|  |
| --- |
| **Year 1 - Building and assessing the conceptual understanding and learning – Addition and Subtraction** |
| **End of Year Expectations:*** Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs
* Represent and use number bonds and related subtraction facts within 20
* Add and subtract one-digit and two-digit numbers to 20, including zero
* Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9.
 | **Non-statutory guidance:**Pupils memorise and reason with number bonds to 10 and 20 in several forms (e.g. 9 + 7 = 16; 16 - 7 = 9; 7 = 16 - 9). They should realise the effect of adding or subtracting zero. This establishes addition and subtraction as related operations. Pupils combine and increase numbers, counting forwards and backwards. They discuss and solve problems in familiar practical contexts, including using quantities. Problems should include the terms put together, add, altogether, total, take away, distance between, more than and less than, so that pupils develop the concept of addition and subtraction and are enabled to use these operations flexibly.  |
| **Autumn** | **Spring** | **Summer** |
| * Practical addition and subtraction problems within 20 – independent recording.
* Partitioning numbers to 10 in different ways.
* Begin to use a number line for addition and subtraction – counting all, then counting on for addition and counting back for subtraction. Use practical objects / pictures on a number line.

**See NCETM “Teaching for Mastery” Year 1 book – addition and subtraction.**https://www.ncetm.org.uk/public/files/23305594/Mastery\_Assessment\_Y1\_Low\_Res.pdf | * Contextual addition and subtraction problems within 30 - begin to use “+”, “-“ and “=” symbols with understanding .
* Explore number bonds to 20, applying knowledge of number bonds to 10.
* Use a number line to support addition and subtraction –counting on for addition and counting back for subtraction.
* Know and understand that addition can be done in any order (commutativity) but subtraction cannot.
* Use knowledge of number bonds to begin to add some numbers mentally
* Begin to add/subtract using jumps of ten and one using a structured number line for support.
* Begin to understand the relationship between addition and subtraction, knowing that, for example, if 7 + 3 = 10, then 3+7 =10, 10-7=3 and 10-3=7
 | * Contextual addition and subtraction problems within 30, using “+”, “-“ and “=” symbols .
* Apply knowledge of number bonds to 10 to number pairs to 20.
* Use a number line to support addition and subtraction –counting on for addition and counting back for subtraction.
* Know and understand that addition can be done in any order (commutativity) but subtraction cannot.
* Use knowledge of number bonds to begin to add some numbers mentally
* Begin to add/subtract using jumps of ten and one using a structured number for support.
* Understand the relationship between addition and subtraction, knowing that, for example, if 7 + 3 = 10, then 3+7 =10, 10-7=3 and 10-3=7.
* Represent and use number bonds and related subtraction facts within 20
* Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9.
 |

|  |  |  |
| --- | --- | --- |
| **Key questions:*** **Can I solve practical problems involving addition, recording them independently using pictorial and iconic recording, explaining how I solved them (within 20)?**
* **Can I solve practical problems involving subtraction, recording them independently using pictorial and iconic recording, explaining how I solved them?**
* **Can I partition all numbers to ten in different ways?**
* **Can I partition ten in different ways using different resources, and begin to use this to solve addition and subtraction problems to ten?**
* **Can I begin to use a structured number line for addition, still using concrete objects on the number line if I need to?**
* **Can I begin to use a number line for subtraction, still using concrete objects on the number line if I need to?**
 | **Key questions:*** **Can I solve practical problems involving addition, recording them independently using pictorial and iconic recording, explaining how I solved them (within 20, possibly 30)?**
* **Do I understand what the “+” and “-“ symbols mean, and can I use these in number sentences correctly?**
* **Do I understand that the “=” symbol means equivalence, and can I use this appropriately and confidently in a range of number sentences – e.g. 5 + 5 = ? + 7.**
* **Am I beginning to see how addition and subtraction relate to each other? (E.g. given a number problem involving three numbers, 4, 6 and 10, can answer addition and subtraction questions involving all three numbers, based on my growing understanding of the relationship between + and -).**
* **When I record calculations, do I demonstrate that I understand that addition can be done in any order, but subtraction cannot?**
* **Can I recall all of my number bonds to ten, and am I beginning to use and apply these when I solve calculation problems?**
* **Am I beginning see how I can apply my knowledge of number bonds to 10 to number bonds to 20? (linked to my developing understanding of place value / ten more / concept of “ten”)**
* **Do I know number facts for other numbers up to 10 and am I beginning to use and apply these when I calculate?**
* **Am I beginning to see how I can apply my knowledge of other number pairs to different number pairs within 20? (e.g. if I know that 4 and 3 make 7, I also know that 14 and 3 make 17) (linked to my developing understanding of place value / ten more / concept of “ten”)**
* **Can I use a structured number line to count on in order to solve addition problems?**
* **Can I use a structured number line to count back in order to solve subtraction problems?**
* **Can I use my knowledge and understanding of place value and to quickly add or subtract ten to or from a number (showing this on a structured number line, and getting more confident at quickly finding the number that is “ten more / less” without counting)?**
 | **Key questions:*** **Can I confidently solve one-step problems involving addition and subtraction independently, explaining how I solved them and recording them accurately using +, - and = symbols (within 20, possibly 30)?**
* **Can I demonstrate my understanding of the “=” sign as equivalence?**
* **Do I understand how addition and subtraction relate to each other? (E.g. given a number problem involving three numbers, 4, 6 and 10, can answer addition and subtraction questions involving all three numbers, based on my secure understanding of the relationship between + and -).**
* **Can I recall all of my number bonds to all numbers to ten, and use and apply these when I solve calculation problems?**
* **Can I recall and use addition and subtraction facts to 20?**
* **Can I use my knowledge of “ten more”, “ten less” to calculate more efficiently e.g. by beginning to use jumps of ten on a structured number line.**
 |