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| **Reasoning** | | | |
| There is a huge emphasis on reasoning during maths lessons. To fully understand a concept children should be able to draw it, describe it and explain it. They will have had opportunity to practice their skills involving procedural variation and conceptual variation.  Children are paired with a mastery partner and will be required to share ideas, explaining their methods and answers. When they are secure with a concept, they should be required to show their deep understanding through a variety of problem solving activities. These will be evidence in their maths books and it will be indicated through marking whether a challenge was for consolidation or greater depth.  Teachers will ensure they are using appropriate challenges including those from The Maths Hub, NRich and the NCETM.  Some ideas for how we promote reasoning are shown below | | | |
| Odd one out | Would you rather have? | Find the mistake.. | What is the same? What is different? |
| True or False | How are these linked? | What did you notice? | Give me a silly answer to this  problem. What makes it silly? |
| Tell me about this | Explain how you worked the answer out. What is your top tip? | Convince me that…. | What if…. |
| Give me a hard and easy example of a calculation you could do with these numbers.  Give me a hard and easy example of a five-digit calculation.  Give me a hard and easy example of a question you could ask about this graph / pie chart etc.  explain why… | Find the mistake. What did they do wrong? How would you tell them to correct it? | Always, sometimes, never | If you know this fact, what else do you know? Eg. If you know:  4 + 6 = 10  You know:  40 + 60 = 100  100 – 40 = 60  The sum of 6 and 4 is 10.  4000 + 6000 = 10,000  100,000 – 60,000 = 40,000  If it is 6 o’clock now, in 4 hours it will be 10 o’clock. |