Multi-digit subtraction:

1. Show how to add base 5. Show your thinking with numbers, words or pictures.

a.
$$\begin{array}{r} 4\ 1\ 3_5 \\ -\ 1\ 3\ 4_5 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 3\ 0\ 1_5 \\ -\ 1\ 4\ 2_5 \\ \hline \end{array}$$

2. Show how to subtract with the expanded algorithm:

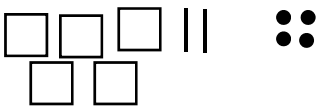
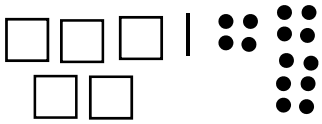
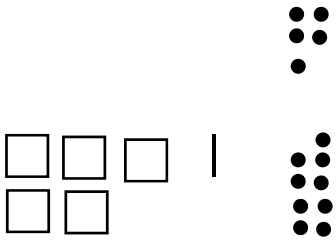
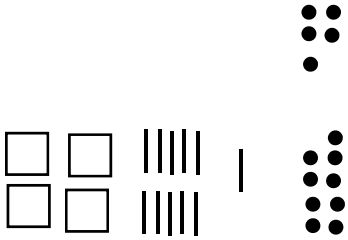
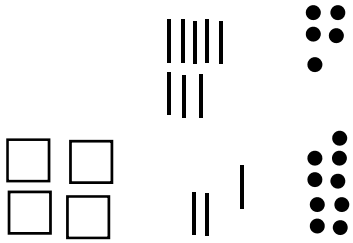
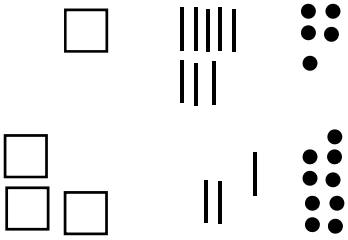
a.
$$\begin{array}{r} 5\ 2\ 4 \\ -\ 1\ 8\ 9 \\ \hline \end{array}$$

b.
$$\begin{array}{r} 6\ 0\ 3 \\ -\ 2\ 6\ 5 \\ \hline \end{array}$$

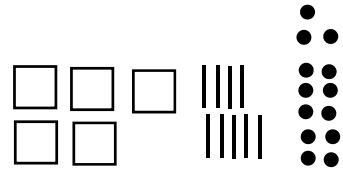
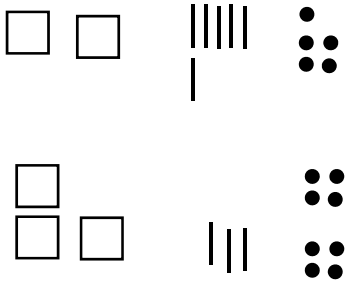
3. How could you show the negative numbers algorithm with 3 digits? Show your way with the problem:

$$\begin{array}{r} 5\ 2\ 4 \\ -\ 1\ 8\ 9 \\ \hline \end{array}$$

4. For each step, write out what you would say as a teacher modeling the process:

| | | |
|---|---|---|
|  | $\begin{array}{r} 5\ 2\ 4 \\ -\ 1\ 8\ 9 \\ \hline \end{array}$ | |
|  | $\begin{array}{r} {\scriptstyle 1} \\ 5\ \cancel{2}\ 14 \\ +\ 1\ 8\ 9 \\ \hline \end{array}$ | |
|  | $\begin{array}{r} {\scriptstyle 1} \\ 5\ \cancel{2}\ 14 \\ +\ 1\ 8\ 9 \\ \hline 5 \end{array}$ | |
|  | $\begin{array}{r} {\scriptstyle 4}\ \ {\scriptstyle 11} \\ \cancel{5}\ \cancel{2}\ 14 \\ +\ 1\ 8\ 9 \\ \hline 5 \end{array}$ | |
|  | $\begin{array}{r} {\scriptstyle 4}\ \ {\scriptstyle 11} \\ \cancel{5}\ \cancel{2}\ 14 \\ +\ 1\ 8\ 9 \\ \hline 3\ 5 \end{array}$ | |
|  | $\begin{array}{r} {\scriptstyle 4}\ \ {\scriptstyle 11} \\ \cancel{5}\ \cancel{2}\ 14 \\ +\ 1\ 8\ 9 \\ \hline 3\ 3\ 5 \end{array}$ | |

5. For each step, fill in the missing manipulative picture, number word or explanatory sentence:

| | | |
|---|---|---|
| | $\begin{array}{r} 6\ 0\ 3 \\ -\ 2\ 6\ 5 \\ \hline \end{array}$ | |
| | | I need more ones to be able to take away 5 ones. I don't have any tens to trade, so first I need to trade 1 hundred for 10 tens.<br>When I do that, I cross off the 6 in the hundreds place and change it to 5 hundreds, and then I change the 0 tens to being 10 tens. |
|  | | |
| | $\begin{array}{r} \overset{5}{\cancel{6}}\ \overset{9}{\cancel{10}}\ 13 \\ +\ 2\ 6\ 5 \\ \hline 8 \end{array}$ | |
| | | Take away 6 tens from 9 tens. Then there are 3 tens left. Write the 3 tens in the tens column of the answer. |
|  | | |