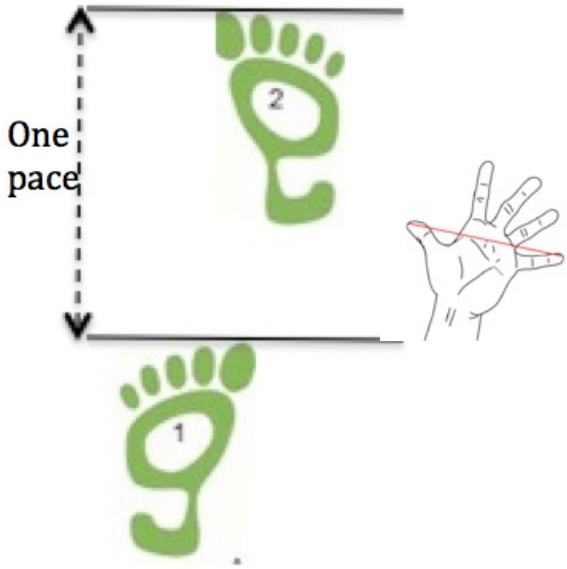
AFRICAN INSTITUTE FOR MATHEMATICAL SCIENCES
SCHOOLS ENRICHMENT CENTRE (AIMSSEC)
AIMING HIGH

HANDSPAN, PACE



Let's walk from here to that tree,
How many paces will that be?
Spread your fingers as wide as you can,
What you have now is called a **hand span**.

A hand span can help you to find out how big
Is the height of a cow, a horse or a pig.
Use your hand span very carefully and see
How many it takes to go right round a tree.

Now get a good friend and make this a game,
Is their number of spans round the tree the same?

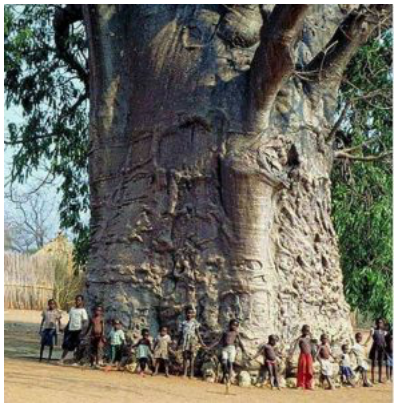
Next find an adult and compare their hand span too,
To see if they use more or less spans than you.

Now write down the answers
Think as hard as can be,
Is it better to use a tape measure like me?

HELP

Creating your own handprints. All one colour is fine. First spread some paint on your hands and make prints on a piece of paper. Wait for the paint to dry.

Cut out some handprints and lay them side by side to measure some objects like a big book or a dinner plate.



Talk about this Baobab Tree. The picture was taken in Senegal and the tree is about 600 years old.

NEXT

Make a metre long stick by rolling newspaper tightly and securing the roll with selotape.

Get an adult to help you. Measure more objects with your metre stick.

See https://aiminghigh.aimssec.ac.za/years-3-7-metre-measures/
and https://aiminghigh.aimssec.ac.za/years-5-7-estimate-my-girth/

NOTES FOR TEACHERS

Why do this activity?

This is an engaging practical activity for learners to give them the opportunity to measure distances and lengths and to think about the need for standardised units. The teacher can read out the verse as a start to exploring measurement and then engage the learners in expressing their own ideas about why it is better to have standard units.

Learning objectives

In doing this activity students will have an opportunity to:

- practice estimating, measuring, recording and comparing lengths;
- develop the ability to estimate lengths and distances.

Generic competences

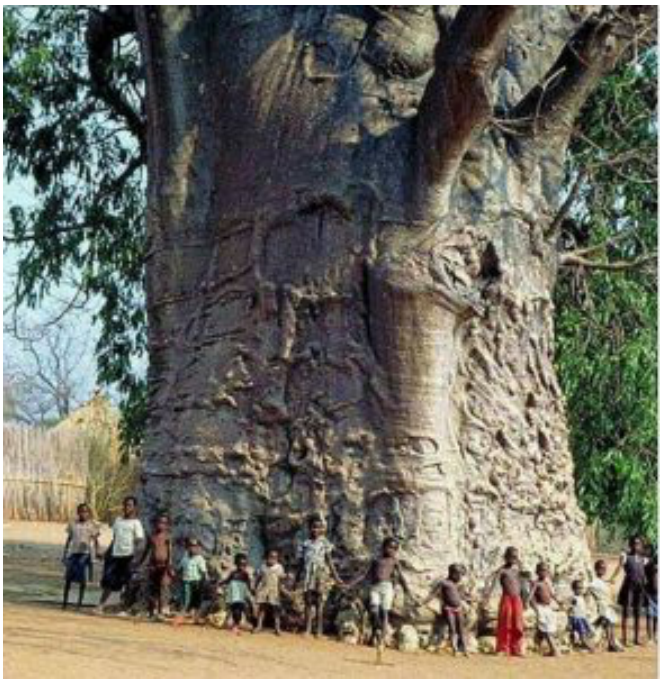
In doing this activity students will have an opportunity to:

- **think flexibly**, be creative and innovative and apply knowledge and skills;
- **visualize** and develop the skill of interpreting and creating visual images to represent concepts and situations.

Suggestions for teaching

You might start with all the children creating their own handprints and cutting them out so the hand spans can be laid out side by side to measure some objects in the classroom.

You might want to make measurements in the classroom before going outdoors to do this activity involving a tree, or you may want to adapt the activity if you do not have a big tree nearby, or to make it an indoors activity.



Talk about the baobab tree and about the biggest trees that your learners have seen and where they are.

Read the poem and, after a bit of discussion, get everyone to walk to a tree (or along the corridor) counting the number of paces. Then make a record of the different answers.

Read the poem again and then encourage learners to get involved in practical investigations of the distance around the tree (or around the classroom perhaps). This might involve for example using a piece of string to find this distance and then using hand spans to measure the length of string that just goes around the tree (or around the room).

Key questions

- How many hands spans have you used?
- Can you think of better way of doing this?
- Will I get the same answer as you if I measure that with my paces (or handspans)?

Follow up

See Metre Measures https://aiminghigh.aimssec.ac.za/years-3-7-metre-measures/
And Estimate My Girth https://aiminghigh.aimssec.ac.za/years-5-7-estimate-my-girth/

Note: The Grades or School Years specified on the AIMING HIGH Website correspond to Grades 4 to 12 in South Africa and the USA, to Years 4 to 12 in the UK and up to Secondary 5 in East Africa. New material will be added for Secondary 6. For resources for teaching A level mathematics see https://nrich.maths.org/12339 Note: The mathematics taught in Year 13 (UK) and Secondary 6 (East Africa) is beyond the school curriculum for Grade 12 SA.				
	Lower Primary or Foundation Phase Age 5 to 9	Upper Primary Age 9 to 11	Lower Secondary Age 11 to 14	Upper Secondary Age 15+
South Africa	Grades R and 1 to 3	Grades 4 to 6	Grades 7 to 9	Grades 10 to 12
USA	Kindergarten and G1 to 3	Grades 4 to 6	Grades 7 to 9	Grades 10 to 12
UK	Reception and Years 1 to 3	Years 4 to 6	Years 7 to 9	Years 10 to 13
East Africa	Nursery and Primary 1 to 3	Primary 4 to 6	Secondary 1 to 3	Secondary 4 to 6