tested to some extent and that a hypothesis is an explanation that has not yet been tested, but that can be tested through a scientific enquiry
- Know that in a fair test one thing is altered (independent variable) and one thing that may change as a result is measured (dependent variable) while all other conditions are kept the same
- Know how to choose appropriate variables to test a hypothesis
- Know how to identify conditions that were imperfectly controlled and can explain how these might affect results
- Know how to accurately use further measuring devices, including digital and analogue scales, measuring cylinders and beakers, recognizing the relative accuracy of each device
- Know how and when to repeat measurements, how to find an average of a set of measurements and how to recognize and remove outliers from a set of data, justifying the removal as a potential mis-measurement
- Know how to independently write a simple scientific enquiry write-up including an introduction, a list of equipment, a numbered method, a detailing of results and a conclusion
- Know how to present brief oral findings from an enquiry, speaking clearly and with confidence and using notes where necessary
- Know examples of instances where scientific evidence has been used to support or refute ideas or arguments

## Words to know and spell (Tier 2 Vocabulary)

Opinion	Precision	Fair test
Fact	Identify	Measurement
Variables	Evidence	Classify
Keys	Predict	Results
Bar chart	Data	

## Words to understand and spell (Tier 3 Vocabulary)

<b>Independent variable</b>	A variable that is unchanged.
<b>Dependent variable</b>	The variable that is being measure or observed.
<b>Controlled variable</b>	A variable that you keep the same to avoid the results being invalidated.
<b>Hypothesis</b>	A prediction based on scientific theory.
<b>Comparative test</b>	A scientific test where you compare multiple items and make observations.

## Concept check questions. Test yourself:

- What do you predict will happen?
- What do your results show?
- How could we present these results?

**Opportunities for Investigation:** A child-led project to be developed over the half term, ideally to cover a 'Comparative Test' line of enquiry.

### Suggestions:

- Which shoe is the most slippy?
- Which types of sugar dissolve the fastest?