# Estimating Length

## You will need
- a ruler
- a metre stick
- string

**GOAL**

Use referents to estimate length in millimetres, centimetres, and metres.

An Inuit artist named Mark Eetak designed this silver bracelet. He was inspired by a legend about beluga whales.
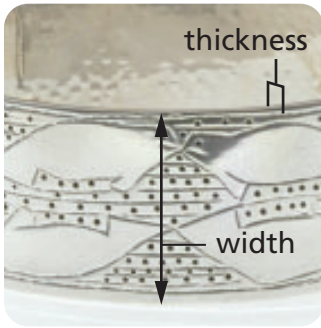


**How can you estimate the width, thickness, and perimeter of the bracelet?**

## Sam's Units

I'll use millimetres to describe the width and the thickness, and centimetres to describe the perimeter.

**A.** To estimate the number of centimetres around your wrist, would you use the length of your finger or the width of your fingernail? Explain your thinking.

thickness

width

**B.** Estimate the distance around your wrist. Then measure it with a string and a ruler.

**C.** To estimate the width of the bracelet in millimetres, would you use the width of your finger or the thickness of your fingernail? Explain your thinking.

**D.** Estimate and then measure the width of the bracelet in the picture.

**E.** Estimate the thickness of the bracelet in the picture. Explain how you did this.

## Reflecting

**F.** What objects or distances in your classroom might have a length of about 1 mm, about 1 cm, and about 1 m?

**G.** How can you decide whether to measure a length in millimetres, centimetres, or metres? Use examples to explain.

## Checking

**1.** A full-grown yellow cedar tree is about 24 m tall. Its trunk is about 90 cm wide. It grows from a cone that is only about 8 mm wide.

   **a)** Why do you think three different units are used to describe this tree?

   **b)** Describe objects or distances at your school that might be the same length as the height, the trunk width, and the cone width of a yellow cedar tree.

## Practising

**2. a)** What length unit would you use to describe how much longer Line A is than Line B?

A ————————————|
B ———————————

**b)** Estimate the difference in the lengths.

**c)** Measure the difference in the lengths.

**3.** Find someone who is taller or shorter than you are.

**a)** What unit would you use to describe the difference in your heights?

**b)** Estimate the height difference, without using a ruler. What did you think about to help you estimate?

**4.** What part of your body might have each measurement?

**a)** 1 mm          **b)** 1 cm          **c)** 1 m

**5.** An object is 150 mm long. Is it more likely to be a pencil or a bookshelf? Explain your thinking.

**6.** Would you use millimetres, centimetres, or metres to measure each length below? Give reasons for your choice.

**a)** the thickness of a tile

**b)** the length of a room

**7.** To estimate the width of your classroom, which would you use: the width of your hand, or a string cut to match the distance from a doorknob to the floor?

**8.** Hannah says that her new bed is 2000 mm long. Keira thinks this sounds really long! Is 2000 mm too long for a bed? Explain your thinking.

**9.** Imagine a real polar bear. What unit would you use to measure each of these? Explain your thinking.

**a)** the height of the polar bear

**b)** the thickness of one of the polar bear's claws

**c)** the width of the polar bear's nose