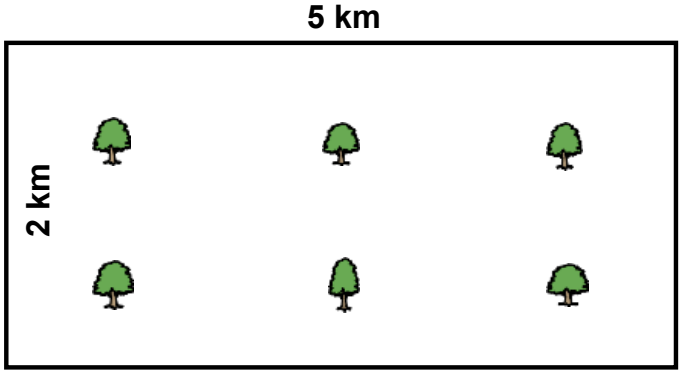
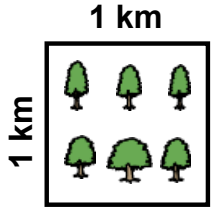
Describing a population in terms of the number of organisms only can be misleading. The following illustration shows two populations. Each is made up of the same number of oak trees. The trees in Population A are spread over 10 km^2, while those in Population B occupy only 1 km^2. Which of these populations has a greater population density? Explain why.



A



B

Population density = # of organisms/area

Area A

Pop. density = 6 oak trees / 10 km^2

= 0.6 oak trees / km^2

area = $l \cdot w$ = 5 km · 2 km = 10 km^2

Area B

Pop. density = 6 oak trees / 1 km^2

= 6 oak trees / km^2

area = $l \cdot w$ = 1 km · 1 km = 1 km^2