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| **Count using hieroglyphics** | | |
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| Learn how to write numbers in hieroglyphics | | |
| **Subject(s):** Design and Technology, Maths  **Approx time:** 25-40 minutes |  | **Key words / Topics:**   * Hieroglyphics * Pharaoh * Numeracy |
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| Stay safe  Whether you are a scientist researching a new medicine or an engineer solving climate change, safety always comes first. An adult must always be around and supervising when doing this activity. You are responsible for:    • ensuring that any equipment used for this activity is in good working condition  • behaving sensibly and following any safety instructions so as not to hurt or injure yourself or others    Please note that in the absence of any negligence or other breach of duty by us, this activity is carried out at your own risk. It is important to take extra care at the stages marked with this symbol: ⚠ | | |
| **Suggested Learning Outcomes** |  |  |
| * To know what Hieroglyphics are * To be able to use Hieroglyphics to represent numbers of values up to 10,000,000 * To be able to carry out basic numeracy functions | | |
| **Introduction** |  |  |
| This is one of a set of resources designed to allow learners to use practical methods to support the delivery of key topics within design & technology, history, and mathematics. This resource is based on the use of Hieroglyphics for mathematical activities by the Ancient Egyptians.  This activity involves interpreting and using hieroglyphic symbols for simple mathematical functions. | | |
| **Purpose of this activity**  In this activity learners will discover how to write numbers in hieroglyphics. This could be used as a main lesson activity, to teach learners about the works of the ancient Egyptians contributing to learning in D&T, History and Mathematics or as an alternative method of reinforcing learning in basic numeracy.  Additionally, this could be used to start a discussion on Ancient Egypt or to introduce the concept of people using different languages. It could also be used in conjunction with the other activities in this theme, ‘Make papyrus’ and ‘Write in hieroglyphics’. | | |
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| **Activity** |  | **Teacher notes** |
| **Introduction (15-20 minutes)**  Teacher to explain what hieroglyphics are and how they were used, using the presentation. Teacher to explain how hieroglyphic symbols are used to represent numbers.  **Writing (10-20 minutes)**  Using the hieroglyphic symbols, learners to write down three numbers with values between 1,000 and 10,000,000, then swap their numbers with a peer. Can they tell each other the correct values of the numbers? |  | The presentation includes a slide showing how the ancient Egyptians represented fractions using hieroglyphics, which could be used for extension. Additionally, learners could write and solve maths problems using hieroglyphics.  The advantage of this approach is that learners will have to think about the values of the numbers, rather than just processing stated values. |

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| **Differentiation** |  |  |
| **Basic** |  | **Extension** |
| * Provide learners with the numbers drawn using hieroglyphics, so they only need to interpret the values. |  | * Write down numbers that include fractions. * Write three different maths problems using hieroglyphics. Swap these with someone else - Can they give you the correct answers, in hieroglyphics? |
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| **Resources** |  | **Required files** icon-docicon-pdficon-ppt |
| Paper and pens |  | icon-ppt Presentation – Count using hieroglyphics  icon-doc Worksheet - Hieroglyphics |
| **Additional websites** |  |  |
| * **How hieroglyphics were used in maths** <https://discoveringegypt.com/egyptian-hieroglyphic-writing/egyptian-mathematics-numbers-hieroglyphs/> * National Geographic website with **facts about hieroglyphics**: <https://www.natgeokids.com/uk/discover/history/egypt/hieroglyphics-uncovered/> * **World history encyclopaedia – Ancient Egyptian Science & Technology**: An explanation of the scientific and technological achievements of the ancient Egyptians. <https://www.worldhistory.org/article/967/ancient-egyptian-science--technology/> | | |
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| **Related activities (to build a full lesson)** |  | |  |
| **Starters** (Options) Ask learners to list all the different reasons they can think of why people would need to count things. | | **Extension** (Options)   * Write down numbers that include fractions. * Write three different maths problems using hieroglyphics. Swap these with someone else - can they give you the correct answers, in hieroglyphics?   **Plenary**   * Learners to swap their numbers with a peer - can they each work out the correct values? | |
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| **The Engineering Context** film |
| An understanding of numbers is vital for engineers to solve lots of interesting problems. For example, factories need to know the quantity of materials to order to make their products and farmers need to know how much food to produce. |

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| **Curriculum links** | | |
| **England: National Curriculum**  History KS2   * the legacy of Greek or Roman culture (art, architecture or literature) on later periods in British history, including the present day   Mathematics KS2   * read, write, order and compare numbers up to 10 000 000 and determine the value of each digit * solve addition and subtraction multi-step problems in contexts | | **Northern Ireland Curriculum**  KS2 – Art and Design   * Respond to the world around them * Develop and use their imagination   KS2 – Maths  Number  Operations and their applications: engage in a range of activities to develop understanding of the four operations of number |
| **Scotland: Curriculum for Excellence**   * Presenting using visual concepts   EXA 2-03a   * Accuracy of representation   EXA 3-04a  Mathematics   * MNU2-02a * MNU2-03a | | **Wales: National Curriculum**  Design and Technology KS2   * Learners should be made aware of human achievements and the big ideas that have shaped the world.   Mathematics KS2  Using number skills   * read and write numbers to 1 million * use understanding of simple fraction, decimal and percentage equivalences * add and subtract numbers using whole numbers |
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| **Assessment opportunities** |
| * Informal formative assessment of the interpretation of the values. |