Transcript of video Fractions as Measures

http://topdrawer.aamt.edu.au/Fractions/Big-ideas/Fractions-as-a-measure/Using-the-measure-model

The use of linear models such as folding paper strips or string into equal lengths is helpful for thinking of fractions as expressing measure.

In this example, a length of rope has been folded into four equal lengths.

(Rope folded and marked into four equal lengths)

The full length of rope is considered to be one whole.

(Indicating full length of the rope)

Notice that the fold line has been labelled with one-quarter because that marks the length from the start of the rope.

(One-quarter length of rope is marked)

As we move along the length of the rope, the fraction tells us the accumulated distance from the start.

(Marking the next quarter of the rope)

One quarter is a unit of measure and we are counting how many units.

(Counting units each of one-quarter)

Here, we have counted four quarters, which is the same as one whole.

(Marking four quarters of the rope)

Similarly, fractions marked on a number line indicate the number of units' distance from zero.

(Fractions marked on the number line)

In this case, the unit of measure is one fifth.

(One-fifth unit marked)

Thinking of fractions as units of measure helps to make sets of tasks like 'find two fractions between two-fifths and three-fifths' because in measurement there are always smaller units that can be created by subdividing the current units.

(Explaining the use of fractions to divide units)

Locating fractions of different denominators on the same number line is quite a complex task because the range of units needs to be visualised.

(Explaining way to locate fractions of different units)

Equivalent fractions are found to occupy the same position on the number line.

(Marking equivalent fractions)

The number line model is also helpful for reinforcing the understanding that a fraction is actually a number that has a value that can be located on a number line in relation to other numbers.

(Explaining use of number line)

A number line can also be extended beyond 1 to illustrate improper fractions and mixed numbers.

(Explaining use of number line)