

Patterns and Rules

You need equipment for each investigation.
Check with your teacher.

Investigation

Investigate the relationships below.
Use tables and graphs to look for patterns.
Find a rule to describe each relationship.

- How is the height of a person related to their arm span?
(Make sure you use several people to investigate this relationship.)

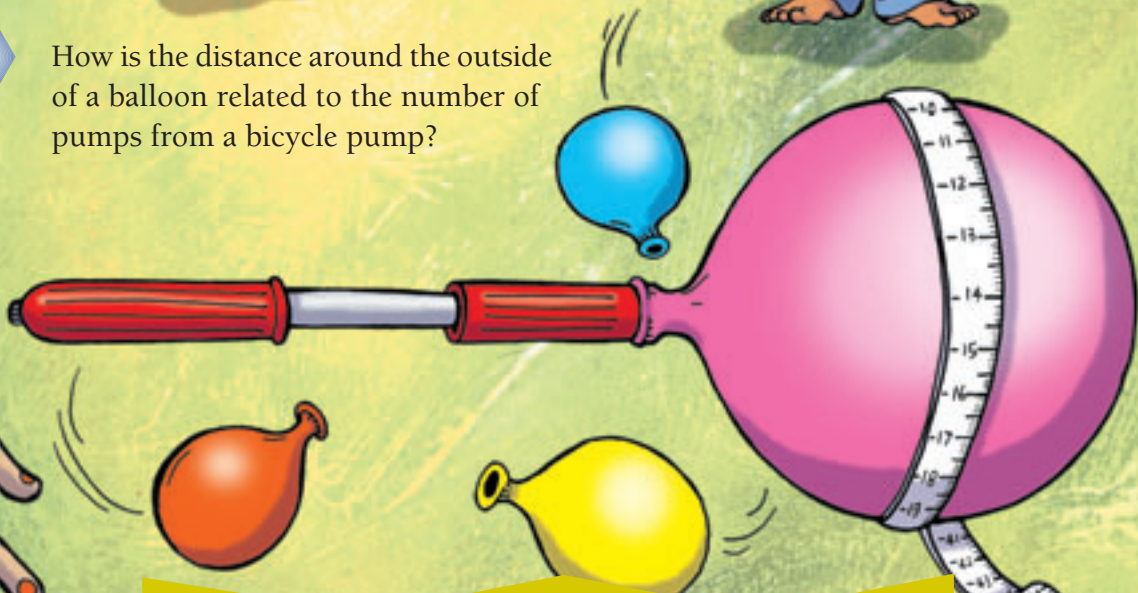


height



arm span

- How is the distance around the outside of a balloon related to the number of pumps from a bicycle pump?



3. How does the mass of water (measured in grams) in a container relate to the volume of the water measured in millilitres?

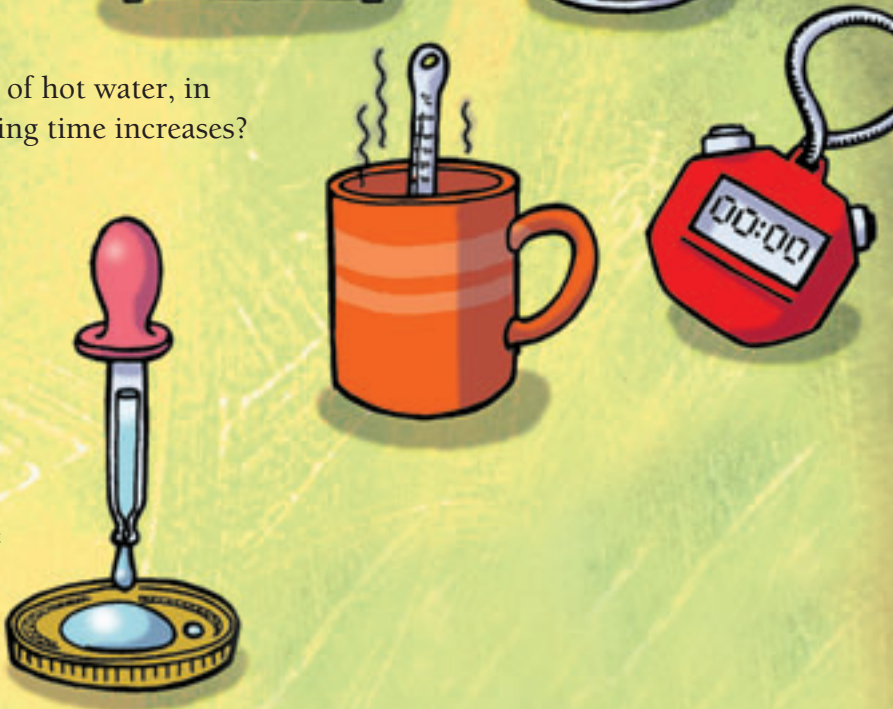
Check this with different amounts of water.



4. How does the temperature of a cup of hot water, in degrees Celsius, change as the cooling time increases?

5. Put drops of water on top of a coin until it can hold no more. Try this with a 10 cent, 20 cent, 50 cent, \$1, and \$2 coin.

How is the maximum number of drops related to the diameter of the coin in millimetres?



6. A marble is rolled down a metre-long number track onto carpet. The track is lifted at one end by books of the same thickness.

How does the distance that the marble rolls along the carpet or floor change as the number of books is increased?



7. How is the length of a shadow related to the time of day?

