

Numeracy Across the Curriculum

PSHE, RELIGIOUS EDUCATION & CITIZENSHIP

Discussing Numbers

Numbers come up in conversations in everyday life all the time. You should use your mathematical knowledge in order to refer to them accurately.

Numbers

"Across England, **48,510** households were accepted as homeless by local authorities in 2011."



48,510 = Forty eight thousand, five hundred and ten

Percentages

"About **6%** of Britain's population is gay or lesbian."



6% = Six per cent

Fractions

"About **1/10** of the population of the USA is left-handed."



1/10 = "one tenth" or "one in ten"

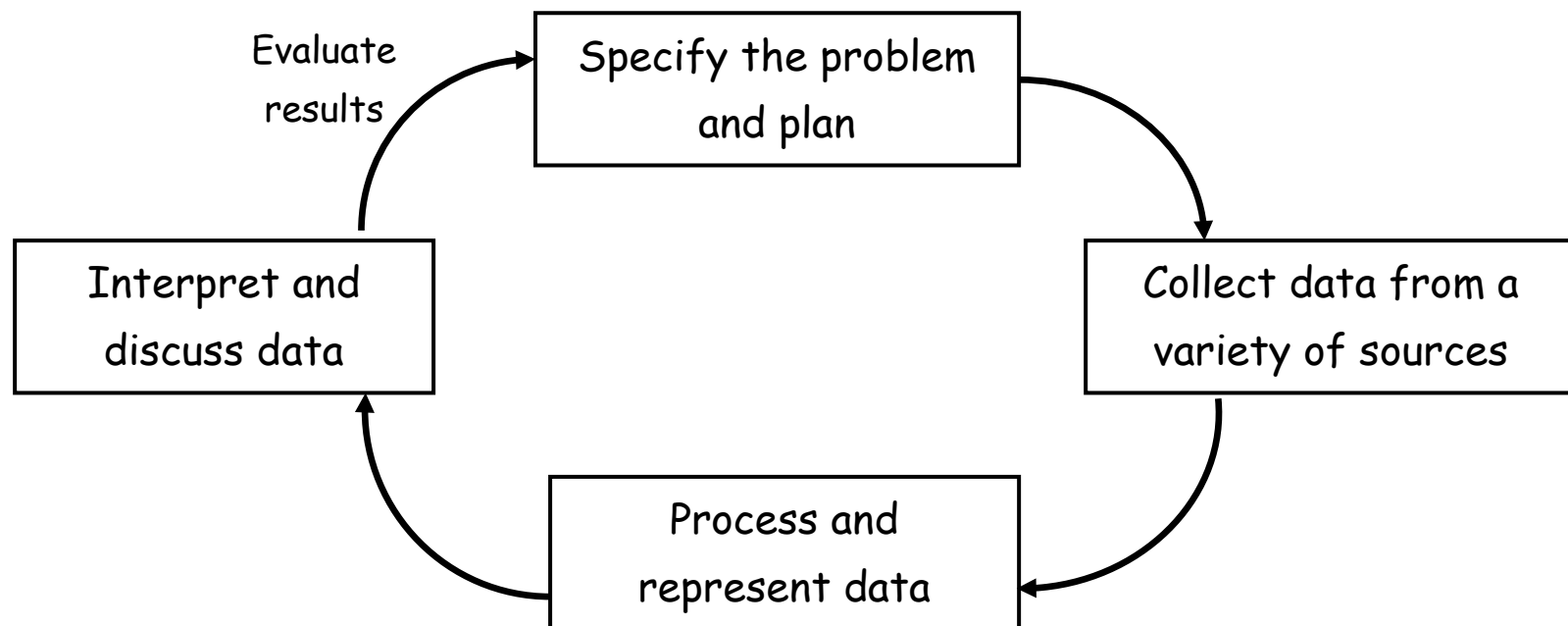
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The Handling Data Cycle

The handling data cycle gives you a guide on how to carry out a statistical investigation. Whatever the data you are collecting, the cycle allows you to gain a thorough understanding of its significance.

For example in Religious Education you might want to investigate the effect someone's religion has on their view of death. What data might you collect? Who would you collect it from? How would you do this? How would you illustrate your findings? What would you expect to conclude?

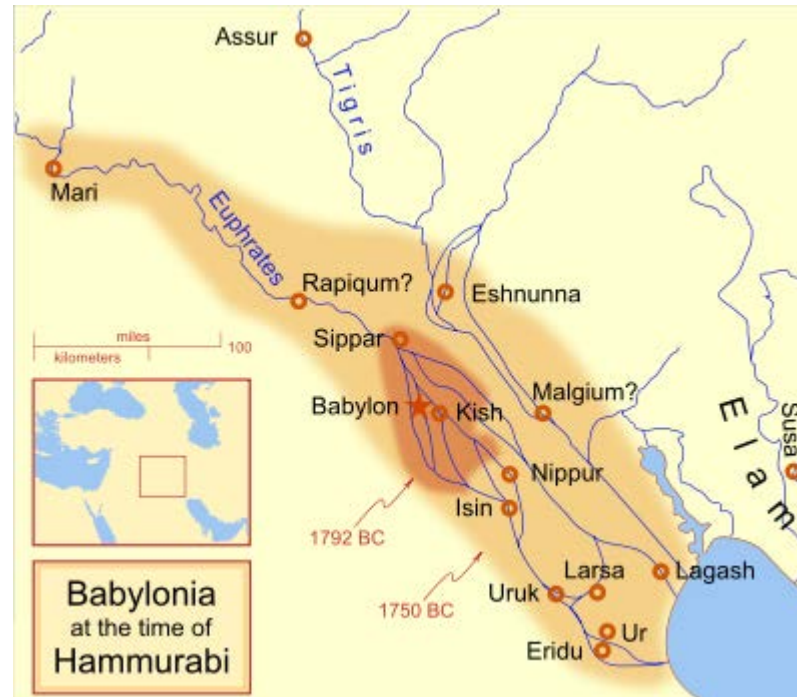


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Mathematics in Other Cultures

Ancient Babylonians



The Babylonians had an advanced number system with a base of 60 rather a base of 10.

Perhaps the most amazing aspect of the Babylonian's calculating skills was their construction of tables to aid calculation. Two tablets found dating from 2000 BC give the squares of numbers up to 59 and the cubes of numbers up to 32.

Babylonia was situated in the area that is now the Middle East. The Babylonian civilisation existed from about 2300 BC to 500 BC.

The Babylonians divided the day into 24 hours, each hour into 60 minutes and each minute into 60 seconds. This form of counting has survived for over 4000 years.

The table gives $8^2 = 1,4$ which stands for

$$8^2 = 1, 4 = 1 \times 60 + 4 = 64$$

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Mathematics in Other Cultures

Ancient Egypt



The Ancient Egyptian civilisation existed from about 3000BC to 300BC.

The Egyptians were very practical in their approach to mathematics and their trade required that they could deal in fractions. Egyptians used mainly **unit fractions** i.e. fractions with a numerator equal to one.

$1/2$	$1/3$	$1/4$	$1/5$

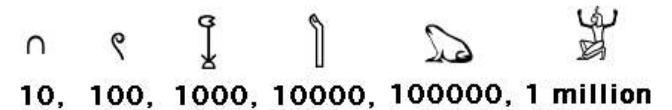


The Egyptians worked out that the year was 365 days long and used this for a civil calendar. Eventually the civil year was divided into 12 months, with a 5 day extra period at the end. The Egyptian calendar was the basis for the Julian and Gregorian calendars.

The ancient Egyptians used a number system with base 10.



Larger numbers had special symbols



Can you find the numbers on this tablet indicating how many of each item this man wished to take to the afterlife?

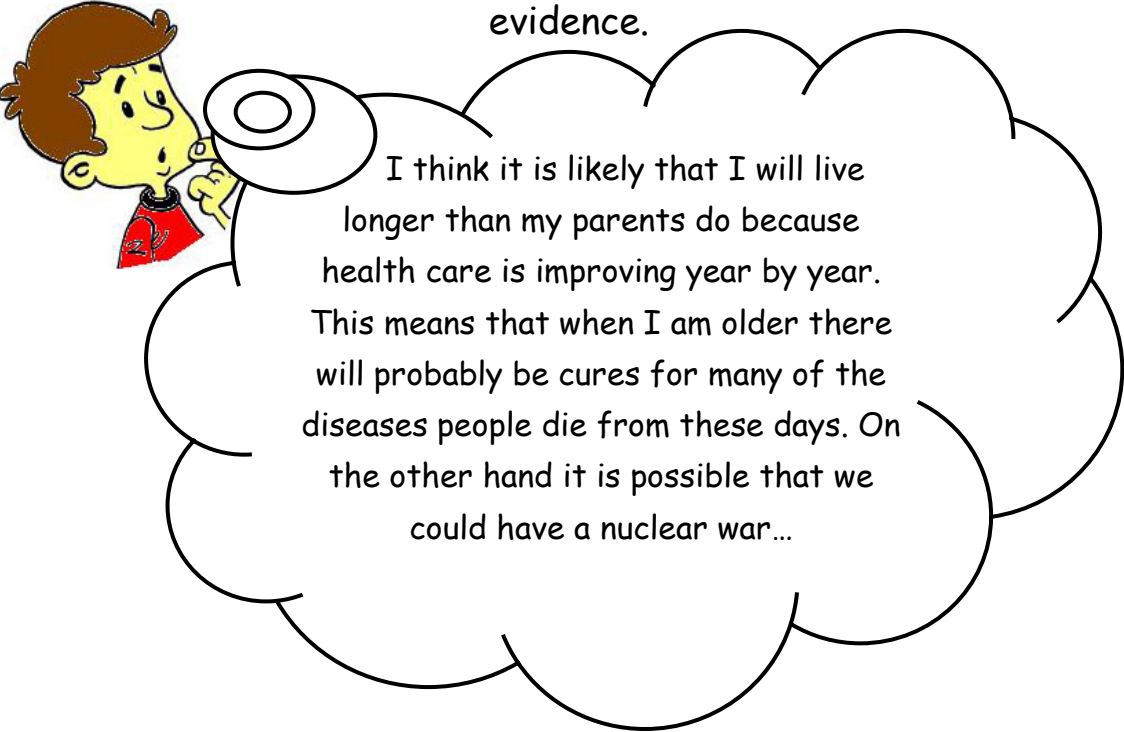
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Probability, Risk and Chance

What's the chance of you becoming infected with HIV? What's the risk of a baby being stillborn? How likely is it that you will live longer than your parents do? All these questions are connected with probability.

Probability can be discussed in different ways. Sometimes you simply use words such as "likely", "impossible" or "certain" making sure to back up your opinions with evidence.

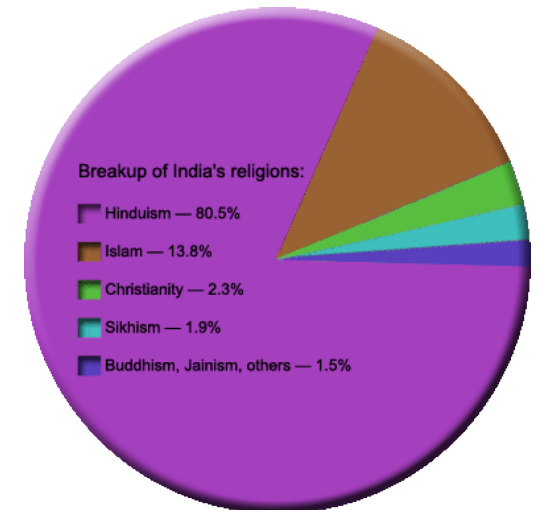


I think it is likely that I will live longer than my parents do because health care is improving year by year. This means that when I am older there will probably be cures for many of the diseases people die from these days. On the other hand it is possible that we could have a nuclear war...

You can give a more objective viewpoint if your probabilities are backed up by numbers.

From this Pie Chart you can see that 80.5% of India's population are Hindu.

If an Indian citizen was picked at random from a database you could estimate the probability that they were Hindu as 80.5%.



It would also be fair to say that they would be unlikely to be Buddhist.