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| **Week 1**  **Addition** | Lolla bought a balloon at the circus. She gave the clown six coins to pay for it.  What could Lolla have paid for the balloon?  Which of your answers seems a reasonable amount to pay for a balloon? | Ram divided 15 pennies among four small bags.  He labelled each bag with the number of pennies inside it.  He could then pay any sum of money from 1p to 15p without opening any bag.  How many pennies did Ram put in each bag? | The value of the red shapes changes in each of the following problems. Can you discover its value in each problem, if the values of the shapes are being added together?   |  |  |  | | --- | --- | --- | | (a) | https://nrich.maths.org/content/01/05/penta3/letmetri.gifhttps://nrich.maths.org/content/01/05/penta3/Loaf.jpghttps://nrich.maths.org/content/01/05/penta3/letmerec.gif | =25 | | (b) | https://nrich.maths.org/content/01/05/penta3/letmerec.gifhttps://nrich.maths.org/content/01/05/penta3/letmetri.gifhttps://nrich.maths.org/content/01/05/penta3/letmetri.gifhttps://nrich.maths.org/content/01/05/penta3/Oval.jpg | =51 | | Four bags contain a large number of 1s, 3s, 5s and 7s.  Pick any ten numbers from the bags, so that their total is 37. | Here is a clock-face with letters to mark the position of the numbers so that the statements are easier to read and to follow.  clock face.   1. No even number is between two odd numbers. 2. No consecutive numbers are next to each other. |
| **Week 2**  **Subtraction** | Tim had nine cards, each with a different number from 1 to 9 on it. He put the cards into three piles so that the total in each pile was 15. How could he have done this?  Can you find *all* the different ways Tim could have done this? | I have fifteen cards numbered 1− 15. I put down seven of them on the table in a row. The numbers on the first two cards add to 15. The numbers on the second and third cards add to 20. The numbers on the third and fourth cards add to 23. The numbers on the fourth and fifth cards add to 16. The numbers on the fifth and sixth cards add to 18. The numbers on the sixth and seventh cards add to 21. What are my cards? | Take three numbers that are 'next door neighbours' when you count. These are called consecutive numbers. Add them together. What do you notice?  Take another three consecutive numbers and add them together. What do you notice?  Can you prove that this is always true by looking carefully at one of your examples? | https://nrich.maths.org/content/id/12672/AlwaysSometimesNeverStatementsUKS2Number.pngSometimes, always or never? | A set of ten cards, each showing one of the digits from 0 to 9, is divided up between five envelopes so that there are two cards in each envelope. The sum of the cards inside it is written on each envelope:  five envelopes with the numbers 7, 8, 13, 14 and 3 written on them (one number per envelope)  What numbers could be inside the 8 envelope? |
| **Week 3**  **Multiplication** | Use roman numerals to represent all of the prime numbers to 200. Is there a pattern? | Andrew decorated 30 biscuits to take to a party. He lined them up and put icing on every 2nd biscuit. Then he put a cherry on every 3rd biscuit. Then he put a chocolate button on every 4th biscuit. So there was nothing on the first biscuit.   1. Which other biscuits had no decoration? 2. Which biscuits got all three decorations? | 2 shapes  What is the area of each shape? What is the perimeter of each one? What is the area of the combined shapes? If you combine them in different ways, do you get a different area? | sum: 1abcde multiplied by 3 equals abcde1.  What could the letters represent? Is there more than one possibility? | multiplications using shapesThe coloured shapes stand for eleven of the numbers from 0 to 12. Each shape is a different number.  Can you work out what they are from the multiplications below? |
| **Week 4**  **Division** | Katie had a pack of twenty cards numbered from 1 to 20.  She arranged the cards into six piles.  The numbers on the cards in each pile added to the same total.  What was the total and how could this be done? | The great planetary explorer Nico, who first discovered the planet, saw a crowd of Zios and Zepts. He managed to see that there was more than one of each kind of creature before they saw him. Suddenly they all rolled over onto their backs and put their legs in the air.  He counted 52 legs. How many Zios and how many Zepts were there? Do you think there are any different answers to this that woud work? | John has 200 sweets. He shares them out equally between his friends. He has below 20 friends. What are the possible calculations that John could use? | Norrie then watched a third light. He saw it flash at the same time as the other two, then flash every 7th second. How many minutes before this light again flashes at exactly the same time as the other two? | Write down the number 4, four times. Put operation symbols between them so that you have a calculation. So you might think of writing 4×4×4−4=60  **BUT use operations so that the answer is**12  Now, can you redo this so that you get 15, 16 and 17 for your answers? |
| **Week 5**  **Shape** | Triangles only have 1 right angle. Do you agree or disagree? Reason why. | 3 squares  What is the greatest number of squares you can make by overlapping three squares of the same size? | Every 2D shape’s angles add up to 360 degrees. True or false? | A square is the only shape with 4 equal sides. True or false? | 3D shapes consist of smaller 2D shapes. True or false? |