



## Homework 1 - Key Science Terms 1

Learn the spelling of the key term and their definition. Use each of the terms in an original sentence (do not just copy the definition) and bring this to your lesson and stick into your book.

Word	Meaning
Accuracy	A measurement result <b>close</b> to the <b>true value</b> .
True value	An <b>ideal</b> measurement.
Measurement error	The difference between a measured value and the true value.
Range	The maximum and minimum values of the independent or dependent variables
Uncertainty	The interval within which the true value can be expected to lie <b>(Range/2)</b>

## Homework 2 - Practical Science - Sound Practical

**Complete task A** - the practical into chemical change and produce a mini-science report.

**Or**

**Complete task B** a non – practical version by watching the video and completing the questions

### Task A - Pitch of sound

Take any empty glass container (drinking glass/glass jar/ glass bottle)

Fill to the very top with water.

Tap the top with a metal spoon.

Record pitch of sound (high, low, medium)

Remove 100 ml of water and repeat process and note the pitch of the sound.

Keep removing water until there is none left.

In your mini-science report:

1. State the independent variable of this investigation.
2. State the dependent variable of this investigation
3. State the control variable of this investigation
4. Describe the pattern shown in the results, stating how volume of water effects the pitch of sound

**Extension – Extension:** complete the experiment with a range of different sized glass containers to see how it effects the sound produced.

### Task B – Non-practical homework for pitch

[https://www.youtube.com/watch?v=YZzODimN\\_4s](https://www.youtube.com/watch?v=YZzODimN_4s)

In your mini-science report:

1. State the independent variable of this investigation.
2. State the dependent variable of this investigation
3. State the control variable of this investigation
4. Describe the pattern shown in the results, stating how volume of water effects the pitch of sound

Just for fun!! Look at what you can do with some glasses and water!!

[https://www.youtube.com/watch?v=QdoTdG\\_VNV4](https://www.youtube.com/watch?v=QdoTdG_VNV4)

Sugar Plum Fairy by Tchaikovsky - GlassDuo LIVE (glass harp)

GlassDuo at the "Festival di Santo Stefano" in Bologna, Italy. GlassDuo have created an exceptional musical instrument from a set of custom made wine glasses.

### Homework 3 - Key Science Terms

Learn the spelling of the key term and their definition. Use each of the terms in an original sentence (do not just copy the definition) and bring this to your lesson and stick into your book.

Word	Meaning
Validity	<b>Suitability of the investigative procedure</b> to answer the question being asked i.e. have all the controls variables been controlled
Fair test	A fair test is one in which only the independent variable has been allowed to affect the dependent variable.
Resolution	The <b>smallest measurement</b> possible on the <b>instrument</b>
Precision	Measurements are ones in which there is very <b>little spread about the mean value.</b>

## Homework 4 - Practical Science - Sound Practical

**Complete task A** - the practical into chemical change and produce a mini-science report.

Or

**Complete task B** a non – practical version by watching the video and completing the questions

### Task A - Make a telephone

Using two hard plastic or tin containers, like yoghurt pots or coffee cans, poke a small hole in the bottom and thread 10cm of the end of a 3metre piece of string through each hole. Tie a knot on the length of string inside each of the cans so that the string does not slip through the opening. Stretch out as far as you can, pulling the string tight. Say something into the open end of your can, can they hear what you are saying clearly? Experiment with different string lengths to see how the pitch and/or clarity compares.

In your mini-science report:

1. State the independent variable of this investigation.
2. State the dependent variable of this investigation
3. State the control variable of this investigation
4. Describe your findings.
5. Can you explain the science behind a string phone.

**Extension – Extension:** complete the experiment with a range of different sized/material containers to see how it effects the sound produced.

### Task B – Non-practical homework for chemical change

[https://www.youtube.com/watch?v=YZzODimN\\_4s](https://www.youtube.com/watch?v=YZzODimN_4s)

In your mini-science report:

1. Describe how sound is transmitted in the air to our ear
2. Why is there a limit to the distance you can be from an objects (e.g.guitar) in order to be able to hear the sound
3. Describe how sound is transmitted through a string telephone
4. Which works better when the string is tight or slack? Explain why.



