

MATHEMATICS

Read *Guess How Much I Love You*, by Sam McBratney

Identify words that relate to length, height and distance; estimate lengths, heights and distances; think about position and direction (up, down, over).

Make a life-size sculpture

Compare the measurements of a typical hare or tortoise with other animals: Length 60-75cm Tail length 7.2-11cm Mass 3-5kg Ears 8.4-11cm Long hind feet 14-16cm.

The trail runs from 6th July to 12th September

Plot it on a calendar. How many days does it last? How many hours/minutes? Calculate average times for visiting each of the sculptures over a fixed length of time.

Populations

Hares' litters may consist of three or four young. Females can bear three litters a year. Hares can live up to 12 years. Litter sizes - average per year for 10 hares, 50 hares, 100 hares etc. If each hare survives, how many in 2 years, 5 years, 50 years, (lifetime 12 years). Assume 50% female, 50% male. Change the variables and look at changing figures over time.

Zeno's Paradox based on the Tortoise and the Hare

Travel over any finite distance can be neither completed nor begun. All motion must be an illusion. Link to Fibonacci.

Coordinates

Give coordinates on a grid for students to plot (producing a hare or tortoise shape) Present a series of animals/shapes on a grid. Ask students to give the coordinates of the animals or specific points a shape.

Reflect/rotate/translate shapes and give new coordinates or show 2 shapes and ask what has been done to the first to produce the second one.

Word problems

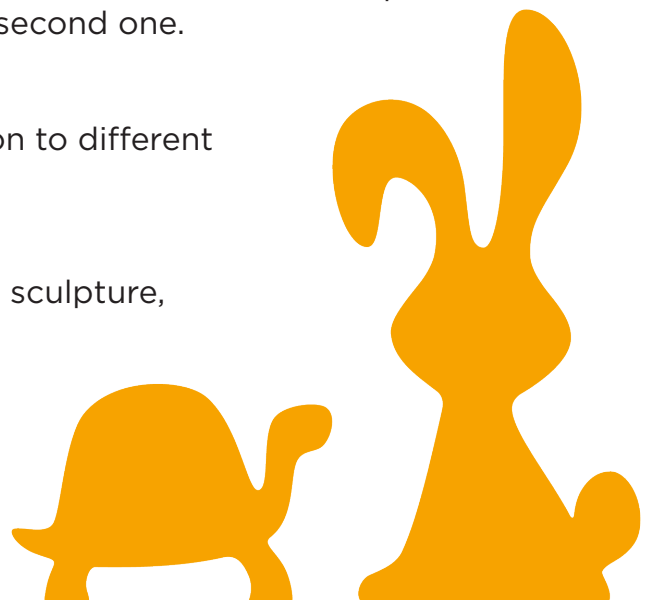
Consider the speed of a hare / tortoise in relation to different animals, a human or vehicles.

Area

Calculate the area of the scales on your tortoise sculpture, or the footprint of your hare.

Volume

Measure the dimensions of your sculpture. Consider how you could estimate its volume. What approximations would you need to make, to reach that estimation?



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Shapes

The hexagonal scutes (shell scales) in the Tortoise Takeover branding, and the model template in the art and craft section, tessellate well to form a tortoise shell. Which other shapes tessellate, and which ones don't? Ask students to construct a tortoise out of different shapes on the computer (and name the shapes)

Numbers

Create a hare or tortoise number line to use on a table or to decorate the walls - you could use the cardboard scute idea from the arts and crafts section

Tally the tortoises

A female tortoise may begin laying eggs at the age of 20 and could live more than 150 years. She might lay up to 25 eggs per year, but of these only 5 might actually hatch. Extension: Assuming that half of the tortoise's children are female, and begin laying their own eggs at the age of 20, how many grandchildren could she have by her 150th birthday?

