Varied Fluency
Step 4: Circles

National Curriculum Objectives:

Mathematics Year 6: (6G5) Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

Differentiation:

Developing Questions to support recognising and finding the radius and diameter of circles, where the radius is directly divisible by 2. Measurements given in whole mm, cm and m.

Expected Questions to support recognising and finding the radius and diameter of circles, where the radius or diameter is not always a whole number. Measurements given in whole mm, cm and m.

Greater Depth Questions to support recognising and finding the radius and diameter of circles, where the radius or diameter is not always a whole number, and is sometimes presented as a fraction. Measurements given in whole mm, cm and m and may need converting.
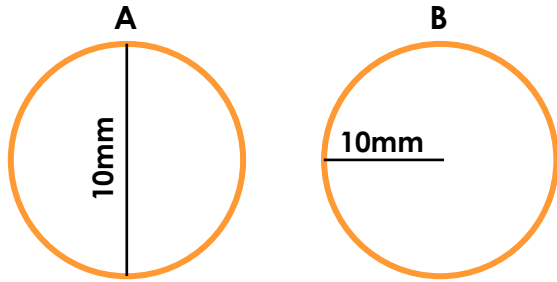
More Year 6 Statistics resources.

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

Circles

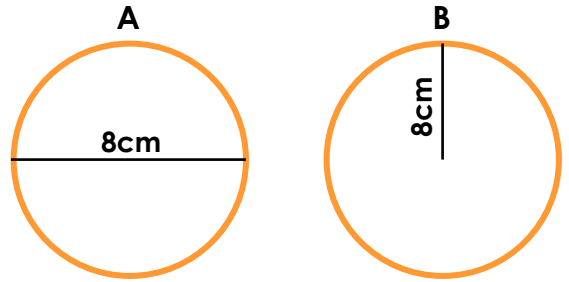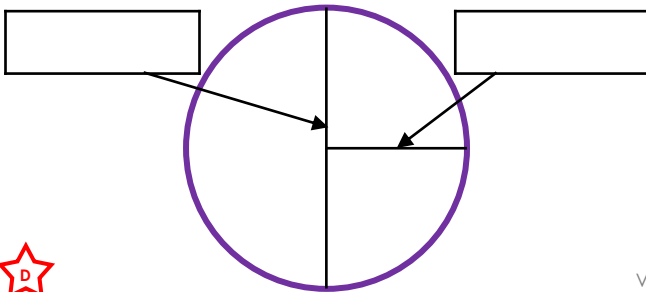**1a.** Tick the circle which has a radius of 10mm.

A   B

10mm

10mm

VF

1b. Tick the circle which has a diameter of 8cm.

A   B

8cm

8cm

VF

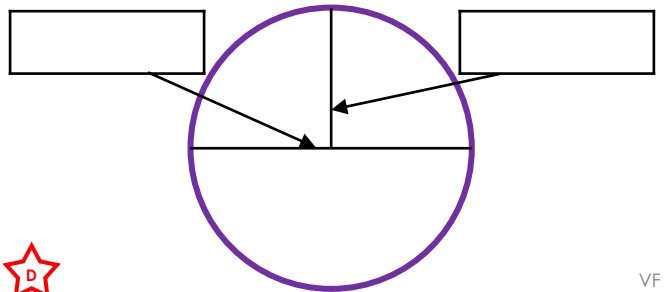**2a.** Use the measurements below to label the radius and diameter.

6cm   12cm

VF

2b. Use the measurements below to label the radius and diameter.

10mm   5mm
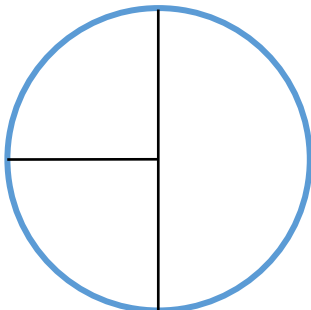
VF

3a. Match each diameter to its radius.

16m	4m
8m	8m
4m	7m
14m	2m

VF

3b. Match each radius to its diameter.

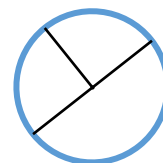|	
3m	24m
1m	18m
12m	6m
9m	2m

VF

4a. Use your ruler to measure the radius and diameter.

VF

4b. Use your ruler to measure the radius and diameter.

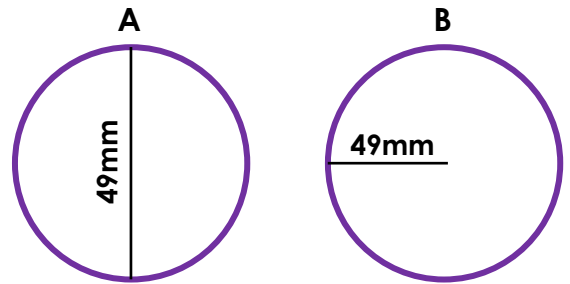VF

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Varied Fluency – Circles – Year 6 Developing

Circles

5a. Tick the circle which has a radius of 16.5cm.

A   B

16.5cm

16.5cm

VF

6a. Use the measurements below to label the radius and diameter.

54mm   27mm

VF

7a. Match each diameter to its radius.

91m	43.5m
87m	37.5m
63m	45.5m
75m	31.5m

VF

8a. Use your ruler to draw and measure the radius and diameter.

VF

Circles

5b. Tick the circle which has a diameter of 49mm.

A   B

49mm

49mm

VF

6b. Use the measurements below to label the radius and diameter.

9.5cm   19cm

VF

7b. Match each radius to its diameter.

49.5m	107m
53.5m	99m
25.5m	83m
41.5m	51m

VF
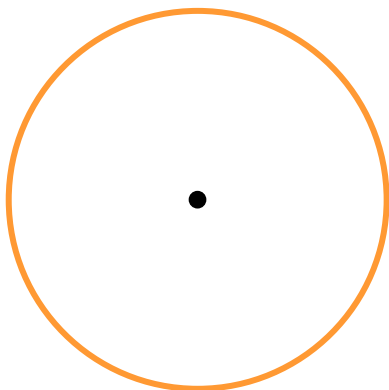
8b. Use your ruler to draw and measure the radius and diameter.

VF

Circles

Circles

9a. Tick the circle which has a radius of 295mm.

A

295mm

B

29.5cm

VF

9b. Tick the circle which has a diameter of 81.5cm.

A

815mm

B

81.5cm
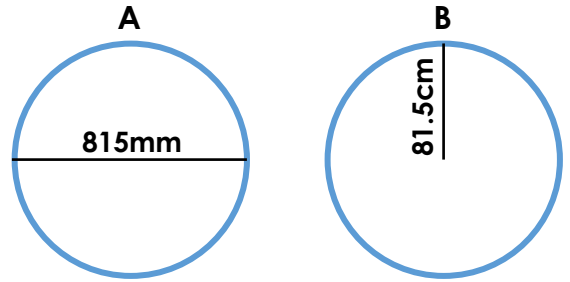
VF

10a. Use the measurements below to label the radius and diameter.

7.5m   375cm

VF

10b. Use the measurements below to label the radius and diameter.

0.9m   450mm

VF

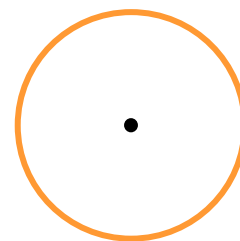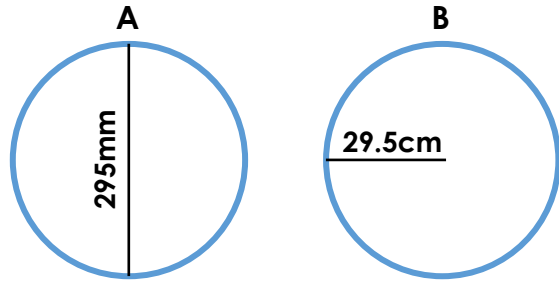**11a.** Match each diameter to its radius.

5m	675mm
13.5cm	250cm
94mm	850cm
17m	4.7cm

VF

11b. Match each radius to its diameter.

35cm	83cm
415mm	150cm
0.75m	0.39m
19.5cm	700mm

VF

12a. Use your ruler to draw and measure the radius and diameter.
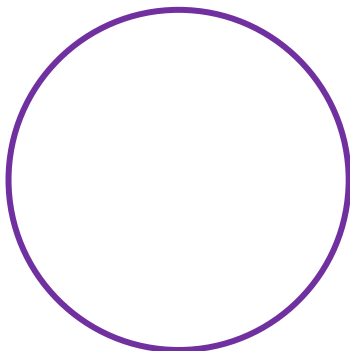
VF

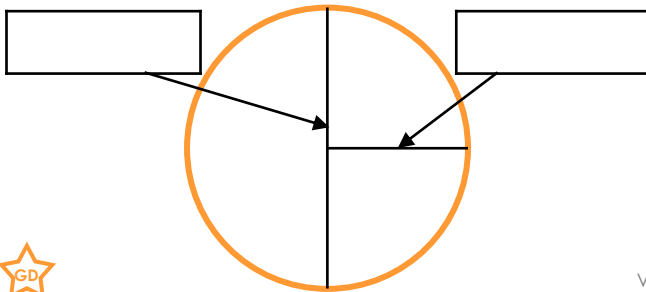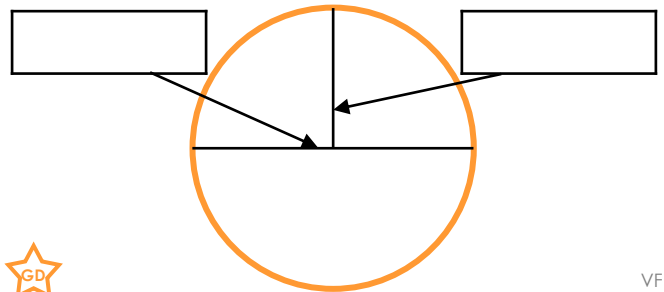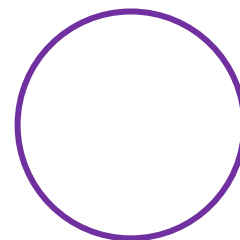**12b.** Use your ruler to draw and measure the radius and diameter.

VF

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Varied Fluency – Circles – Year 6 Greater Depth

Varied Fluency
Circles

Developing
1a. B
2a. Diameter – 12cm, Radius – 6cm
3a. 16m and 8m, 8m and 4m, 4m and 2m, 14m and 7m
4a. Radius – 2cm, Diameter – 4cm

Expected
5a. B
6a. Diameter – 54mm, Radius – 27mm
7a. 91m and 45.5m, 87m and 43.5m, 63m and 31.5m, 75m and 37.5m
8a. Radius – 2.5cm, Diameter – 5cm

Greater Depth
9a. B
10a. Diameter – 7.5m, Radius – 375cm
11a. 5m and 250cm, 13.5cm and 675mm, 94mm and 4.7cm, 17m and 850cm
12a. Radius – 2.25cm, Diameter – 4.5cm

Teaching Note: For questions 4, 8 and 12, measurements are dependant upon printer settings.

Varied Fluency
Circles

Developing
1b. A
2b. Diameter – 10mm, Radius – 5mm
3b. 3m and 6m, 1m and 2m, 12m and 24m, 9m and 18m
4b. Radius – 1cm, Diameter – 2cm

Expected
5b. A
6b. Diameter – 19cm, Radius – 9.5cm
7b. 49.5m and 99m, 53.5m and 107m, 25.5m and 51m, 41.5m and 83m
8b. Radius – 1.5cm, Diameter – 3cm

Greater Depth
9b. A
10b. Radius – 450mm, Diameter – 0.9m
11b. 35cm and 700mm, 415mm and 83cm, 0.75m and 150cm, 19.5cm and 0.39m
12b. Radius – 1.75cm, Diameter – 3cm

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Varied Fluency – Circles ANSWERS