

1

Length and mass

Hold up two objects that clearly differ in length, such as a pencil and a ruler, and name the words as you go. Then put one object into each of a student's hands, a cotton ball and a stapler, so that mass is felt rather than looked at. Mass is the one attribute that cannot be judged from across the room, so nobody answers until they are holding both.

"Which one is tall? Which one is short? That is length."

"Hold one in each hand. Which one is heavy? Which one is light? That is mass."

2

Capacity and duration

Hold up two containers that clearly differ in how much they hold, such as an eggcup and a mixing bowl. Then start two short actions at the same moment, such as two students doing up buttons, and stop talking until one of them finishes.

"Which one holds more? Which one holds less? That is capacity."

"We started at the same time. Which one took longer? That is duration."

Starting both actions at the same moment is what makes the comparison fair, so say that aloud as you start them.

3

Words that get mixed up

These four words are regularly confused with size or with difficulty rather than with the attribute itself. Name each confusion directly rather than waiting for students to notice it, and set the pair of objects out so that the answer has to be felt or poured, not guessed.

"A big box is not always heavy, and a small box is not always light. Mass is about weight, not size."

"A tall cup does not always hold more than a short wide one. Capacity is about how much fits inside."

"A hard job does not always take longer than an easy one. Duration is about time, not difficulty."

Put out an empty shoebox beside a golf ball, a tall thin vase beside a low fruit bowl, and one tricky jigsaw piece beside five easy ones. Come back to all three during the explore activities, because students need to hear each correction more than once before it settles.

length

mass

capacity

duration

What to put out

Mass is not size

A large empty plastic tub and a small bag of sand.

Settle it by picking both up, one in each hand.

Capacity is not height

A tall thin vase and a low wide bowl, with water or rice and a jug.

Settle it by filling one and pouring it into the other.

Duration is not difficulty

One tricky jigsaw piece and five easy ones, for two students.

Settle it by starting both at the same moment and watching.

The wrong word

A bucket, a brick lying flat and a balloon.

Describe each one with a word that does not fit and wait.