



Topic A

4 days  
L1  
L2  
L3  
L4

# Standard Length Units

1.7A, 1.7B, 1.7C, 1.7D

<b>Focus Standards:</b>	1.7A	SS	Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.
	1.7B	SS	Illustrate that the length of an object is the number of same-size units of length that, when laid end-to-end with no gaps or overlaps, reach from one end of the object to the other.
	1.7C	SS	Measure the same object/distance with units of two different lengths and describe how and why the measurements differ.
	1.7D	RS	Describe a length to the nearest whole unit using a number and a unit.
<b>Instructional Days:</b>	4		
<b>Coherence -Links from:</b>	GK-M3		Comparison of Length, Weight, Capacity, and Numbers to 10
<b>-Links to:</b>	G2-M2		Addition and Subtraction of Length Units
	G2-M7		Problem Solving with Length, Money, and Data

-1: extending students' kindergarten experiences with measurement tools

3: students use same centimeter cubes alongside ruler, recognizing the meaning of the numbers on the ruler as describing the number of cm length units up to that number.

L2: centimeters cubes laid alongside objects. they learn that the total number of cubes is the length of that object.

Topic A begins with Lesson 1 by extending students' Kindergarten experiences with measurement tools to reinforce the continuous nature of linear measurement (1.7A). Topic A then adds a new level of precision to measurement by introducing the idea of a length unit. In Lesson 2, centimeter cubes are laid alongside the length of objects as students learn that the total number of cubes laid end to end with no gaps or overlaps is the length measure of that object. For example, the length of the crayon can now be described not only as shorter than the paper strip, but more precisely as 9 centimeter cubes (1.7A, 1.7B, 1.7C, 1.7D).

In Lesson 3, students lay those same centimeter cubes alongside a ruler, recognizing the meaning of the numbers on the ruler as describing the number of centimeter length units up to that number. The centimeter then connects students to their world as they come to realize that the centimeter unit is used by first-grade students in Brazil, by the restaurant owner across the street, and even by their families. Students explore the question, "Why would we use a standard unit to measure?" As the use of rulers to measure is a Grade 2 standard, students in Grade 1 simply rename their centimeter cube as a centimeter as they continue to use the cubes to measure objects. The Sequence of Grade 1 Modules Aligned with the TEKS section of the Course Guide explains that students should engage in standard unit measurement in order to develop a solid understanding of why and how to measure, rather than measuring using a plethora of nonstandard measurement units.



L4:  
Students measure + compare  
sets of three items using cm cubes  
Students solve compare  
w/difference unknown  
word problems

The topic closes with Lesson 4, where students measure and compare sets of three items using centimeter cubes (1.7A): "The pencil measures 10 centimeters. The crayon measures 6 centimeters. The book measures 20 centimeters. The order from shortest to longest is the crayon, the pencil, and the book. The book is longer than the pencil, and the pencil is longer than the crayon, so the book is longer than the crayon." Students finally solve *compare with difference unknown* word problems, determining how much longer a given object is than another.

#### A Teaching Sequence Toward Proficiency with Standard Length Units

- Objective 1:** Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.  
(Lesson 1)
- Objective 2:** Express the length of an object using centimeter cubes as length units to measure with no gaps or overlaps.  
(Lesson 2)
- Objective 3:** Rename and measure with centimeter cubes, using their standard unit name of centimeters.  
(Lesson 3)
- Objective 4:** Order, measure, and compare the length of objects before and after measuring with centimeter cubes, solving *compare with difference unknown* word problems.  
(Lesson 4)



Step 1

Step 2

Step 3

Step 4 → Look at pg. 22

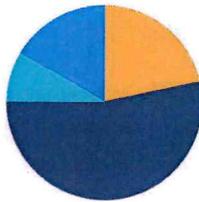
# Lesson 1

Objective: Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.

1.7A (S.5.) - Use measuring tools to measure the length of objects (reinforce continuous nature of linear measurement).

## Suggested Lesson Structure

- Fluency Practice (10 minutes)
- Application Problem (5 minutes)
- Concept Development (35 minutes)
- Student Debrief (10 minutes)
- Total Time (60 minutes)**



### NOTE ON FLUENCY

Throughout the module, teachers are encouraged to make appropriate adjustments to fluency activities to account for varying student needs.

### Fluency Practice (10 minutes)

- 1, 2, and 3 Less 1.2D, 1.3D (3 minutes)
- Happy Counting by Threes 1.3D (2 minutes)
- 5-Group Flash: Take from Ten 1.3D, 1.3E (5 minutes)

#### 1, 2, and 3 Less (3 minutes)

Note: This activity provides a review of subtracting 1, 2, and 3 from a given number. This supports fluency development of decomposing numbers within 10.

- T: On my signal, say the number that is 1 less.  
 T: 3.  
 S: 2.

Continue with all numbers within 10. Then repeat with 2 less and 3 less.

#### Happy Counting by Threes (2 minutes)

Note: This activity provides a review of counting on and back and allows students to maintain fluency with adding and subtracting 3.

Repeat the Happy Counting activity from Module 2, Lesson 4, counting by threes from 0 to 12 and back.

#### 5-Group Flash: Take from Ten (5 minutes)

Materials: (T) 5-group row cards (Fluency Template 1) (S) Personal white board with 5-group row insert (Fluency Template 2)

Know	Show
<ul style="list-style-type: none"> <li>• length of an object</li> <li>• Look at two objects to see how they are alike/diff. in size.</li> <li>• longer than</li> <li>• shorter than</li> <li>• same length</li> <li>• Endpoint</li> </ul>	<ul style="list-style-type: none"> <li>• align the endpoints of two objects to compare length</li> <li>• Identify + describe which object is longer or shorter</li> <li>• use manipulatives to show comparisons</li> </ul>

review subtracting 1, 2, 3 from given #

supports fluency decomposing within 10

review counting + back

repeat activity M2 L4



Note: This activity provides a review of partners to ten and allows students to maintain fluency with the take from ten strategy.

Flash a card (e.g., 9) for one to three seconds. Students cross off the flashed number from the 5-group row insert and write the corresponding subtraction sentence. Repeat the process until all numbers have been flashed.

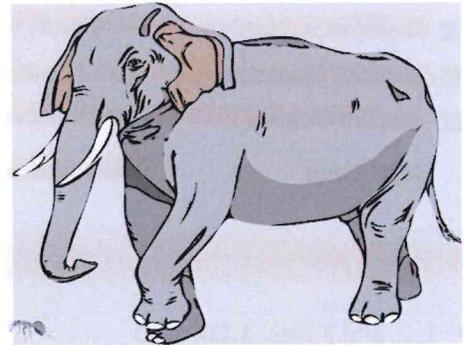
1. Flash a card
2. stds. cross off the flashed # from 5 group row insert
3. Write corresponding subtraction sentence

**Application Problem (5 minutes)**

*(Review from Kinder)*

Materials: (T) Ant and elephant image (Template 3)

Show students the image of the ant and the elephant. Use the following questions and prompts to generate a discussion that includes measurement words and phrases such as *longer than*, *shorter than*, and *taller than*.



- \* What words can you use to describe, or to talk about, the ant? The elephant?
- \* What words can you use to compare the size of the elephant to the size of the ant?
- \* Can you think of an animal that is taller than an ant and shorter than an elephant?

Note: This Application Problem serves as a review of vocabulary students use in Kindergarten to compare length. Students will use this language during today's Concept Development.

**Concept Development (35 minutes)**

*(25) Concept Development*  
*(10) Problem Set*

Materials: (T) gift box, various measuring tools such as centimeter cubes, paper clips, 4-6 meter sticks, meter tapes, a ball of yarn or string, scissors, masking tape (S) 10-inch piece of yarn

Note: Consider borrowing extra measuring tools from other classrooms for Part 2 of the Concept Development. Prepare for Part 2 by pre-measuring your walking path scenario. It should be about 15-20 feet long and change direction.

**Part 1: Use String to Explore Continuous Measurement**

Invite students to sit in a circle. Show them a gift box.

T: Yesterday, I bought a gift for a friend. I'd like to decorate my gift with a ribbon. I'm not sure how much ribbon I will need. (Display and name various measuring tools. Show that the meter tape is a flexible meter stick.) Which of these tools would you use to measure the length, or distance, around the box, and why?

*\* review of partners to 10*  
*\* maintain fluency w/ the take from 10*

*\* discussion using ant + elephant pg.*  
*\* shorter longer taller*

*\* might need to borrow extra measuring tools*  
*\* Prepare Part 2 (walking path)*  
*\* meter tape + gift box*



\* cubes + paper clips too small  
 \* ruler - doesn't bend  
 \* measuring tape  
 \* ball of activity

S: The cubes and paper clips are too small. They won't go around the box easily. → I would use a meter tape, because it will bend around the sides. I wouldn't use a long stick. It won't bend. → The string is best, because you can wrap it around the box like a ribbon!

T: There are many tools we can use to measure the length of an object or the distance around an object.

T: (Hold up a ball of yarn.) How could I use this yarn to find the length, or distance, around my gift box?

S: You can stretch it around the box. → You can wrap it around the box and then cut it.

T: Let's try! I'll start by placing the end of my yarn on one end of my gift box. (Point to a starting edge.) Now, let's measure the top of my box. (Unroll the yarn slightly and pause.) Uh-oh, my yarn isn't long enough. What should I do?

S: Get another piece of yarn and put it where that piece ends. → Unroll the yarn to keep measuring.

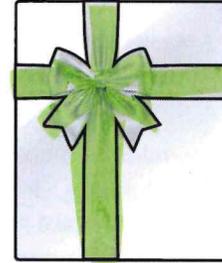
T: I'm not at the end of my yarn yet. I can unroll some more yarn. (Demonstrate.) Now I've measured the length of the top of my gift. Am I finished? Turn and talk to a partner.

S: No, you have to go around each side and then make a bow! → You have to keep unrolling the yarn until you get around the whole box!

T: That's right. When I measure the distance around the box, I have to start at one endpoint and keep going without any gaps or overlaps to the other endpoint. I want to measure the entire length. (Unroll more yarn to finish measuring, pinch, and cut.) I'll cut the yarn to show where we stopped measuring.

T: (Hold up the piece of yarn.) If I want to make a bow, do you think my ribbon should be shorter than, longer than, or about the same length as this piece of yarn? Why?

S: I think the ribbon should be longer than the piece of yarn because it takes more ribbon to tie a bow. → We only measured the length around the box. We didn't think about the bow, too.



Turn & Talk

\* start at endpoints + keep going w/ no gaps or overlaps



**NOTES ON MULTIPLE MEANS OF ENGAGEMENT:**

Encourage students to reason about which measuring tool would be best to measure objects that are very short, such as a ladybug, or very long, such as a train. Consider selecting objects that are personal, familiar, or locally relevant.

\* encourage stds. to reason about measuring



**NOTES ON MULTIPLE MEANS OF ACTION AND EXPRESSION:**

For students needing support with language production, including some emergent bilingual students, provide the following sentence frames:

- \_\_\_\_\_ should be longer than \_\_\_\_\_.
- \_\_\_\_\_ should be shorter than \_\_\_\_\_.
- \_\_\_\_\_ should be about the same length as \_\_\_\_\_.

\* use sentence frames

I noticed that...  
 I agree/disagree because...



**Part 2: Continuous Measurement along a Walking Path**

Have students return to their seats. Present a distance scenario such as the following.

T: I would like to make a walking path to measure the distance from my desk to the door of our classroom. (Then again, name various measuring tools.) Think-pair-share: Which of these tools would you use to measure a path from my desk to the door, and why?

S: I would use meter sticks because they are long. → Paper clips are too little. It would take forever to line them up. → I would use the meter tape because it is wavy. → I would use the ball of yarn again. We could make any path we want and keep unrolling it.

T: There are many tools we can use to measure the distance between two endpoints. Who would like to mark the endpoints with masking tape? (Invite a student to put a piece of masking tape on the floor to mark the end of the desk and another student to put a piece of tape on the floor in front of the door.)

T: (Hold up the ball of yarn.) What should we do first to find the length or distance of the path from my desk to the door?

S: First, you can put the end of the yarn on the piece of tape at the desk.

T: Yes, first we have to line up the end of the yarn with one of the endpoints. (Demonstrate.) What should we do next?

S: Unroll the yarn to make a path between our desks. Then, turn and keep unrolling the yarn until we get to the door.

T: (Invite a student to unroll the yarn in a straight path that goes between the desks and then turns and goes to the door.) Yes, we will keep measuring until we get to the other endpoint, marked by the piece of tape at the door.

T: (Pinch, cut, and hold up the piece of yarn.) This piece of yarn shows us the length of our path. Were there any breaks when we measured with the yarn?

S: No.

T: Right! When we measure the distance between two endpoints, we have to make sure there are no breaks or overlaps in our measuring tools.

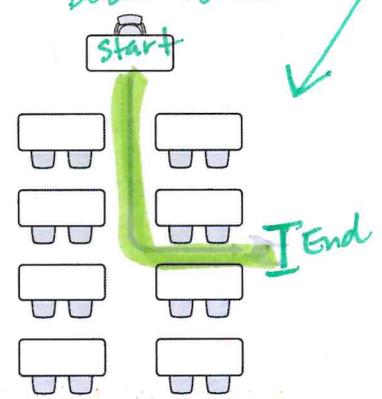
T: Let's try measuring the same path with a meter stick. (Demonstrate.) I will line up the end of my meter stick with the endpoint of my path. Hmm ... It looks like our path is longer than 1 meter stick. What should we do? Turn and talk to a partner.

S: Put down more meter sticks. → Put another meter stick at the end of the first one. → You have to make sure they are touching so there are no spaces on the path.

T: When we measure length, we cannot have any gaps. (Overlap 2 meter sticks.) We also cannot have any overlaps.

*walking path*

*Desk to door*



*Think-Pair-Share*

*\* Start at one endpoint*

*\* unroll yarn + make straight path*

*\* keep measuring until we reach other endpoint*

*Turn & Talk*

*Big Idea*



*\*compare*

Continue laying meter sticks along the path, end to end. If the path changes direction before the end of the meter stick, consider using meter tape instead. Compare the length of the meter sticks and yarn.

T: Our path is about 5 meter sticks long. Should the length of our yarn be longer than, shorter than, or about the same length as 5 meter sticks? How do you know?

*CFU*

S: The length of the yarn should be the about the same length as 5 meter sticks because we measured the same path. → I think the yarn should be a little bit longer, because the meter stick didn't line up perfectly at the end.

T: How can we check with our tools to see if our measurements are about the same?

*CFU*

S: We can put the yarn next to the 5 meter sticks.

T: (Demonstrate holding the yarn tight and aligning it to the endpoints of the meter sticks.)



**TEACHER NOTE**

Explain what to do when you don't have enough of a particular tool to measure the length of an object. For example, students may use 4 meter sticks and part of another one to measure the distance from a desk to a window. Sometimes a measurement falls between two numbers. When this happens, we can choose the closer number and use the word about when saying the measurement (e.g., "The path is about 4 meter sticks long.")

Give each student a piece of yarn to use to complete the Problem Set.

*Teacher Move*

*use wikki stix instead of yarn*

**Problem Set (10 minutes)**

*\*stabs. work in partners*

Students will work in pairs to complete the Problem Set. Partner A will use their yarn to measure the items labelled (a) and Partner B will use their yarn to measure the items labelled (b). They can then compare the lengths to answer the questions.

Students should do their personal best to complete the Problem Set within the allotted 10 minutes. For some classes, it may be appropriate to adjust the assignment by specifying which problems they should work on first. Some problems do not specify a method for solving. Students should solve these problems using the RDW approach used for Application Problems.

Resources

- string
- ball of yarn
- gift box
- centimeter cubes
- paper clips
- 4-6 meter sticks
- meter tapes
- scissors
- masking tape

- 3 group row cards (T)
- Ant + elephant (T)
- personal white board
- \* wikki stix (kinder box)



**Student Debrief (10 minutes)**

⑦ student debrief  
③ Exit Ticket

**Lesson Objective:** Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.

The Student Debrief is intended to invite reflection and active processing of the total lesson experience.

Invite students to review their solutions for the Problem Set. They should check their work by comparing their answers with a partner's. Look for misconceptions or misunderstandings that can be addressed in the Student Debrief. Guide students in a conversation to debrief the Problem Set and process the lesson.

Any combination of the questions below may be used to lead the discussion.

- \* When we measure length or distance, what must we do to measure correctly?
  - What could you do if you ran out of yarn while measuring?
- \* For problem 1 how did you compare the length of path a to the length of path b?
  - For problem 2, how did you know where to start and stop measuring the path around each shape?

**Exit Ticket (3 minutes)**

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and in planning more effectively for future lessons. The questions may be read aloud to students.

Have students save their piece of yarn from today's lesson to use on the Homework. Consider attaching it to their paper.

Name Maria Date \_\_\_\_\_

1. With your partner, use yarn to measure each path.  
Partner A measures path a. Partner B measures path b.

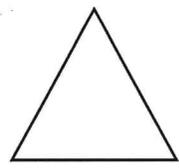
a. \_\_\_\_\_



b. 

Which path is longer? a  b  Which path is shorter? a  b

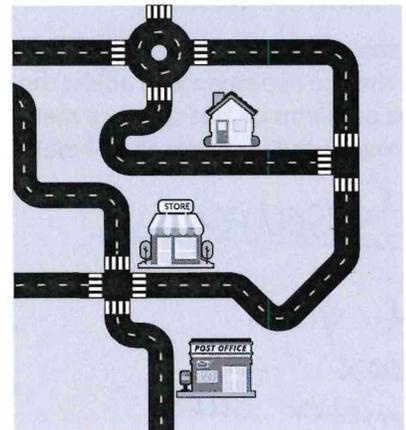
2. With your partner, use yarn to measure the path around each shape.  
Partner A measures shape a. Partner B measures shape b.

a. 

b. 

Which path is longer? a  b  Which path is shorter? a  b

3. With your partner, use yarn to measure each path.  
Partner A measures the path from the house to the post office.  
Partner B measures the path from the house to the store.



Which path is longer?  house to post office  house to store

Which path is shorter?  house to post office  house to store



# Teacher move: Use Wikki Stix from → Kinder Box

Name \_\_\_\_\_

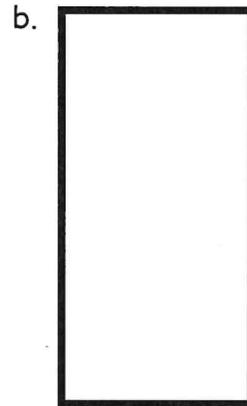
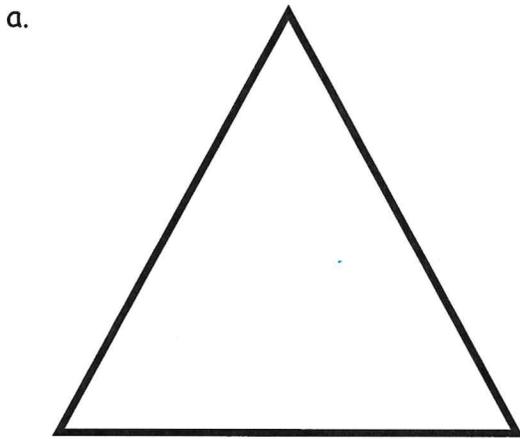
Date \_\_\_\_\_

1. With your partner, use yarn to measure each path.  
Partner A measures path a. Partner B measures path b.



Which path is longer? a  b  Which path is shorter? a  b

2. With your partner, use yarn to measure the path around each shape.  
Partner A measures shape a. Partner B measures shape b.

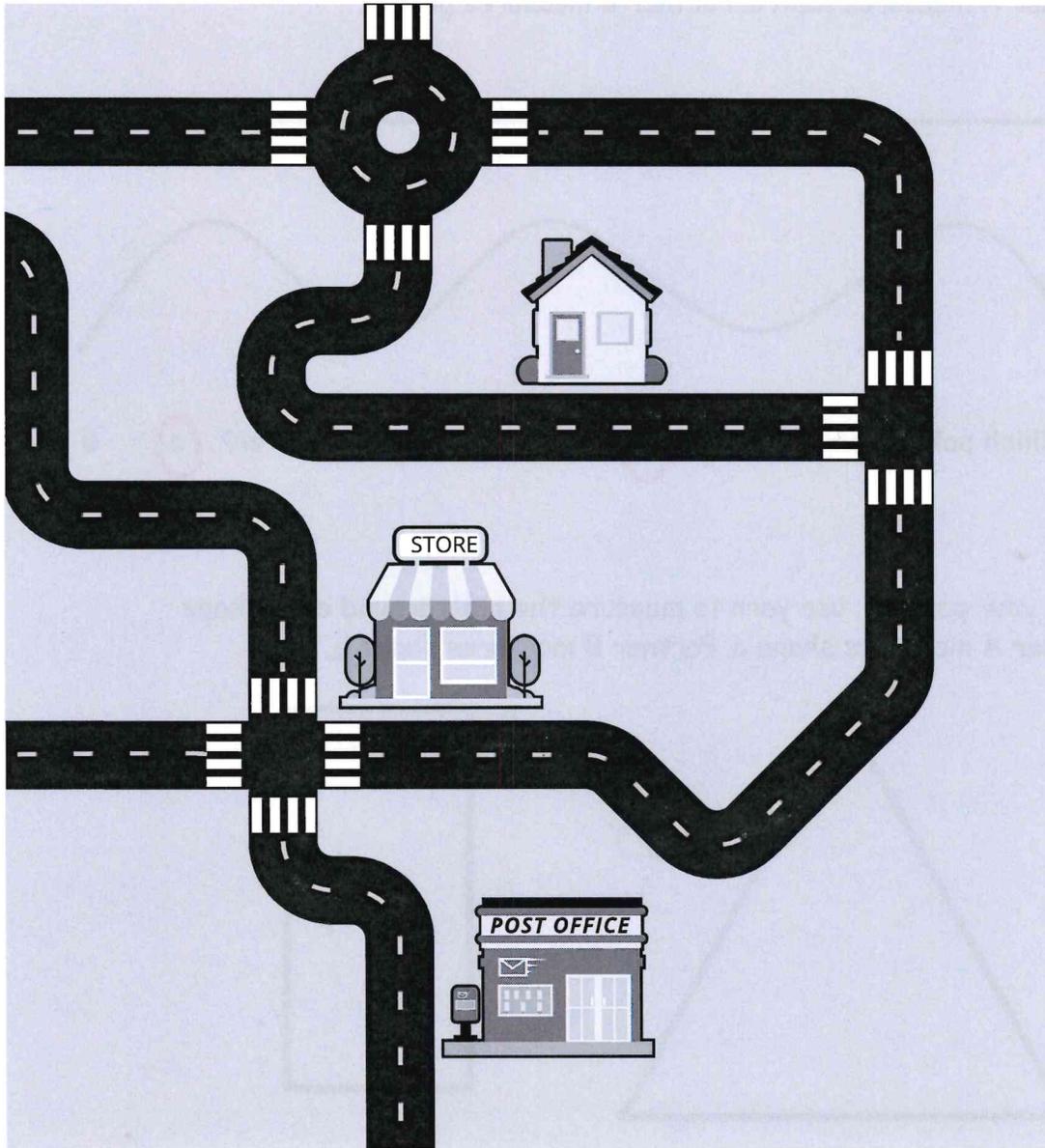


Which path is longer? a  b  Which path is shorter? a  b



3. With your partner, use yarn to measure each path.  
 Partner A measures the path from the house to the post office.  
 Partner B measures the path from the house to the store.

MD



Which path is longer?

house to post office

house to store

Which path is shorter?

house to post office

house to store

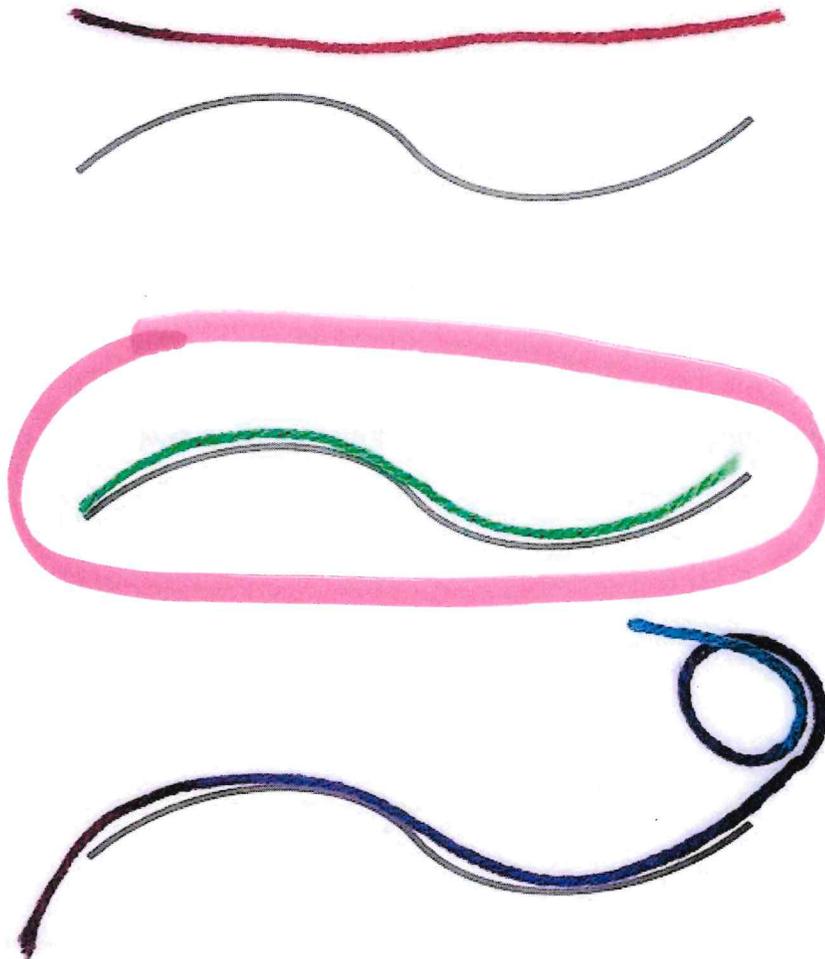


Lesson 1:

Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.

Name \_\_\_\_\_ Date \_\_\_\_\_

Circle the path that has been measured correctly with the string. Tell how you know.



The yarn starts at one end (endpoint)  
and it is on the line all the way  
to the other end of the line.

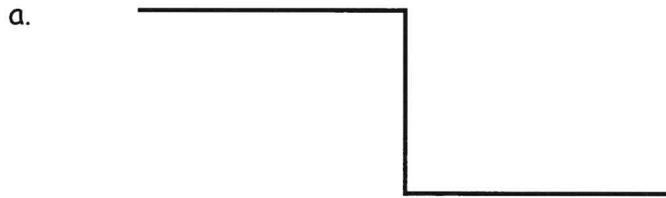


Name \_\_\_\_\_

Date \_\_\_\_\_

Use your piece of yarn to measure path a.  
Compare the length of path a to the length of path b.

1.



Which path is longer? a b

Which path is shorter? a b

2.

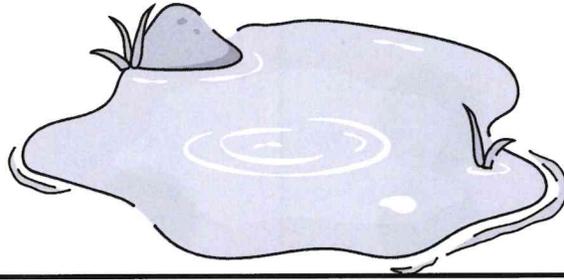


Which path is longer? a b

Which path is shorter? a b



3. a. The path around the pond:



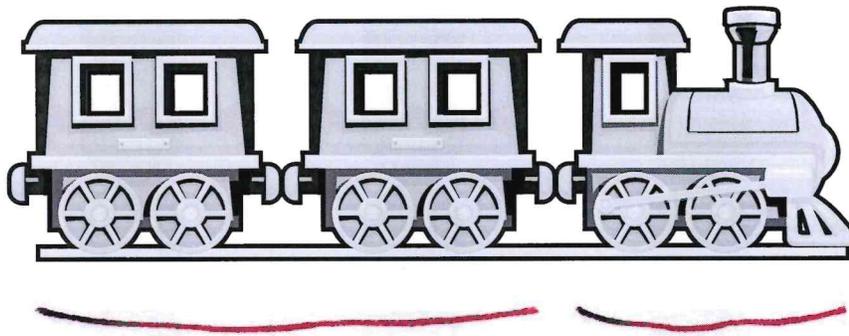
b. \_\_\_\_\_

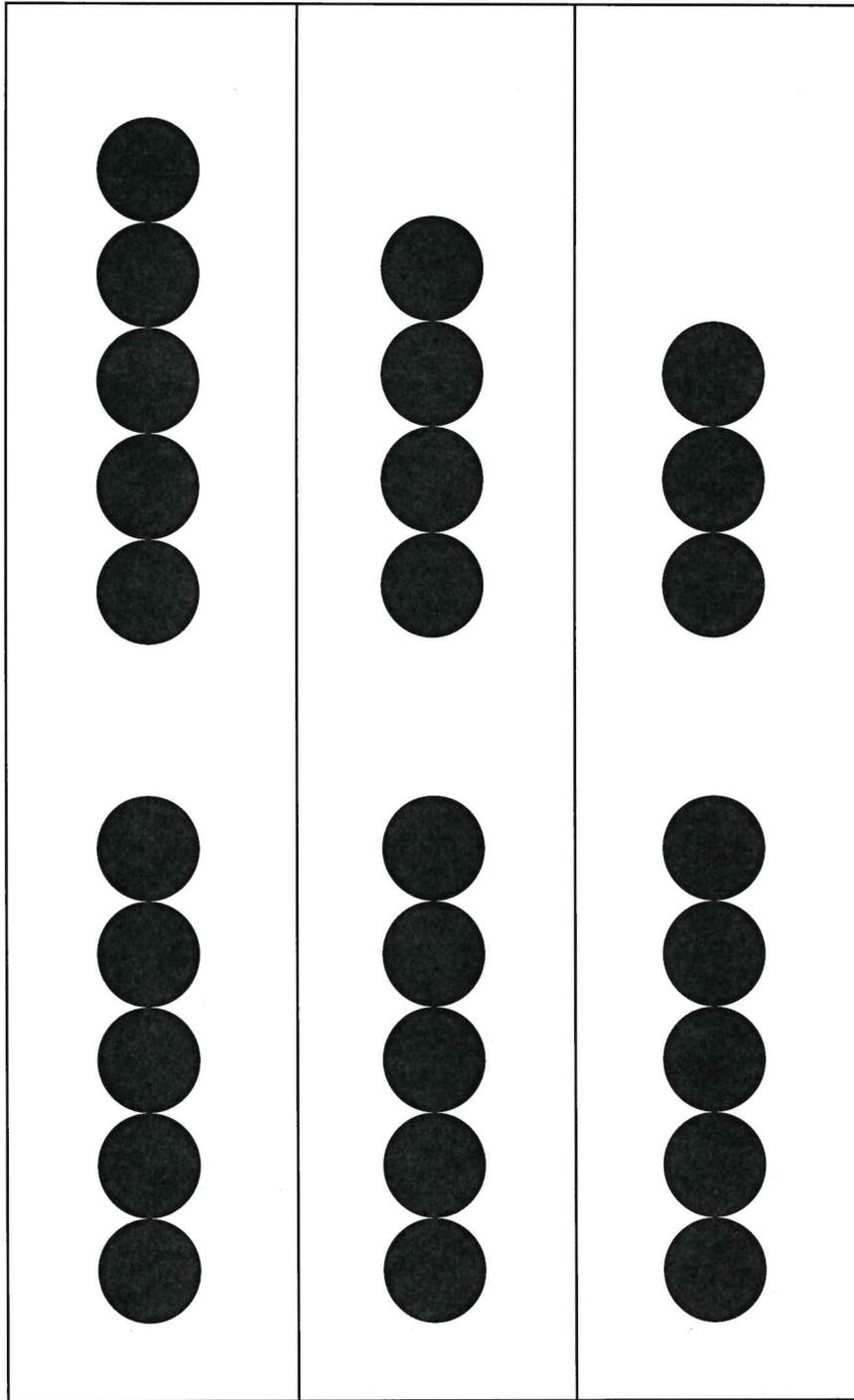
Which path is longer? a    b

Which path is shorter? a    b

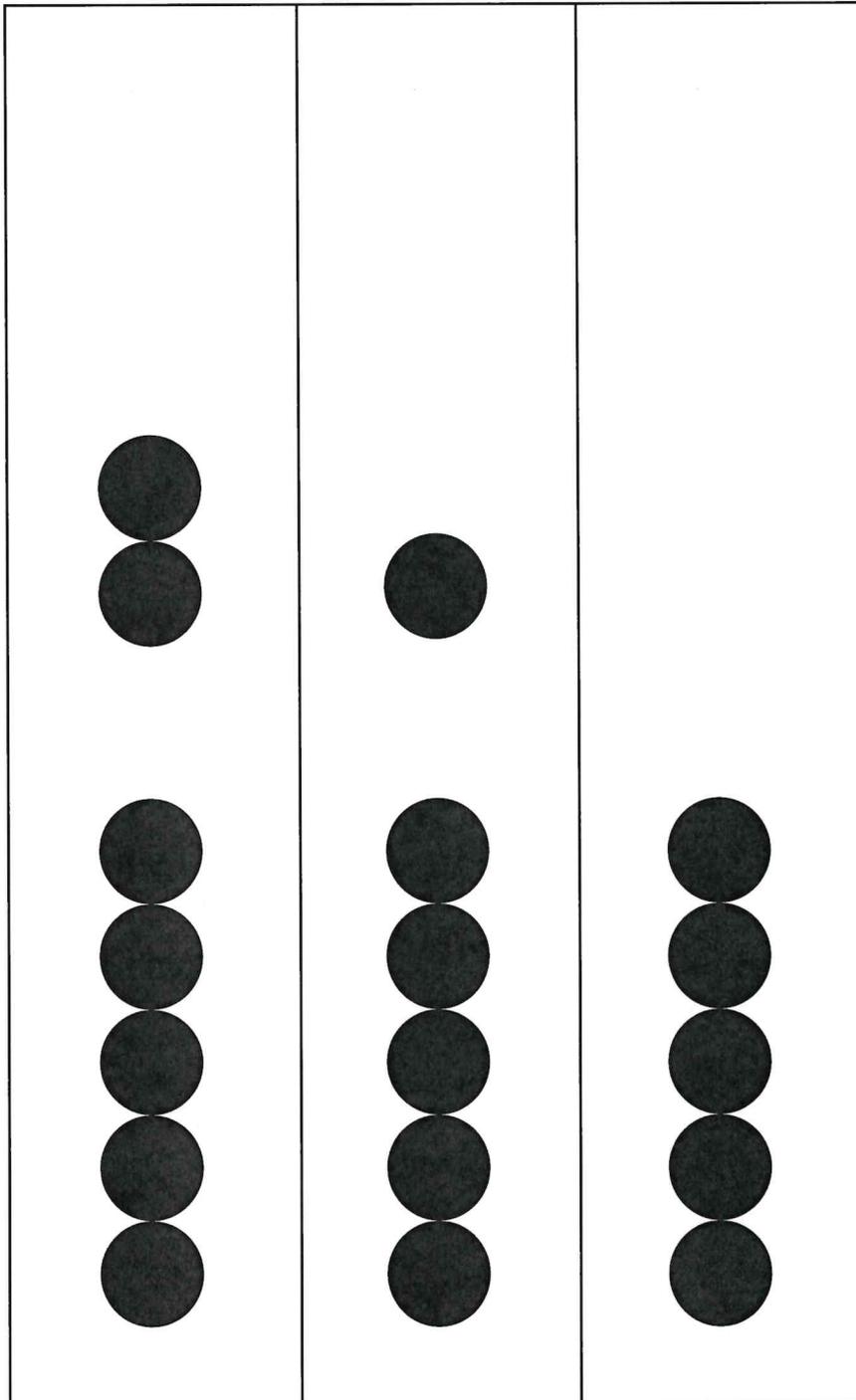
4. Chris measures the length of a train with yarn.

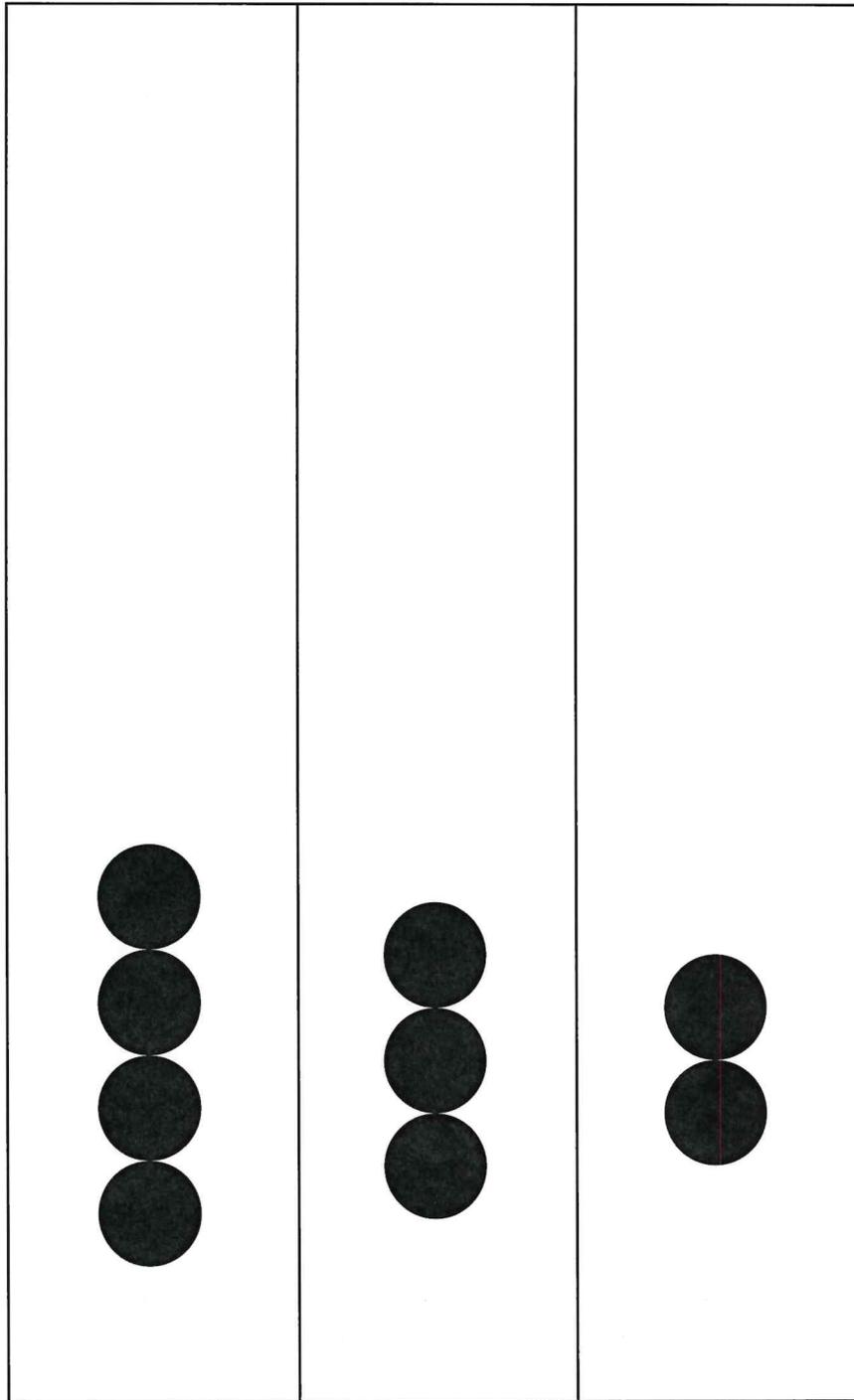
Did Chris measure correctly? Tell how you know.



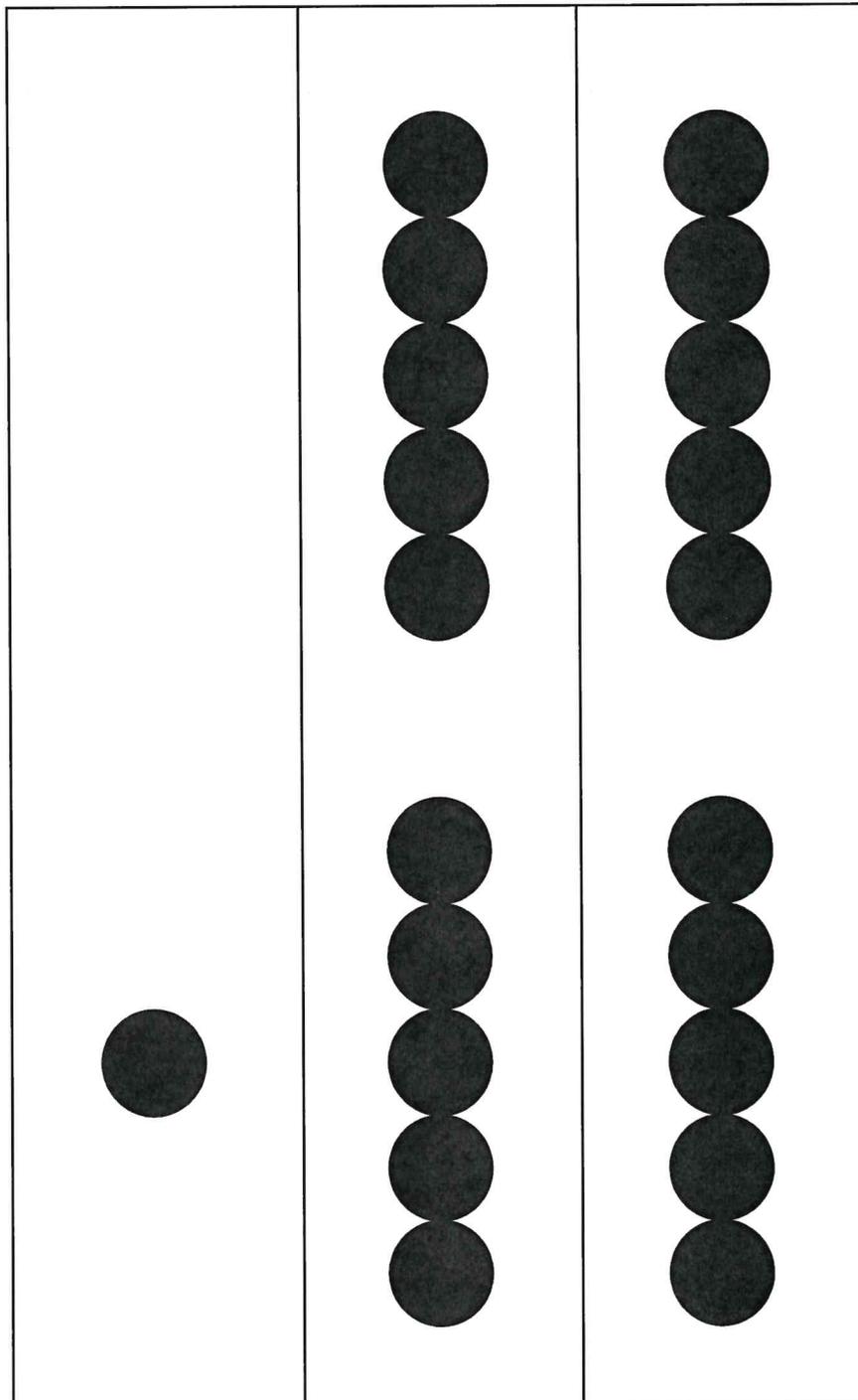


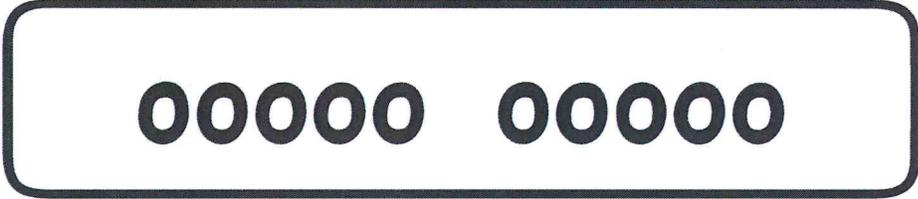
**Lesson 1:** Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.





**Lesson 1:** Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.





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5-group row insert



**Lesson 1:** Use measuring tools to measure the length of objects to reinforce the continuous nature of linear measurement.

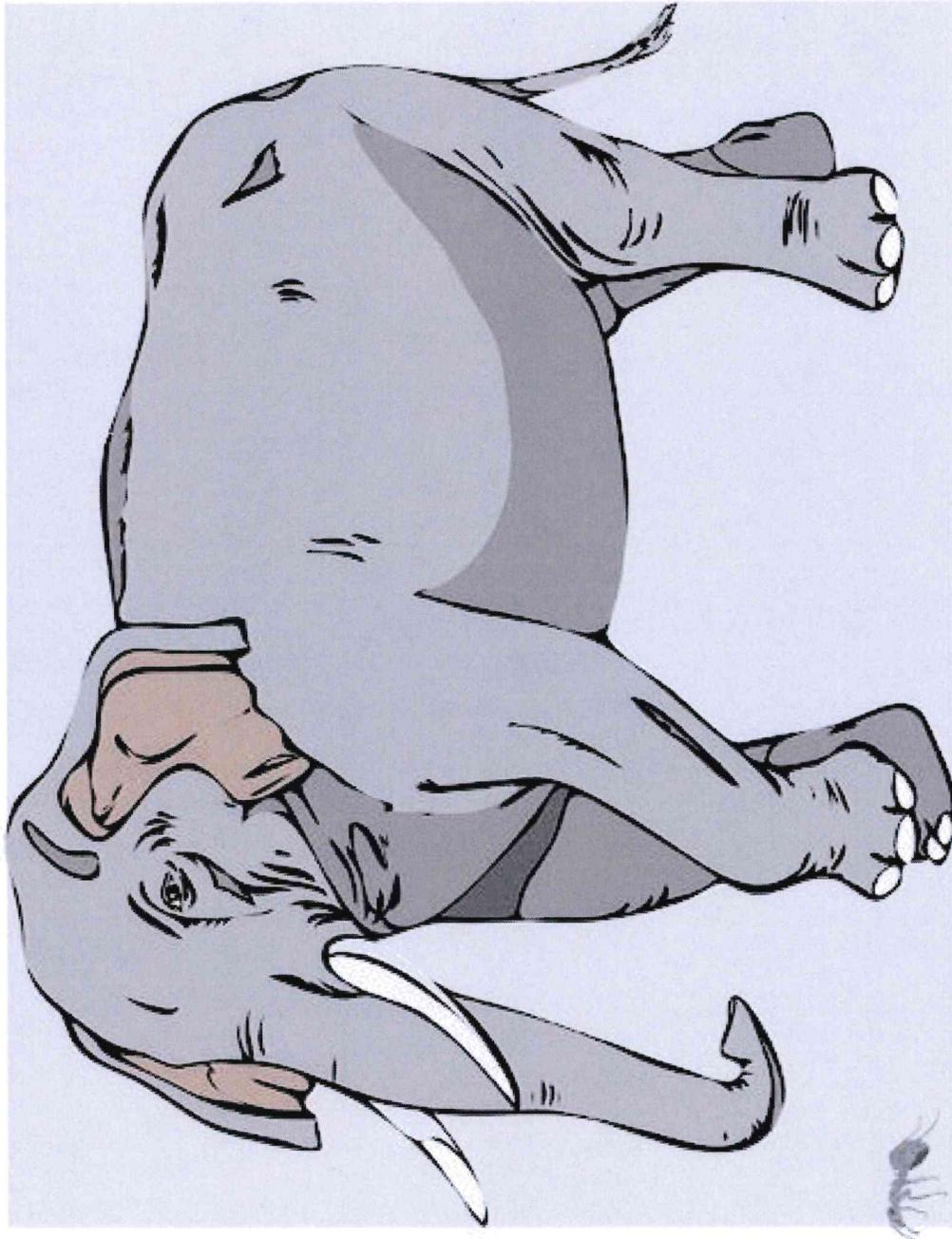


Image of an ant and an elephant



