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Activity

Proportional symbols

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Read the 'Proportional symbols' skills article on pages 14 to 15 of WIDELAND Vol. 30, No. 2, and complete the tasks below to create your own proportional circle map to show the 10 largest megacities around the world.

Activity

Use the table below to calculate the radius of each circle. The first has been done for you.

City and country	Population	Square root of population (0 d.p)	Radius of circle /1,000 (2 d.p)
Tokyo, Japan	38,140,000	6,176	6.18 cm
Shanghai, China	34,000,000		
Jakarta, Indonesia	31,500,000		
Delhi, India	27,200,000		
Seoul, South Korea	25,600,000		
Guangzhou, China	25,000,000		
Beijing, China	24,900,000		
Manila, Philippines	24,100,000		
Mumbai, India	23,900,000		
New York City, USA	23,876,155		

Tasks

- 1 Go online and search for an outline map of the world. Print a suitable map and locate each megacity on the outline map.
- 2 Set a compass to your first radius value (6.18 cm for Tokyo).
- 3 Place the point of the compass on Tokyo and using a sharp pencil draw a circle.
- 4 Repeat this for each megacity using the radius values.
- 5 You could create a key by categorising the size of megacities (e.g. 35,000,000–40,000,000; 30,000,000–34,999,999 and so on) and prescribing a colour to each category. Use these colours to shade in each of your proportional circles.
- 6 Ensure you have a title to your map and all places have capital letters.

Exam questions

- 1 Describe the distribution of megacities around the world. (3 marks)
- 2 Suggest one advantage and one disadvantage of this data presentation technique. (2 marks)

Teacher notes

This worksheet is designed as a homework activity to encourage students to create their own proportional circle map, using the skills they have learnt from the article.

Learning objectives of lesson activity

- To apply understanding of proportional symbols.

Answers

City and country	Population	Square root of population (0 d.p)	Radius of circle /1,000 (2 d.p)
Tokyo, Japan	38,140,000	6,176	6.18 cm
Shanghai, China	34,000,000	5,831	5.83 cm
Jakarta, Indonesia	31,500,000	5,612	5.61 cm
Delhi, India	27,200,000	5,215	5.22 cm
Seoul, South Korea	25,600,000	5,060	5.06 cm
Guangzhou, China	25,000,000	5,000	5 cm
Beijing, China	24,900,000	4,990	5 cm
Manila, Philippines	24,100,000	4,909	4.9 cm
Mumbai, India	23,900,000	4,889	4.9 cm
New York City, USA	23,876,155	4,886	4.9 cm

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