

① Practice working with algebra tiles on the following questions using the grouping metaphor:

- (a) $2(x + 1)$
- (b) $2(3x + 1)$
- (c) $2(x - 1)$
- (d) $-2(x + 1)$
- (e) $-3(2x - 2)$



Throughout, focus on your language and actions when communicating the idea of grouping and distribution (using algebra tiles) to a class. Sometimes practising with someone else, or in a group, can be really helpful.

② Now, use the area model with algebra tiles, to practise with the following questions.

- (a) $2(3x - 1)$
- (b) $-2(3x - 1)$
- (c) $2x(2x + 3)$
- (d) $-2(-x - 4)$
- (e) $-3(5 - 2x)$



It is helpful to simultaneously model the concrete algebra tiles alongside the pictorial/symbolic area model to ease the fading process. Can you 'fade' even further to a simple mental model?

③ Pick **three** different numbers and replace the squares with those three numbers - **no repeats**.

$$\square (\square x + \square)$$

Write out **all** the possibilities.

Multiply them out and **add** the results together.
What do you notice?



Using the area model makes this prompt easy to manage. How could you extend this problem and would it work well to model it using algebra tiles once solved symbolically?

