Points to Keep in Mind When Working with Arrays

When using arrays to represent mathematics, the following points may be helpful:

- An array is an area model. The properties used to partition arrays and to represent operations on arrays connect to the properties of area of a rectangle.

- An array can be a square or a rectangle.

- The scales of the dimensions of an array can differ. For example, a rectangular array may have each side with a length of 1. This is similar to the way that we can scale the axes of a graph differently.

- Labels are really important. Two arrays may look the same but represent entirely different quantities. Labelling the dimensions of the array aids in representing the mathematics and interpreting the answer correctly.

- The amount of precision required will depend upon the task. In general, hand drawn arrays will be 'precise enough'. The person who creates the array should understand that each region is assumed to be the same size, even if they appear to be slightly different sizes. The one time that precision will really matter is if students are using an array to compare two fractions that are very close in size, such as three-eighths and four-sevenths. It is important that students have opportunities to make decisions about precision and then to reflect upon that decision after the task has been completed.

- The way that an array is manipulated changes depending upon the mathematical operation being represented. Students should have opportunities to use arrays for each operation.