Varied Fluency
Step 3: Equivalent Lengths – mm and cm

National Curriculum Objectives:

Mathematics Year 3:(3M1a) Compare lengths (m/cm/mm)
Mathematics Year 3:(3M2a) Measure lengths (m/cm/mm)

Differentiation:

Developing Questions to support converting from mm to cm and vice versa. Lengths in multiples of 5mm. Scaffolding provided and all increments shown on a ruler.
Expected Questions to support converting from mm to cm and vice versa. Lengths in increments of 1mm. All increments shown on a ruler.
Greater Depth Questions to support converting from mm to cm and vice versa. Lengths in increments of 1mm, using 0 as a place holder in the tens columns for some lengths and use of halves. Some ruler increments shown and some use of unconventional partitioning.
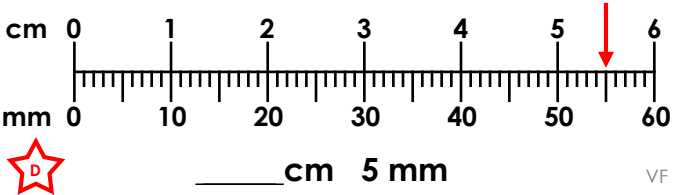
More Year 3 Length and Perimeter resources.

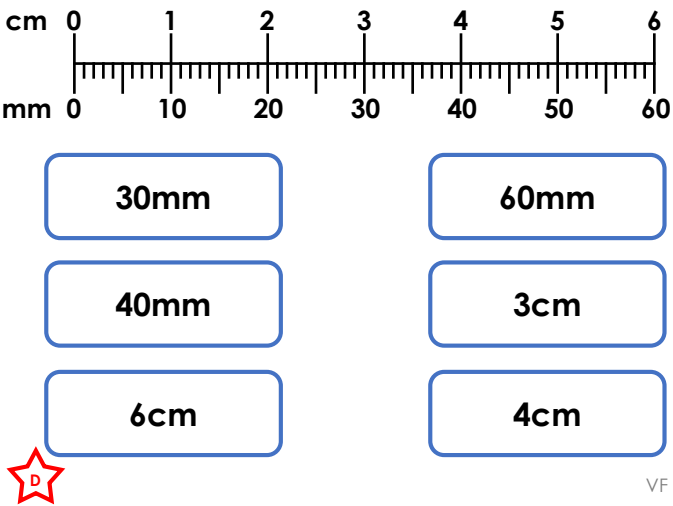Did you like this resource? Don't forget to review it on our website.

Varied Fluency – Equivalent Lengths – mm and cm – Teaching Information
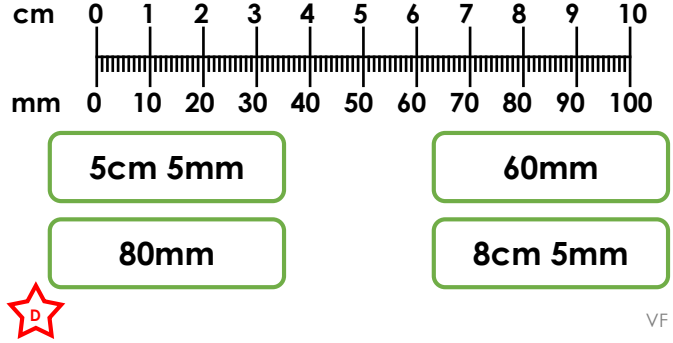
Equivalent Lengths – mm and cm

Equivalent Lengths – mm and cm

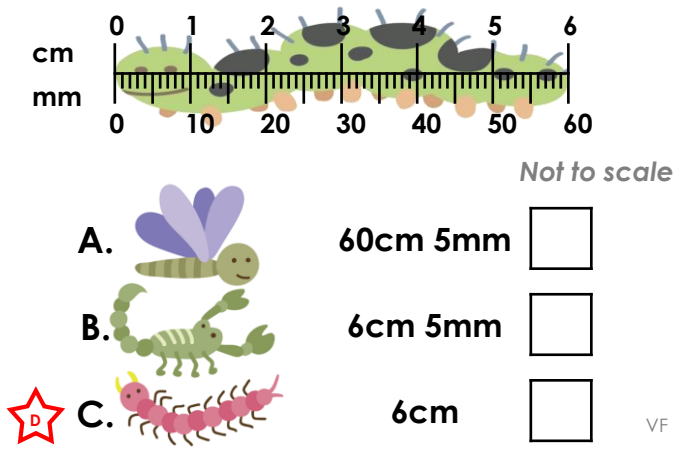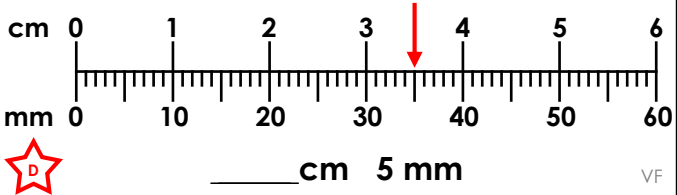**1a.** Complete the measurement to match the length shown on the ruler.

cm 0 1 2 3 4 5 6
mm 0 10 20 30 40 50 60

_____cm 5 mm

1b. Complete the measurement to match the length shown on the ruler.

cm 0 1 2 3 4 5 6
mm 0 10 20 30 40 50 60

_____cm 5 mm

2a. Join the equivalent lengths.

cm 0 1 2 3 4 5 6
mm 0 10 20 30 40 50 60

30mm	60mm
40mm	3cm
6cm	4cm

2b. Join the equivalent lengths.

cm 0 1 2 3 4 5 6
mm 0 10 20 30 40 50 60

50mm	20mm
30cm	5cm
2cm	300mm

3a. Circle the longest length.

cm 0 1 2 3 4 5 6 7 8 9 10
mm 0 10 20 30 40 50 60 70 80 90 100

| 5cm 5mm | 60mm |
| 80mm | 8cm 5mm |

3b. Circle the shortest length.

cm 0 1 2 3 4 5 6 7 8 9 10
mm 0 10 20 30 40 50 60 70 80 90 100

| 2cm | 300mm |
| 30mm | 4cm |

4a. Tick the insect that is the same length as the caterpillar below.

cm 0 1 2 3 4 5 6
mm 0 10 20 30 40 50 60

Not to scale

A. 60cm 5mm ☐

B. 6cm 5mm ☐

C. 6cm ☐
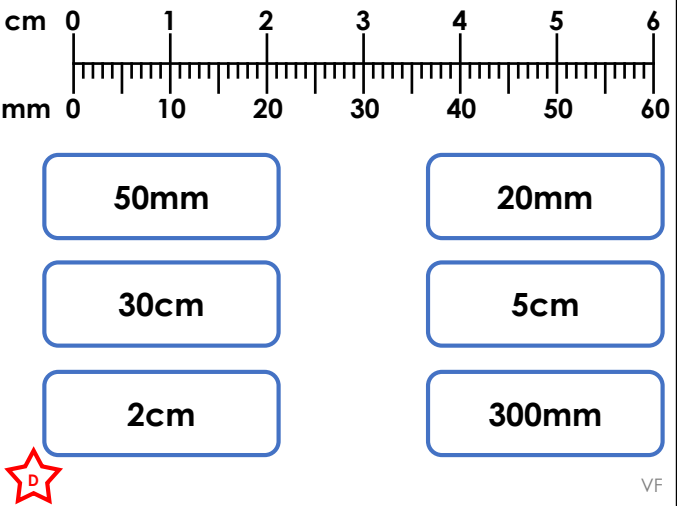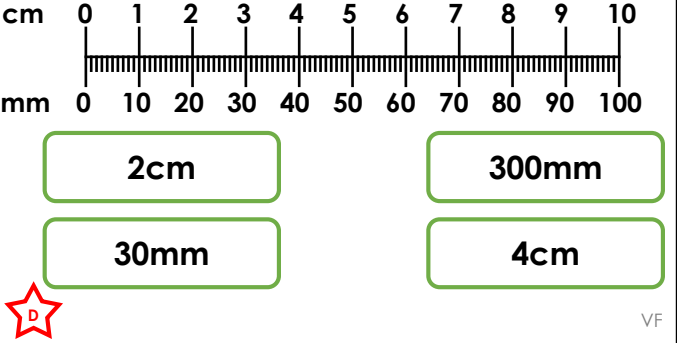
4b. Tick the insect that is the same length as the worm below.

cm 0 1 2 3 4 5 6 7 8 9
mm 0 10 20 30 40 50 60 70 80 90

Not to scale

A. 7cm 5mm ☐

B. 9cm ☐

C. 19cm ☐

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Varied Fluency – Equivalent Lengths – mm and cm – Year 3 Developing
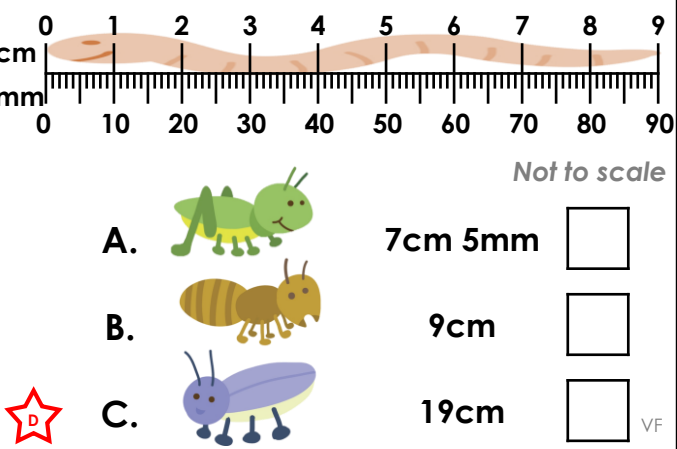
Equivalent Lengths – mm and cm

5a. Complete the measurement to match the length shown on the ruler.
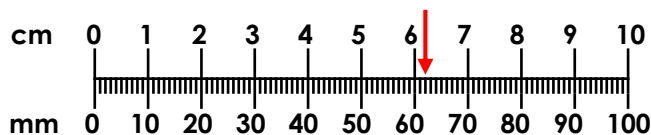
cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100

_____cm _____mm

VF

Equivalent Lengths – mm and cm

5b. Complete the measurement to match the length shown on the ruler.

cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100

_____cm _____mm

VF

6a. Join the equivalent lengths.

cm 0 1 2 3 4 5 6

mm 0 10 20 30 40 50 60
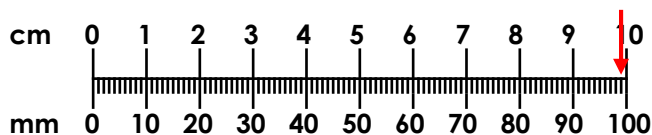
33mm	4cm 5mm
45mm	82mm
8cm 2mm	3cm 3mm

VF

6b. Join the equivalent lengths.

cm 0 1 2 3 4 5 6

mm 0 10 20 30 40 50 60

76mm	9cm 5mm
95cm	69mm
6cm 9mm	7cm 6mm

VF

7a. Circle the longest length.

cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100
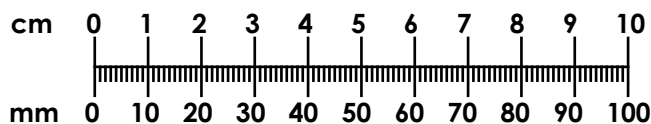
| 52cm 6mm | 533mm |
| 58mm | 5cm 9mm |

VF

7b. Circle the shortest length.

cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100

| 4cm 9mm | 63mm |
| 56mm | 4cm 4mm |

VF

8a. Tick the ribbon that is the same length as the one below.

cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100
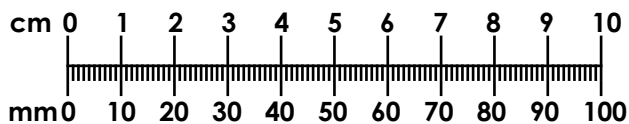
Not to scale

11cm 1mm

A.　111mm ☐

B.　61cm 5mm ☐

C.　10cm 1mm ☐

VF

8b. Tick the ribbon that is the same length as the one below.
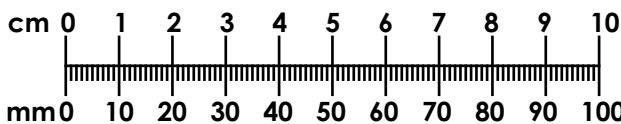
cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100

Not to scale

8cm 5mm

A.　75cm 1mm ☐

B.　85mm ☐

C.　855mm ☐

VF

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Varied Fluency – Equivalent Lengths – mm and cm – Year 3 Expected

Equivalent Lengths – mm and cm

Equivalent Lengths – mm and cm
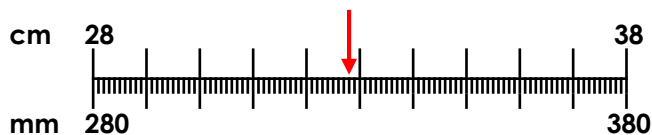
9a. Complete the measurement to match the length shown on the ruler.

cm 7   17

mm 70   170

_____cm _____mm

VF

9b. Complete the measurement to match the length shown on the ruler.

cm 28   38

mm 280   380

_____cm _____mm

VF

10a. Join the equivalent lengths.

360mm	36mm
3cm 6mm	6cm 3mm
60cm 3mm	35cm 10mm
63mm	603mm

VF

10b. Join the equivalent lengths.

78mm	78cm 7mm
70cm 8mm	88mm
787mm	708mm
7cm 18mm	7cm 8mm

VF

11a. Circle the longest length.

cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100

6cm 3mm	603mm
6cm 13mm	$6\frac{1}{2}$ cm

VF

11b. Circle the shortest length.

cm 0 1 2 3 4 5 6 7 8 9 10

mm 0 10 20 30 40 50 60 70 80 90 100

5cm 8mm	508mm
580mm	5cm 18mm

VF

12a. Tick the snakes that are the same length as the one below.

606mm

Not to scale

A.   60cm 6mm ☐

B.   50cm 106mm ☐

C.   6cm 6mm ☐

VF

12b. Tick the snakes that are the same length as the one below.

905mm

Not to scale

A.   9cm ☐

B.   90cm 5mm ☐

C.   80cm 105mm ☐

VF

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Varied Fluency – Equivalent Lengths – mm and cm – Year 3 Greater Depth

Developing
1a. **5cm 5mm**
2a. **30mm = 3cm**
   40mm = 4cm
   6cm = 60mm
3a. **8cm 5mm**
4a. **C**

Expected
5a. **6cm 2mm**
6a. **33mm = 3cm 3mm;**
   45mm = 4cm 5mm;
   8cm 2mm = 82mm
7a. **533mm**
8a. **A**

Greater Depth
9a. **13cm 3mm**
10a. **360mm = 35cm 10mm**
   3cm 6cm = 36mm
   60cm 3mm = 603mm
   63mm = 6cm 3mm
11a. **$6\frac{1}{2}$ cm**
12a. **A and B**

Developing
1b. **3cm 5mm**
2b. **50mm = 5cm**
   30cm = 300mm
   2cm = 20mm
3b. **2cm**
4b. **B**

Expected
5b. **9cm 9mm**
6b. **76mm = 7cm 6mm**
   95mm = 9cm 5mm
   6cm 9mm = 69mm
7b. **4cm 4mm**
8b. **B**

Greater Depth
9b. **32cm 8mm**
10b. **78mm = 7cm 8mm**
   70cm 8mm = 708mm
   787mm = 78cm 7mm
   7cm 18mm = 88mm
11b. **5cm 8mm**
12b. **B and C**