

# Ancient Egyptian measures

## Mathematics learning objectives

### Framework

- **U&A:** Suggest a line of enquiry and the strategy needed to follow it; collect, organise and interpret selected information to find answers.
- **Measure:** Interpret intervals and divisions on partially numbered scales and record readings accurately, where appropriate to the nearest tenth of a unit.

**NC:** Ma3, 1a; Ma4, 1a; Ma4 2a-b

### History learning objective (NC)

- **I3:** A study of the key features, including the everyday lives of men, women and children, of a past society selected from: Ancient Egypt, Ancient Sumer, the Assyrian Empire, the Indus Valley, the Maya, Benin or the Aztecs.

### Vocabulary

Chart, frequency table

activity sheets 'Ancient Egyptian measures' and 'Ancient Egyptians data collection'. Ask the children to take turns to draw around their stature, cubit, span and palm and to cut these out. Remind them to write their names onto their 'body measures' so that they know whose are whose. They measure each 'body measure' using metric units and record these in the table. Now ask them to compare each of their 'body measures' with their stature and to write how many palms, spans, cubits measure the same as their stature. They write this onto the frequency table.

### Differentiation

**More confident:** Ask the children to compare their finger length with their palm, span and cubit, measuring first using centimetres.

**Less confident:** If possible ask an adult to work with the children to encourage them to discuss the comparisons of measurements and the accuracy of all the measurements that they make.

### Review

Provide calculators and display the activity sheet 'Ancient Egyptian units of length'. Ask the children to compare their measurements with the metric measurements shown in the table. Ask questions such as:

- Whose cubit measures about 45cm?
- Why do you think your cubit is different from this?
- Use your calculator to help you. One hand is equivalent to 3.5 palms. Find out how large one hand is for you.
- Whose hand was about 25cm?
- Compare your palm with the palm measurement.
- Whose palm is larger/smaller? By how much?
- Compare your cubit with a khet. What do you need to multiply your cubit by to make a khet? Do this mentally.
- Who is closest to a khet (rod)?
- Now try again this time for the river measure. Use paper to help you with this. (Children may need help with multiplying by 20,000; suggest they multiply by 2 first, then 1000, then by 10.)
- Who is closest to this?

### Now try this...

Suggest that the children use Ancient Egyptian measures to find lengths of things in the classroom. They can compare by also measuring in metric units. They can make a table of their findings.

## Resources

- Large sheets of paper, metric measuring tapes or rulers, scissors and calculators

## CD-ROM:

- Activity sheets: 'Ancient Egyptian measures', 'Ancient Egyptians data collection', 'Ancient Egyptian units of length' (also p19) and 'Egyptian measures data collection'
- Images: 'Hieroglyphics', 'Papyrus' 1 and 2, 'Pyramids' and 'Statues'

## Introduction

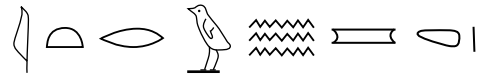
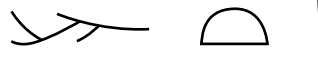

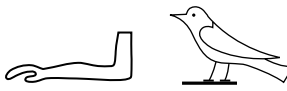


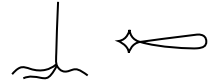



Display the Egyptian images from the CD-ROM. Explain that the Ancient Egyptians needed a system of measuring to help them when they were building, and for trading. Display the activity sheet 'Ancient Egyptian measures'. Ask:

- What do you notice about the stature? (Height is roughly the same measurement as the measurement across the outstretched arms.)
- Do you think that your stature is like this?
- Is your palm the same measurement as your partner's?

## Children's task

Place children in groups of three or four and provide large sheets of paper, measuring tapes, scissors and the

# Ancient Egyptian units of length

| Unit name      | Hieroglyphic and Egyptian name   | Egyptian units          | Metric units |
|----------------|--|-------------------------|--------------|
| River measure  | <br>iteru         | 20,000 cubits           | c10.5km      |
| Khet (rod)     | <br>khet          | 100 cubits              | 52.5m        |
| Royal cubit    | <br>meh niswt     | 7 palms or 28 fingers   | 52.5cm       |
| Standard cubit | <br>meh nedjes   | 6 palms or 24 fingers   | 45cm         |
| Remen          | <br>remen       | 5 palms or 20 fingers   | 37.5cm       |
| Djeser         | <br>djeser      | 4 palms or 16 fingers   | 30cm         |
| Hand (large)   | <br>pedj-aa     | 3.5 palms or 14 fingers | 25cm         |
| Hand (small)   | <br>pedj-sheser | 3 palms or 12 fingers   | 22.5cm       |
| Palm           | <br>shesep      | 1 palm or 4 fingers     | 7.5cm        |
| Finger         | <br>djeba       | 1 finger or 1/4 palm    | 1.875cm      |



## CD-ROM follow-up material

Provide children with 'Egyptian measures data collection' and ask them to measure a number of items at school and at home, with a partner. When the task is completed the children discuss their tables with another pair.