

# Population growth

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|-----------------------|---|
| <b>Focus question</b> | How quickly has human population increased over time? What events have impacted the growth of human populations through time? |
| <b>Vocabulary</b>     | Carrying capacity, arable, infrastructure   |

## Materials

- Electronic device with internet access

## Procedure

1. Go to [worldpopulationhistory.org/map/2050/mercator/1/0/25/](http://worldpopulationhistory.org/map/2050/mercator/1/0/25/).
2. Create a table to record the year in which population increased by 1 billion. Add a third column to record the number of years it took to increase by 1 billion. Using the interactive map, determine the year the population increased by 1 billion. Calculate the number of years it took to increase by 1 billion or to double (where appropriate).
3. Graph these results on an app or by hand on graph paper.

## Reflection

1. What might account for the decreasing time between billions?
2. How have humans utilized **arable** land resources to increase food production to allow for these increases?
3. What are the effects of **infrastructure** improvements and technology when used in food production?

4. What events or factors have affected human population growth and carrying capacity of ecosystems?
  
  
  
  
  
  
  
  
  
  
5. What factors must be considered to project future growth?

## Resources

- [ourworldindata.org/world-population-growth](http://ourworldindata.org/world-population-growth)
- [worldpopulationhistory.org/map/2050/mercator/1/0/25/](http://worldpopulationhistory.org/map/2050/mercator/1/0/25/)
- [theworldcounts.com/counters/shocking\\_environmental\\_facts\\_and\\_statistics/world\\_population\\_clock\\_live](http://theworldcounts.com/counters/shocking_environmental_facts_and_statistics/world_population_clock_live)

## Rubric for self-assessment

| Skill  | Yes | No | Unsure |
|--|-----|----|--------|
| Carrying capacity is a concept I understand and I can explain and apply the concept to human populations.                                    |     |    |        |
| I used mathematical or computational thinking to provide evidence to answer the question: Have human populations impacted carrying capacity? |     |    |        |