

WORD OF THE WEEK

1st October 2018

Uncertainty

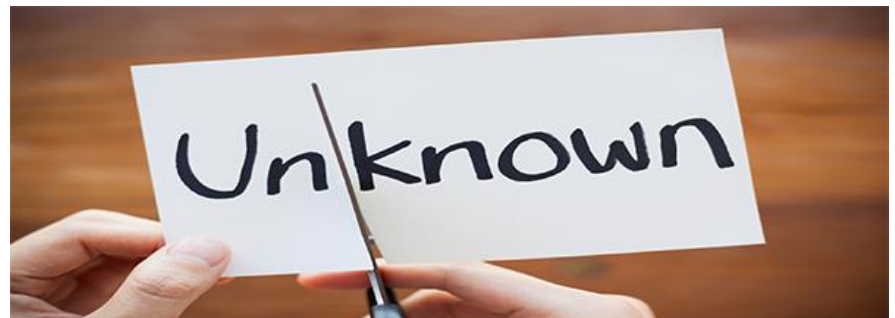
Uncertainty

This is quite a common word so you might know the meaning! Which picture do you think best depicts *uncertainty*?

I HAVE NO IDEA
WHAT'S GOING
TO HAPPEN.



AND I LOVE IT.



Uncertainty (*noun*)

1) **the state of being uncertain.**

synonyms:

unpredictability, unreliability, riskiness, chanciness, precariousness, unsureness;

2) **something that is uncertain or that causes one to feel uncertain.**

plural noun: **uncertainties**

• *synonyms:*

doubt, qualm, misgiving, apprehension, quandary, dilemma, reservation, niggle, scruple, second thought, query, question, question mark, suspicion

For example: "she pushed the anxious **uncertainties** out of her mind"

About the word:

- Uncertainty is an **abstract noun** which is a a noun denoting an idea, quality, or state rather than a concrete object, for example: *truth, danger, happiness*.
- The word is constructed by adding the **prefix** “un” to the word certainty; the prefix means “not,”
- The **adjective** form is uncertain.
- Certain means to be confident

Uncertainty in Science

- **Uncertainty** is the amount of error your measurements might have
- You need to be careful taking measurements in experiments!!
- The smaller the **uncertainty**, the more **precise** your results

$$\text{uncertainty} = \frac{\text{range}}{2}$$

The range is the largest value minus the smallest value.

- 1) The **larger** the range, the **less precise** your results are and the **more uncertainty** there will be in your results. Uncertainties are shown using the '±' symbol.

EXAMPLE:

The table below shows the results of an experiment to determine the speed of the trolley as it moves along a horizontal surface. Calculate the uncertainty of the mean.

Repeat	1	2	3	4
Speed (m/s)	2.01	1.98	2.00	2.01

- 1) First work out the range:

$$\text{Range} = 2.01 - 1.98 = 0.030 \text{ m/s}$$

- 2) Then find the mean:

$$\begin{aligned}\text{Mean} &= (2.01 + 1.98 + 2.00 + 2.01) \div 4 \\ &= 8.00 \div 4 = 2.00\end{aligned}$$

- 3) Use the range to find the uncertainty:

$$\text{Uncertainty} = \text{range} \div 2 = 0.030 \div 2 = 0.015 \text{ m/s}$$

$$\text{So the uncertainty of the mean} = 2.00 \pm 0.015 \text{ m/s}$$

Is uncertainty a good or bad thing?

TRUST THE WAIT.

Embrace the uncertainty.
Enjoy the beauty of becoming.
When nothing is certain,
anything is possible.

MANDY HALE



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TRYING
TO BE IN CONTROL
OF UNCERTAINTY IS LIKE TRYING
TO CUP
THE OCEAN IN YOUR HANDS.

BAGG

One Thing's for Certain:
UNCERTAINTY



If everything were always
certain, nothing would ever
change.

Uncertainty invites
us to possibility.



Lisa Rinat Loken