## LO: Problem Solving

Success Criteria: create, discover and succeed together

1. Read the explanation - Can you arrange the digits $0-9$ to make 2-digit numbers as close to the targets as possible?
2. Make your own number cards $0-9$, that way you can play around with different amounts until you feel you have the best one for each target 3. Write down your best solution in your work book

You have a set of the digits from 0-9.

$$
\begin{array}{|l|l|l|l|l|l|l|l|l|l|}
\hline 0 & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \\
\hline
\end{array}
$$

Can you arrange these digits in the five boxes below to make two-digit numbers as close to the targets as possible? You may use each digit once only.


## Various answers including:

| Option 1 | Option 2 | Option 3 |
| :---: | :---: | :---: |
| 98 | 86 | 92 |
| 75 | 97 | 73 |
| 13 | 01 | 15 |
| 60 | 45 | 80 |
| 42 | 32 | 46 |

## Task 1

1. There are 10 different ways to choose three cards with a total of 12:
$0,3,9 \quad 1,2,9 \quad 2,3,7 \quad 3,4,5$
$\begin{array}{lll}0,4,8 & 1,3,8 & 2,4,6 \\ 0,5,7 & 1,4,7 & 1,5,6\end{array}$
2. There are 9 different ways to choose four cards with a total of 12:
$0,1,2,9$
$0,2,3,7$
1, 2, 3, 6
$0,1,3,8$
$0,2,4,6$
1, 2, 4, 5
$0,1,4,7$
$0,3,4,5$
$0,1,5,6$
3. No.

## Task 2

3 Tripods ( 9 legs) and 7 Bipods (14 legs)
or
5 Tripods ( 15 legs) and 4 Bipods (8 legs).

