

# Animal Measures

Teacher's Guide



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## Line Masters

This Teacher's Guide includes access to modifiable and PDF line masters.

To access these Mathology Little Book Line Masters, please log in at Pearson Places, [www.pearsonplaces.com.au](http://www.pearsonplaces.com.au) and select the Mathology Little Books icon. The Line Masters can be found in the 'Explore Resources' section.

If the icon doesn't appear or if you are new to Pearson Places, please contact our digital helpdesk at [help@pearson.com.au](mailto:help@pearson.com.au) and we will set up a teacher account for you.

Once you have your Pearson Places account details you can record them below for reference.

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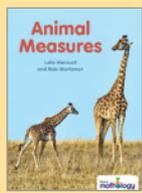
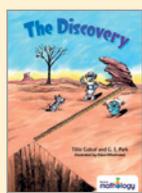
## Mathology Little Books

This series recognizes that children’s understanding of maths concepts develops over time, and so the series allows you to choose the book that best matches a child’s or group’s level of mathematical understanding. The books engage children at just the right level in a wide range of mathematical ideas, thinking, and activities in a variety of real world and imaginary contexts.

*Animal Measures* engages children in conversations, investigations, and activities that help to develop their understanding of the big maths idea that “Units can be used to measure and compare attributes.”\*

### Big Idea: Units can be used to measure and compare attributes.

(Length, volume and capacity, mass, area, perimeter time)

TITLE	KEY MATHS FOCUS	MATHS SKILLS	STRATEGIES	ADDITIONAL FOCUS
	Estimate and measure length  Compare measures according to length	Describe measures (e.g. longer, longest) Select and use appropriate measures	Use a baseline	Count by 5s
	Estimate and measure length, duration, and distance around  Compare, order, and describe measures	Estimate and measure length, distance, and time Compare and order objects according to length, distance, and time Use relative terms to describe length, distance around, and time	Use personal and familiar referents to estimate measures Select and use appropriate measuring tools	Duration of time (1 min) Addition and subtraction story problems Create a tally Days of the week Compare and order numbers
	Estimate and measure length, perimeter, and area  Compare and describe length, perimeter, and area	Select and use appropriate measuring tools Compare and order objects according to length, perimeter, and area Uses relative terms to describe length, perimeter, and area	Use personal referents and benchmarks Skip count by 5s and 10s Use repeated addition	Identify symmetry in the environment Estimate how many is in a group (to 100)

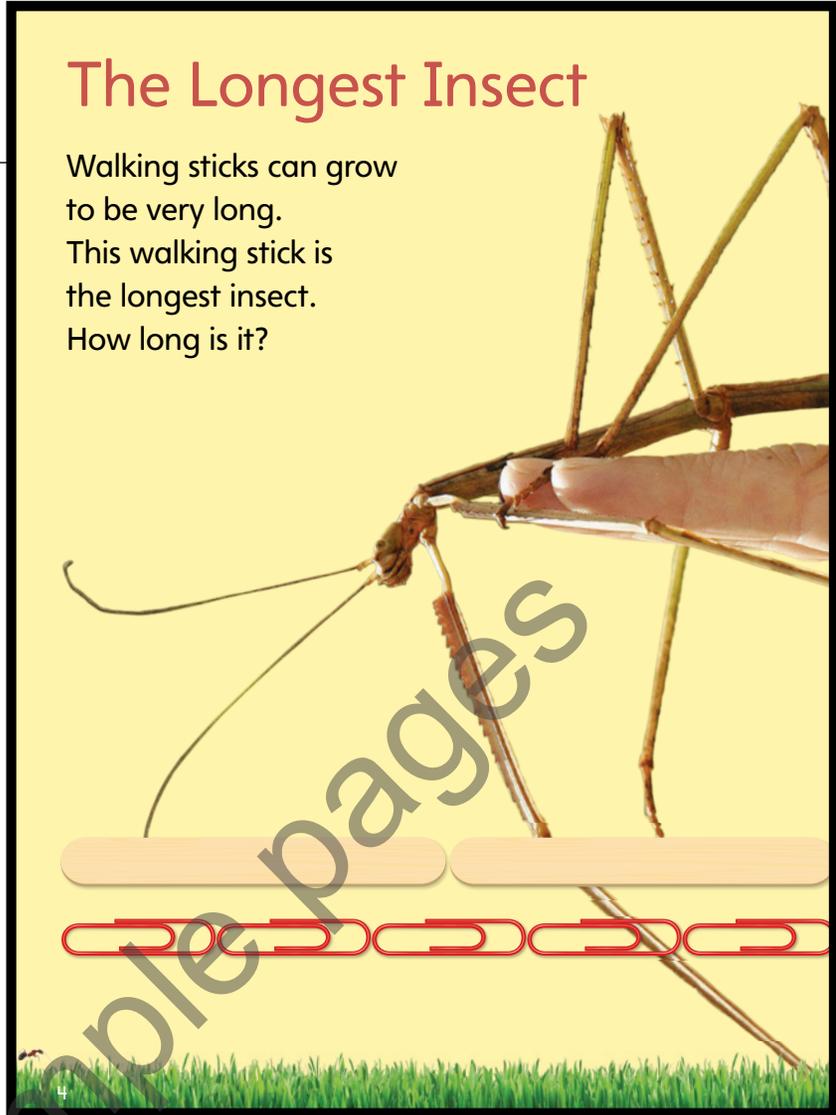
\* This book can also be used to address the big idea that “Many things in our world have attributes that can be measured and compared.”

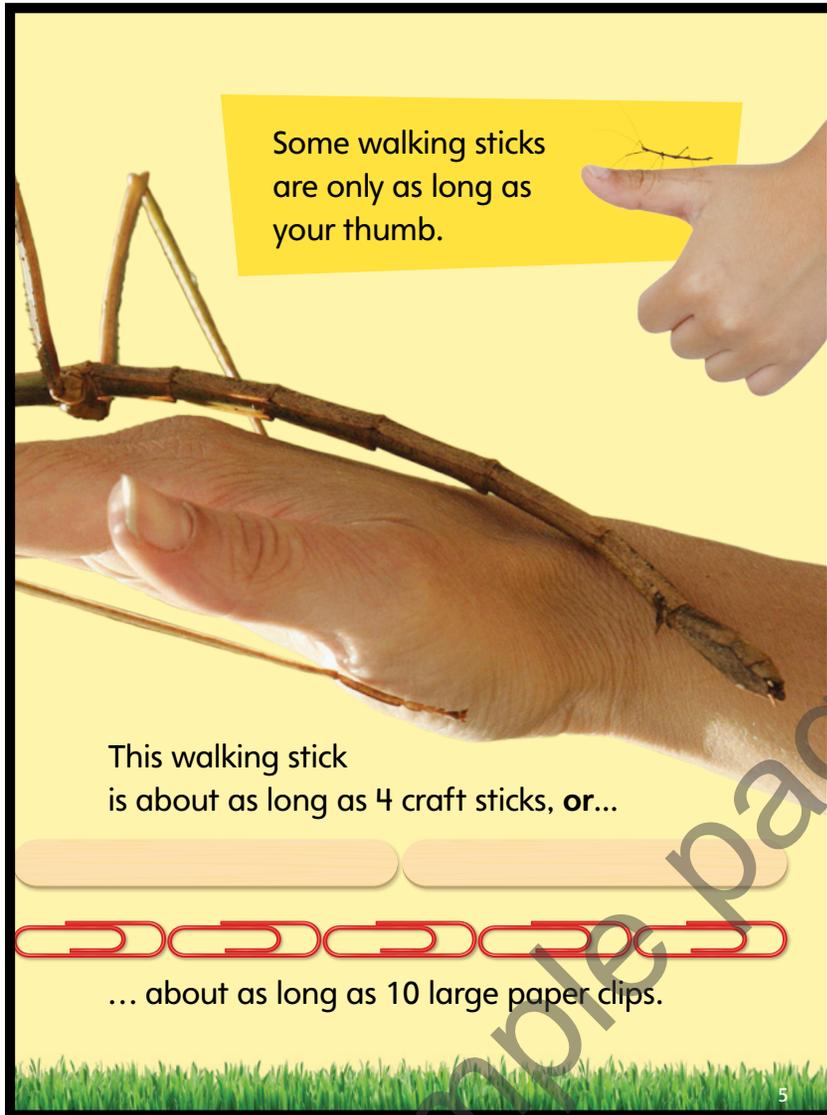
## Estimating and measuring

- How can we use the craft sticks to tell how long the walking stick is? (*the walking stick is about 4 craft sticks long*) How can we use the paper clips to tell how long it is? (*it's about 10 paper clips long*)
- What do you notice about how the craft sticks and the paper clips are placed? (*e.g., are in a straight line; are touching each other; are at the ends of the walking stick*)

## The Longest Insect

Walking sticks can grow to be very long. This walking stick is the longest insect. How long is it?





## Comparing measures

- Take a close look at the long and the short walking sticks. Tell about the long walking stick by comparing it to the length of your hands, fingers, or thumbs. (*e.g., it is longer than my hand; it is probably about as long as 2 of my hands*)
- The longest walking stick is about as long as 4 craft sticks and also about as long as 10 large paper clips. How can you explain why these numbers are different? (*e.g., paper clips are shorter than craft sticks so need more of them*) What can we find in our classroom that is about the same length—about as long as 4 craft sticks or 10 large paper clips?

### WATCH FOR...

- When offering an explanation for the different numbers that arise when measuring using paper clips versus craft sticks, do children consider how the length of each unit relates to the final measurements?
- After making an estimate, do children suggest measuring to check, with the understanding that this may provide information that confirms or contradicts an estimate?

# Large Group Options

If you read *Animal Measures* to a large group or whole class, you might project the book to facilitate reading aloud and better engage children in estimating, measuring, and comparing. These activities engage children in estimating, measuring, and comparing the length of objects using non-standard units; choose the activities that best address your children's learning needs.

## ESTIMATE, THEN MEASURE

### ENGAGE

Draw attention to pages 4 and 5 of *Animal Measures*. Ask:

- **What do we learn about the longest insect?** (e.g., *is a walking stick; is about as long as 4 craft sticks; is about as long as 10 paper clips*)
- **What do you think we can find in our classroom that is about as long as this walking stick?**
- **How can we check to see if the (paintbrushes) are about as long?**

Follow up on suggestions. Provide craft sticks and large paper clips to check the length of identified objects. As volunteers measure to check, engage children in reviewing correct measuring procedures: units must be aligned to one end of the object; units must touch without gaps in between and without overlapping; and units must be placed in as straight a line as possible.

Discuss how estimates and measures compare. Ask questions such as:

- **What did we find out? Is the (paintbrush) longer, shorter, or about the same length as the longest insect?**

Invite children to suggest other objects they think are about as long as the walking stick and then measure to check.

### WORK ON IT

At work areas, place craft sticks, large paper clips, and copies of Estimate, Then Measure (LM 4) or sheets of paper for recording. Invite children to choose objects to estimate and measure. (You may decide to choose the objects for some or all children instead.) Say:

- **Now, you get the chance to use craft sticks and paper clips to find out how long things are. Estimate each object before you measure.**

### SHARE AND REFLECT

Meet and prompt reflection by asking questions such as:

- **What is the longest (shortest) thing you measured? How do you know?**
- **What did you find that is longer (shorter) than the walking stick?**
- **What did you find that is about as long as (5) craft sticks? (5) paper clips?**

**MATHS FOCUS:** estimate and measure length using non-standard units; use a baseline; use comparative language

**MATERIALS:** *Animal Measures*, pp. 4–5; craft sticks; large paper clips; Estimate, Then Measure (LM 4) or sheets of paper for recording

### WATCH FOR...

- Does the child align units of measure to one end of the object being measured? Are they touching, but not overlapping?
- Does the child use appropriate language (e.g., *shorter, longer, about as long as*) to compare estimates and measures?

**DIFFERENTIATE:** Invite children who have not previously estimated and measured with non-standard units to determine which items are longer than (shorter than, the same length as) 1 craft stick and/or 1 paper clip before they use these to estimate and then measure the lengths of objects.

# Animal Measures

## Line Master 1 (Assessment Master)

Name: \_\_\_\_\_

Estimate and Measure Length	Not observed	Sometimes	Consistently
Uses a baseline			
Describes measures (longer, shorter, taller, about as long as)			
Estimates and measures to confirm comparison			
<b>Compare Measures According to Length</b>			
Selects and uses appropriate measures			
Describes measures (longest, shortest, tallest, about as long as)			
Estimates and measures to confirm order			

**Strengths:**

**Next Steps:**

A customizable (Excel) Whole-Class Assessment recording sheet is also available on Pearson Places