



# TALL TREES



**Supporting**



**This free session has been  
created by My Science Club  
exclusively to support  
Maths Week Scotland 2025**

**UPPER PRIMARY**

Biology  
Tall Trees



**HOW COULD WE MEASURE THE HEIGHT OF A TREE?**

**DISCUSS IN TRIOS.**

# ESTIMATING



Find a tree. Can you estimate the height of it to the nearest 5 metres?



Find a building. Can you estimate the height of it to the nearest 5 metres?



# ESTIMATING

Estimating is really hard - even grown ups find it difficult.

I know the bookcase is 1m high. How many bookcases would reach the top of the tree?



You need to have a reference size to help you - find something that is 1m that you can always picture next to the object you are estimating.



# MEASURING METHOD I

Find a tree that you want to measure the height of.



Estimate the height and try to imagine how far the tree would reach if it was lying down.



Walk away from the tree until you are the distance away that you think the tree is tall.



# MEASURING METHOD I



Stop where you think the tree would reach if it was lying down.

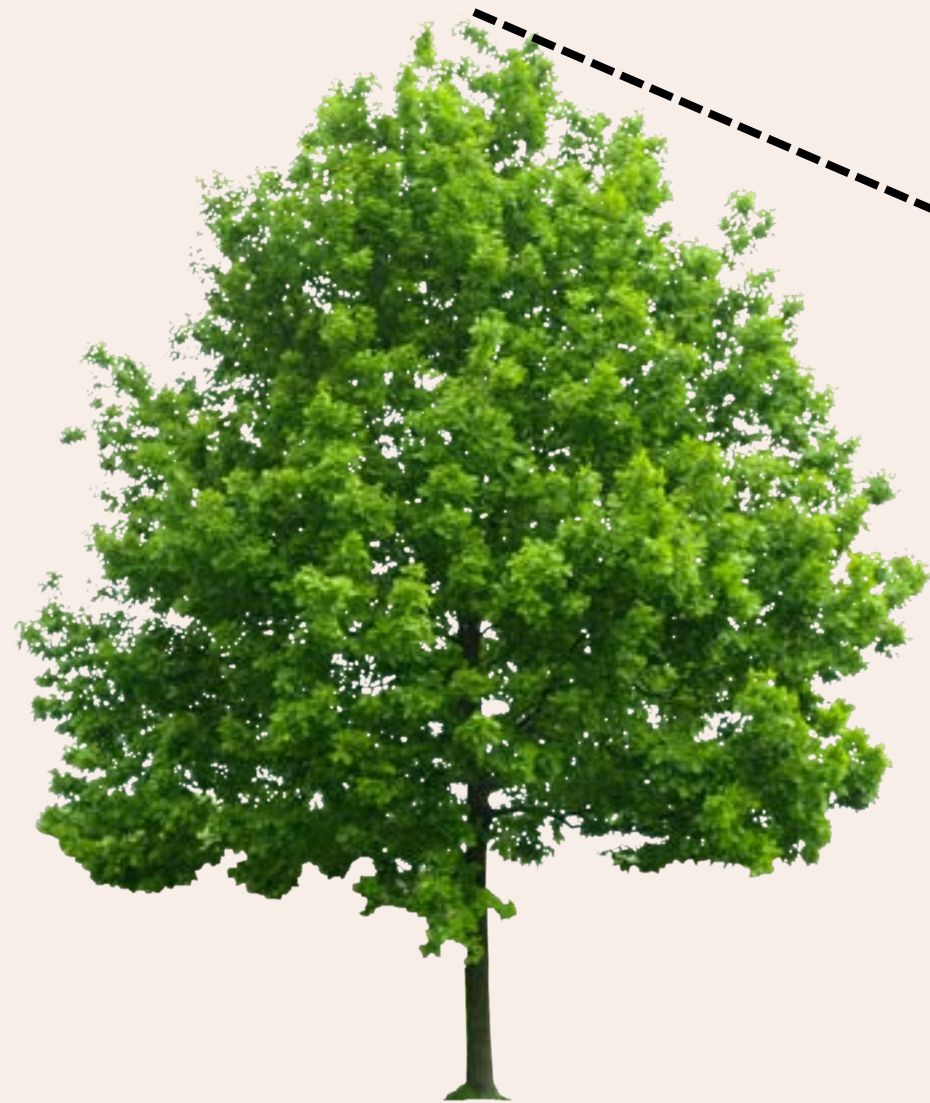


Face away from the tree, bend over and look through your legs.

Can you see the top of the tree through your legs?



# MEASURING METHOD I



Adjust your distance so you can just see the top of the tree through your legs.



# MEASURING METHOD I



Use a trundle wheel, or tape measure to measure the distance to the centre of the tree trunk.

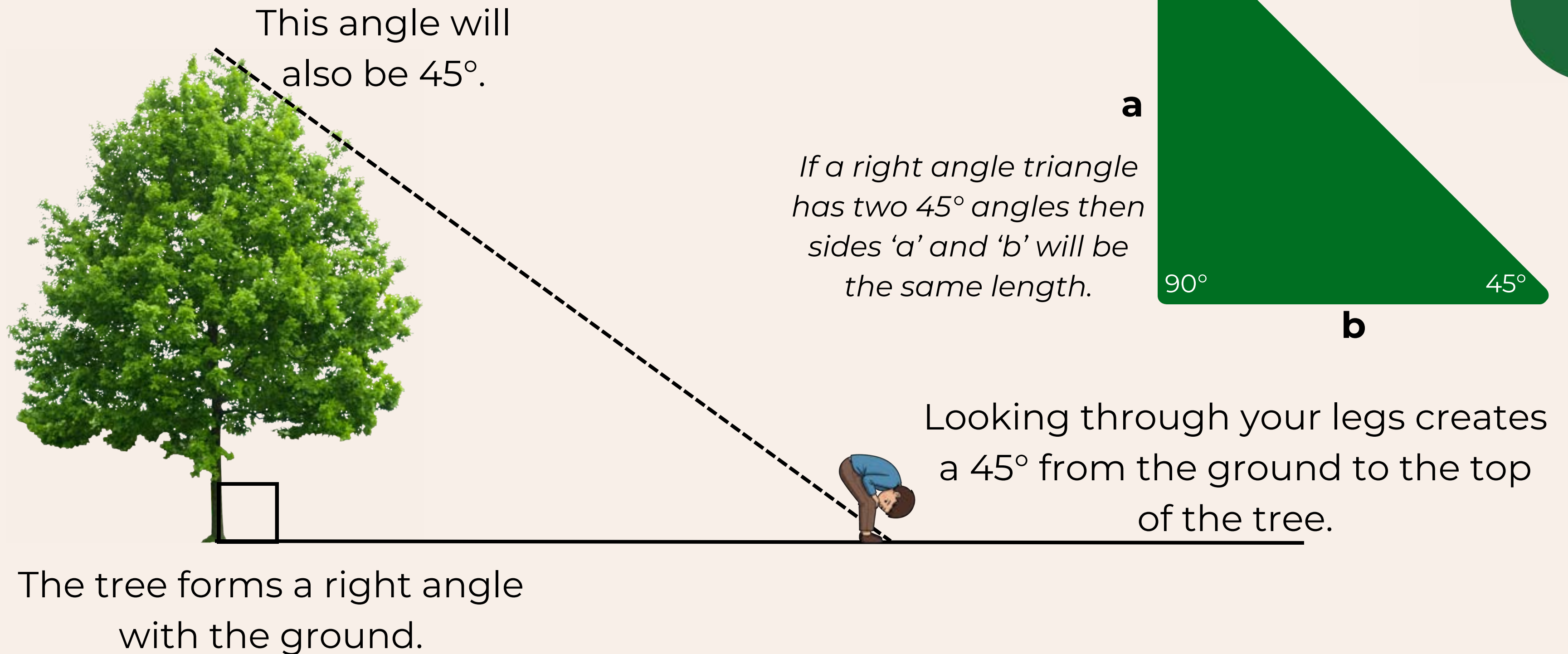


The distance you are away from the tree equals the height of the tree.





# MEASURING METHOD I - WHY IT WORKS



# MEASURING METHOD 2



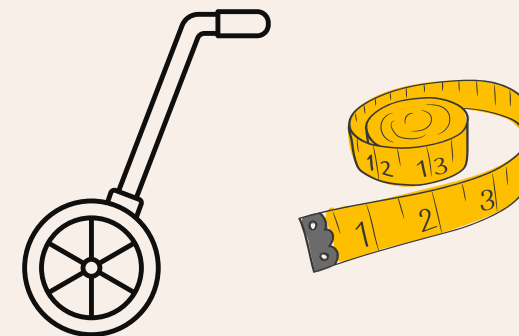
You need:

A friend

A pencil

A tree

Trundle wheel or tape measure



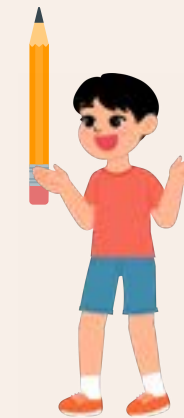


# MEASURING METHOD 2



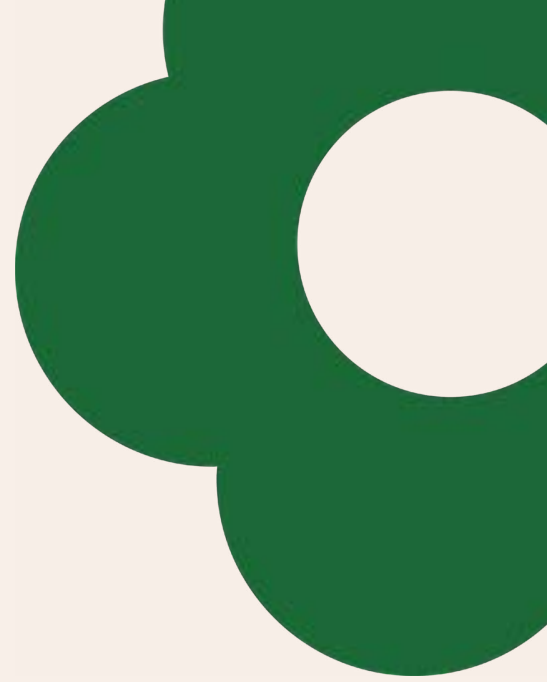
One of you stand  
by the tree.

One of you move  
backwards away from the  
tree holding the pencil up  
at arms length.



## MEASURING METHOD 2

Back away from the tree slowly until the tree is the same height as the pencil.





## MEASURING METHOD 2

The person standing by the tree walks away from the tree.



They walk until they reach the end of the pencil.

From where you are standing turn the pencil sideways.

## MEASURING METHOD 2



They are now a distance away from the tree that equals the height of the tree.

Measure the distance from the tree to where they are standing to find the height of the tree.



# MEASURING METHOD 2 - WHY IT WORKS

This method uses perspective -  
when things are close they  
look big, when they are further  
away they look smaller.



So although the pencil is much smaller  
than the tree if it is closer to your eyes  
than the tree it can be made to look the  
same size.

