## Year 3 Home Learning

## Addition and Subtraction Booklet 1



Name:
Class:

## Home Learning Guidance

As a home tutor of maths over many years I have always strived to make my sessions as enjoyable as possible but with a clear focus on the educational outcomes I wanted to achieve.

This means striking a balance between lots of fun interactive activities using visual aids and games alongside time for independent learning and reflection.


A pack of playing cards is great for making up all sorts of maths games from very simple pairs to make ten through to more complex activities using random cards to make certain target numbers using all methods of mental calculation.

In fact, I have written a whole series of books available through Tarquin Group entitled Ace Mathematics Games (Years $1-6$ ). These games can also be viewed, purchased and downloaded for £1 each through the Tarquin Select website.

A domino set is also a great resource as mathematical questions can be asked as each player places a domino and these questions can be directed specifically to the ability of each child if you are playing in a mixed age group.

Other resources I have used or made myself to make maths fun and interactive are large fluffy dice, a garden tin can target set numbered 1-10 and a Nerf gun, bean bags or hoopla with numbered targets, miniature plastic glasses from a pound shop with numbered stickers $0-20$, a collection of buttons, an indoor ball to throw and catch or bounce whilst counting in different ways or answering questions.


So, try and have some learning fun but the booklet is here to use as a follow-up for the quiet independent learning and reflection that needs to take place during a home learning session. After completion of each activity encourage children to check through their work and maybe identify any corrections that need to be made.

One thing I often do is congratulate them on the good work done but then identify a section of work where I have identified a mistake and ask them to try and find where the error has been made as this requires more careful reflection.

And finish with another game. Have fun and hope this helps.

## Number Bond Patterns

Look for the patterns to help you complete these number bonds.


Look for the patterns to help you complete these number bonds.

|  | $\begin{aligned} & \square \\ & \text { ㅁ } \end{aligned}$ |  | ㅁ |  |  |  | 1.1 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3 | - | $=$ | 2 | 30 | - | - | 20 | 300 | - | 100 | 200 |
| 5 | - | 4 | = | 50 | - | 40 | = | 500 | - | 400 | = |
| 6 | - | 3 | $=$ | 60 | - | 30 | = | 600 | - | 300 | $=$ |
| 9 | - | 5 | = | 90 | - | 50 | = | 900 | - | 500 | = |
| 7 | - | 2 | $=$ | 70 | - | 20 | = | 700 | - | 200 | = |
| 8 | - | 1 | = | 80 | - | 10 | = | 800 | - | 100 | = |
| 5 | - | 5 | $=$ | 50 | - | 50 | = | 500 | - | 500 | $=$ |
| 10 | - | 8 | = | 100 | - | 80 | = | 1000 | - | 800 | $=$ |
| 8 | - | 6 | $=$ | 80 | - | 60 | = | 800 | - | 600 | = |
| 6 | - | 2 | $=$ | 60 | - | 20 | = | 600 | - | 200 | $=$ |
| 7 | - | 5 | = | 70 | - | 50 | = | 700 | - | 500 | = |
| 10 | - | 7 | $=$ | 100 | - | 70 | = | 1000 | - | 700 | = |
| 9 | - | 3 | = | 90 | - | 30 | = | 900 | - | 300 | = |
| 4 | - | 1 | $=$ | 40 | - | 10 | = | 400 | - | 100 | = |
| 8 | - | 4 | = | 80 | - | 40 | = | 800 | - | 400 | = |
| 7 | - | 3 | $=$ | 70 | - | 30 | = | 700 | - | 300 | = |
| 10 | - | 9 | = | 100 | - | 90 | = | 1000 | - | 900 | $=$ |

4 less
(2)


| $9+12=$ | $59+7=$ | 23-5 = | $87-6=$ |
| :---: | :---: | :---: | :---: |
| $6+7=$ | $70+4=$ | $48-6=$ | 50-7 = |
| $21+8=$ | $8+45=$ | $54-7=$ | 18-5 = |
| $6+36=$ | $12+9=$ | $16-9=$ | 75-8= |
| $77+5=$ | $5+36=$ | $37-3=$ | $26-9=$ |
| $4+48=$ | $66+4=$ | $25-9=$ | 94-8 = |
| $53+9=$ | $9+82=$ | $89-4=$ | 39-7 = |
| $3+97=$ | $27+6=$ | $57-1=$ | $61-2=$ |
| $26+6=$ | $3+78=$ | 96-5 = | $83-5=$ |
| $5+34=$ | $58+5=$ | $41-8=$ | 45-4 = |
| $89+2=$ | $7+42=$ | $50-2=$ | 76-8 = |
| $8+51=$ | $63+8=$ | $63-7=$ | $58-6=$ |
| $63+7=$ | $5+17=$ | 29-6 = | $100-9=$ |
| $15+8=$ | $28+6=$ | $82-4=$ | $69-3=$ |
| $5+39=$ | $3+34=$ | $38-3=$ | 36-6 = |
| $26+7=$ | $49+9=$ | $75-9=$ | 15-7 = |
| $8+78=$ | $7+57=$ | $47-8=$ | 92-5 = |
| $64+6=$ | $85+4=$ | 19-7 = | 47-4 = |
| $4+42=$ | $9+26=$ | 96-5 = | $50-8=$ |
| $86+5=$ | $73+8=$ | $53-4=$ | $71-3=$ |

5 Less / 5 More
8 less 8 more
(2) 10

5 less
5 more


40



$\square$

## Ghost Blasters

Add then subtract the ghost numbers to hit the target with your answer.


## Ghost Blasters

Subtract then add the ghost numbers to hit the target with your answer.

| ${ }_{42}^{6}$ | $-\left[\begin{array}{c} \infty \\ \dot{6} \end{array}\right]=$ | $\left[\begin{array}{l} \infty \\ 6 \end{array}\right]$ |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| © | $\left.-\begin{array}{c} \infty \\ 8 \end{array}\right]$ | $\infty$ |  |  |  |
| $\stackrel{\infty}{24}$ | $-\left[\begin{array}{l} \infty \\ 5 \end{array}\right]$ | $\left.\begin{array}{l} \infty \\ 5 \end{array}\right]$ |  |  |  |
| $\begin{array}{r} \circ \\ 91 \\ 91 \end{array}$ | $-\infty$ | $\infty$ |  |  |  |
| $\left[\begin{array}{c} 37 \\ 37 \end{array}\right.$ | $-\stackrel{\oplus}{9}$ |  |  |  |  |
| $5$ | $-\longdiv { 4 }$ | $\infty$ |  |  |  |
| $\begin{aligned} & \circ \\ & \hline 65 \\ & \hline \end{aligned}$ | $-\left[\begin{array}{l} \infty \\ 7 \end{array}\right]$ | $\left[\begin{array}{l} \infty \\ 7 \end{array}\right]$ |  |  |  |
| $\left[\begin{array}{c} \infty \\ 33 \end{array}\right]$ | $-\stackrel{\circ}{6}$ |  |  |  |  |
| $\infty$ | $-\stackrel{\odot}{i}$ |  |  |  |  |
| $\stackrel{\bullet}{84}$ | $-\stackrel{\infty}{8}$ |  |  |  |  |
| $\overbrace{72}^{\infty}$ | $\left.-\begin{array}{\|} \oplus \\ 9 \end{array}\right]$ | $\left[\begin{array}{l} \infty \\ 9 \end{array}\right]$ |  |  |  |
| $\left[\begin{array}{c} 65 \\ 55 \end{array}\right]$ | $\left.-\begin{array}{c} \infty \\ 0 \\ 6 \end{array}\right]=-$ | $\infty$ |  |  |  |



## Number Machines

Fill in the empty spaces in these number machines.


## CATDOG

CATDOG is a game for two players which practices adding and subtracting numbers up to fifty.

## What you need

Playing cards
Counter
CATDOG game track

## How it works

Decide who is DOG (adding) and who is CAT (subtracting). DOG moves from left to right along
 the game board and CAT moves from right to left.

Place a counter on the middle number of the game track. Shuffle the cards and place them in a pile face down between the players. They then take it in turns to turn over a card and move the counter that number of places in their direction. A jack has a value of eleven, a queen twelve and a king thirteen. Players need to be encouraged to use their knowledge of number bonds and mental maths strategies rather than moving the counter as they count on or back.

For example, if CAT's counter is on sixteen and they turn over a nine, they either recall the number fact from memory or partition the nine into six and three so 16-6 $=10$ then $10-3=7$ rather than counting whilst moving their counter.

The winner is the player who can get the counter to their end of the game track. Change characters and play again so both players practice their addition and subtraction skills.

## Possible changes/Next steps

Include two jokers in the pack with a value of 15 or 20 for each one.


## Trios

Use the numbers in these Trio Triangles to help you complete the number facts.

$14+8=22$
$8+14=22$
$22-8=14$
$22-14=8$

$+\ldots=$ $\qquad$
$\_^{+}=$
$\sim_{-}=$
$\square^{-}=$

$+\ldots=$ $\qquad$
$+\quad=$ $\qquad$
$\_^{-}=$
$+\quad=$ $\qquad$
$L_{-}=$
$-\ldots=$
$-\_=$

Now complete the third number in the triangle yourself before writing the fact family.

$\__{-}=$
$\_^{+}=$
$\begin{aligned}- & = \\ - & =\end{aligned}$

$+\quad+=$ $\qquad$
$]^{+}=$
$-\quad=$

## Number Bond Patterns

Look for the patterns to help you complete these number bonds.


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|  |  |  | I |  |  |  | d |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 60 | - | $40=$ | 20 | 160 |  | - | 40 | = | 120 |
| 30 | - | 20 | $=$ | 130 | - | 20 | $=$ |  |  |
| 90 | - | 50 | $=$ | 290 | - | 50 | $=$ |  |  |
| 100 | - | 40 | $=$ | 500 | - | 40 | $=$ |  |  |
| 60 | - | 30 | $=$ | 860 | - | 30 | $=$ |  |  |
| 80 | - | 10 | $=$ | 380 | - | 10 | $=$ |  |  |
| 70 | - | 60 | $=$ | 470 | - | 60 | $=$ |  |  |
| 30 | - | 10 | $=$ | 930 | - | 10 | $=$ |  |  |
| 50 | - | 20 | $=$ | 150 | - | 20 | $=$ |  |  |
| 90 | - | 70 | $=$ | 690 | - | 70 | $=$ |  |  |
| 80 | - | 80 | $=$ | 280 | - | 80 | = |  |  |
| 40 | - | 30 | $=$ | 740 | - | 30 | = |  |  |
| 70 | - | 40 | $=$ | 370 | - | 40 | $=$ |  |  |
| 100 | - | 50 | $=$ | 600 | - | 50 | = |  |  |
| 50 | - | 40 | $=$ | 150 | - | 40 | $=$ |  |  |
| 90 | - | 30 | = | 890 | - | 30 | = |  |  |
| 100 |  | 70 | $=$ | 900 | - | 70 | $=$ |  |  |

## Bridging One Hundred Add

Show the best way to partition using the number line to bridge across one hundred.

$$
80+50=130
$$


$90+80=$ $\qquad$
$70+70=$ $\qquad$
$60+50=$ $\qquad$
$40+90=$ $\qquad$
$80+30=$ $\qquad$
$\qquad$
$50+70=$ $\qquad$
$\qquad$
$90+60=$ $\qquad$
$\qquad$
$70+60=$ $\qquad$
$\qquad$
$60+80=$ $\qquad$
$80+40=$ $\qquad$

## Bridging One Hundred Subtract

Show the best way to partition using the number line to bridge across one hundred. $140-90=50$

$110-80=$ $\qquad$
$120-70=$ $\qquad$
$160-80=$ $\qquad$
$140-50=$ $\qquad$
$180-90=$ $\qquad$
$150-70=$ $\qquad$
$130-60=$ $\qquad$
$\qquad$
$120-90=$ $\qquad$
$110-50=$ $\qquad$
$130-80=$ $\qquad$

## Number Line Bridging

Start from the correct number and make jumps to help find the answer.

$$
\begin{aligned}
& 70+60=130 \\
& 190+40=\square \\
& \begin{array}{lllllllllll}
140 & 150 & 160 & 170 & 180 & 190 & 200 & 210 & 220 & 230 & 240
\end{array} \\
& 460+60=\square \\
& 880+30=\square \\
& \begin{array}{lllllllllll}
840 & 850 & 860 & 870 & 880 & 890 & 900 & 910 & 920 & 930 & 940
\end{array} \\
& 260+50=\square \\
& \begin{array}{lllllllllll}
240 & 250 & 260 & 270 & 280 & 290 & 300 & 310 & 320 & 330 & 340
\end{array} \\
& 680+60=\square \\
& \begin{array}{lllllllllll}
640 & 650 & 660 & 670 & 680 & 690 & 700 & 710 & 720 & 730 & 740
\end{array} \\
& 390+70=\square \\
& \begin{array}{lllllllllll}
360 & 370 & 380 & 390 & 400 & 410 & 420 & 430 & 440 & 450 & 460
\end{array} \\
& 570+80=\square \\
& \begin{array}{lllllllllll}
560 & 570 & 580 & 590 & 600 & 610 & 620 & 630 & 640 & 650 & 660
\end{array} \\
& 90+50=\square \\
& \begin{array}{lllllllllll}
60 & 70 & 80 & 90 & 100 & 110 & 120 & 130 & 140 & 150 & 160
\end{array} \\
& 780+40=\square \\
& \begin{array}{lllllllllll}
760 & 770 & 780 & 790 & 800 & 810 & 820 & 830 & 840 & 850 & 860
\end{array} \\
& 260+90=\square
\end{aligned}
$$

## Number Line Bridging

Start from the correct number and make jumps to help find the answer.

$$
\begin{aligned}
130-60 & =\square 70 \\
220-40 & =\square \\
540-70 & =\square \\
310-50 & =\square \\
340-90 & =\square
\end{aligned}
$$

## T-Shirt Addition

Addition can be done in any order so you can make these additions easier by changing the order in which you add the numbers together.

For example - look for pairs that make ten or multiples of ten:
$\widehat{12+7+8}=$
$12+8=20$ then $20+7=27$
so $12+7+8=27$
Or look for doubles you might know:
$7+\widehat{6+6}=\quad 6+6=12$ then $12+7=19$ so $7+6+6=19$


## Score Board

Put three counters or buttons on the board so that each one scores. Add up the numbers to get a total score.

Write down some of the different totals you can score and how you made them?


## Spinners

Faisal and his partner Amy had three spinners. After spinning each one they added the three numbers together.
'I've spun a two, four and six so $6+4=10$ and then add another 2 makes twelve,' he said.


Can you complete this table with the correct missing totals or spinner numbers?

| Spinner 1 Spinner 2 | Spinner 3 | Total |  |
| :---: | :---: | :---: | :---: |
| 6 | 3 | 6 |  |
| 8 | 1 | 9 |  |
| 5 | 7 | 5 |  |
| 2 | 4 | 8 |  |
| 6 | 7 | 5 |  |
| 5 | 4 | 6 |  |
| 8 | 4 | 9 |  |
| 2 | 7 | 6 |  |
| 5 | 1 | 8 | 11 |
| 6 | 3 | 9 | 20 |
| 5 | 3 |  | 6 |

## Spinners

Faisal and his partner Amy had three spinners. After spinning each one they added the three numbers together.
'I've spun a two, a one and a seven so $2+1+7=9$,' he said.

'I wonder if we could make all the numbers from $1-25$ as totals,' said partner Amy? 'I'm sure we can,' replied Faisal.'

What do you think? Record all the different totals you can make below.

## Out of the Hat Number Bonds

Can you add the correct number so that these cards can go in the hat?
$26+4$

$$
+11
$$

$$
+3
$$

$$
+17
$$


$56+14$

$21+$

49+ 30+

| $43+37$ | +15 <br> +59 <br> +20 <br> +31 <br> +32 | +66 |
| ---: | ---: | ---: |


$7+$
26+
$13+$
$1+$

## Out of the Hat Number Bonds

Can you subtract the correct number so that these cards can go in the hat?

| $54-14$ | $95-$ | $80-$ |
| :--- | :--- | :--- |
| $61-$ | $87-$ | $42-$ |
| $74-$ | $50-$ | $63-$ |


56 -

89 -

| $71-11$ | $86-$ | $93-$ |
| :--- | :--- | :--- |
| $69-$ | $74-$ | $87-$ |
| $100-$ | $97-$ | $65-$ |


$64-$

$82-$
55-
99 -

## Hit the Button



Which of the buttons would you hit above to answer these questions correctly?
$18+12=$
$19-9=$ $\qquad$ $47+53=$ $\qquad$ $74-24=$ $\qquad$ $11+59=$ $36-16=$ $\qquad$ $12+68=$ $\qquad$ $59-59=$ $\qquad$
$50+30=$ $\qquad$ $91-21=$ $\qquad$ $84+6=$ $\qquad$ $60-50=$ $\qquad$
$26+24=$ $\qquad$ $75-65=$ $\qquad$ $33+27=$
$42-12=$ $\qquad$
$32+38=$
$27-7=$ $\qquad$ $50+50=$ $\qquad$ $98-38=$ $\qquad$
$45+15=$
$100-10=$ $\qquad$ $28+42=$ $\qquad$ $23-3=$ $\qquad$
$83+17=$
$48-38=$ $\qquad$ $71+19=$
$\qquad$ $85-45=$ $\qquad$
$21+49=$ $\qquad$ $89-29=$ $\qquad$ $4+76=$ $\qquad$ $39-19=$ $\qquad$
$10+50=$ $\qquad$ $23-23=$ $\qquad$ $15+85=$ $\qquad$ $17-7=$ $\qquad$
$53+27=$ $\qquad$
$96-86=$ $\qquad$
$62+28=$ $\qquad$
$70-20=$ $\qquad$
$14+36=$ $\qquad$
$15-5=$ $\qquad$ $29+61=$ $\qquad$ $48-38=$ $\qquad$
$78+12=$ $\qquad$
$54-14=$ $\qquad$
$40+30=$ $\qquad$
$61-41=$ $\qquad$
$37+63=$ $\qquad$
$71-51=$ $\qquad$
$7+43=$ $\qquad$ $52-12=$ $\qquad$

## Putting Parts Together

Add the numbers to give the total of the two parts.

| 30 | 90 |
| :---: | :---: |
| 4 | 120 |
| 00 |  |



Now work out the missing part.


Can you solve these missing part problems?


## Bar Models

Complete the missing numbers in each of these bar models. Then use the parts to help complete the number sentences below.

| 100 |  |
| :--- | :--- |
| 25 |  |

$25+\ldots=100$
$\ldots=100-75$

| 38 |  |
| :---: | :---: |
|  | 14 |

$38-14=$ $\qquad$
$--90=50$
$50+90=$ $\qquad$
$14+\ldots=38$

|  |  |
| :---: | :---: |
| 50 | 90 |


| 33 |  |
| :--- | :--- |
| 7 |  |

$$
\begin{aligned}
& 7+\ldots=33 \\
& \ldots=33-7 \\
& 33=7+\ldots \\
& 33-\ldots=7
\end{aligned}
$$

$\ldots=22+37$
$37=\ldots-22$


|  |  |
| :--- | :--- |
| 22 | 37 |

$100-34=$ $\qquad$

$24-\ldots=15$
$24=15+$
$--12=13$

| 100 |  |
| :--- | :--- |
| 34 |  |

$100=\ldots+34$

| 180 |  |
| :--- | :--- |
|  | 40 |

$180=40+$ $\qquad$
$180-\ldots=4$

$150-\ldots=60$
$150=60+\ldots$
_ = $150-60$
$14+25=$ $\qquad$
$25=\ldots-14$
$\ldots=25+14$
$150-60=$
_ $-14=25$

## Comparing Amounts

Can you use the correct symbol to compare these number bonds?

> < is less than
$>$ is greater than
= equals

$$
\begin{aligned}
& 12+9<8+15 \\
& 8+16 \bigcirc 19+5 \\
& 30+50 \bigcirc 10+80 \\
& 23+8 \bigcirc 5+27 \\
& 36+5 \bigcirc 11+29 \\
& 45+13 \bigcirc 21+36 \\
& 7+16 \bigcirc 5+18 \\
& 16+14 \bigcirc 15+13 \\
& 9+53 \bigcirc 31+30 \\
& 40+50 \bigcirc 70+20 \\
& 25+11 \bigcirc 8+26 \\
& 35+9 \\
& 7+38 \\
& 110+30 \bigcirc 60+60 \\
& 50+4 \bigcirc 46+6 \\
& 50+41 \bigcirc 34+60 \\
& 12+16 \bigcirc 13+14 \\
& 67+7 \bigcirc 26+51 \\
& 43+8 \\
& 32+46 \bigcirc 11+68 \\
& 20+90 \\
& 80+70 \\
& \bigcirc 50+90 \\
& 6+47
\end{aligned}
$$

## Balancing Scales

Can you fill in the missing numbers to make each of these scales balance?


Now try these. Remember both sides of the scales must have the same value.


## Number Facts Grid

Find the correct numbers from the grid to make these number sentences correct.

| 27 | 43 | 7 | 30 |
| :---: | :---: | :---: | :---: |
| 52 | 18 | 35 | 9 |
| 16 | 70 | 21 | 54 |

$$
\begin{aligned}
& \square+\square=34 \\
& \square+\square=63 \\
& \square-\square=21 \\
& \square-\square=40 \\
& \square+\square=86 \\
& \square+\square=57 \\
& \square-\square=\square \\
& \square-\square=\square \\
& \square+\square=25 \\
& \square+\square=\square 70 \\
& \square-\square=28 \\
& \square-\square=22 \\
& \square+\square=56 \\
& \square+\square=\square 91
\end{aligned}
$$

Challenge:

$$
\square+\square+\square=\square+\square+\square=\square
$$

## Word Problems

| Hayyan scored 19 points. <br> Amber scored 8 more points than Hayyan. <br> How many points did Amber score? | Bob has 34 balloons. <br> He pops 9 of them. <br> How many balloons does he have left? | Maryam has 25 marbles. <br> Scott gives her 7 more. <br> How many marbles does she have altogether? |
| :---: | :---: | :---: |
| Hafsa has 13 toy cars. <br> Ilyas has 24 toy cars. <br> How many do they have in total? | Ann has 41 football cards. Eric has 6 fewer cards than Ann. <br> How many football cards does Eric have? | Helen has 28 points. <br> Kyran has 8 more points than Helen. <br> How many points does Kyran have? |
| Hajra throws 30 balls. <br> David drops 12 of them. <br> How many does he catch? | lbraheem caught 23 fish. <br> Alfie caught 7 less fish than Ibraheem. <br> How many fish did Alfie catch? | Tom has 14 felt tips. <br> Aston has 15 felt tips. <br> How many do they have altogether? |
| Sayyan has 52 pennies. <br> He loses 6 pennies. <br> How many does he have left? | Tim rolls two 0-12 dice. <br> He scores a 11 and a 12 . <br> What does he score in total? | Ali has 50p. <br> He spends 30p. <br> How much does he have left? |
| Sofia has 15 stamps. <br> How many more does she need to have 30 stamps? | Amal has 90p. <br> She buys a ball for 50p. <br> How much change does she get? | Peter eats 8 sweets, Maria eats 5 sweets and Eddie eats 8 sweets. <br> How many sweets do they eat altogether? |
| Shahid has 36 stickers. <br> Gary has 27 stickers. <br> How many more stickers does Shahid have than Gary? | Helen has 20p. <br> She wants to buy a toy that costs 80p. <br> How much more does she need to buy the toy? | Max has a collection of 23 books. <br> His mum gives him 8 more. <br> How many books does Max now have in total? |

