



KINDERGARTEN SUPPLEMENT

Set D6 Measurement: Duration

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Skills & Concepts

- ★ compare events according to duration

Bridges in Mathematics Kindergarten Supplement

Set D6 Measurement: Duration

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Bridges in Mathematics is a standards-based K–5 curriculum that provides a unique blend of concept development and skills practice in the context of problem solving. It incorporates the Number Corner, a collection of daily skill-building activities for students.

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Set D6 ★ Activity 1



ACTIVITY

The Tortoise & the Hare

Overview

Students listen to the story of the tortoise and the hare, dramatizing some parts of it and comparing the amount of time it took each animal to complete the race. Then they try some duration experiments of their own.

Skills & Concepts

- ★ compare events according to duration

You'll need

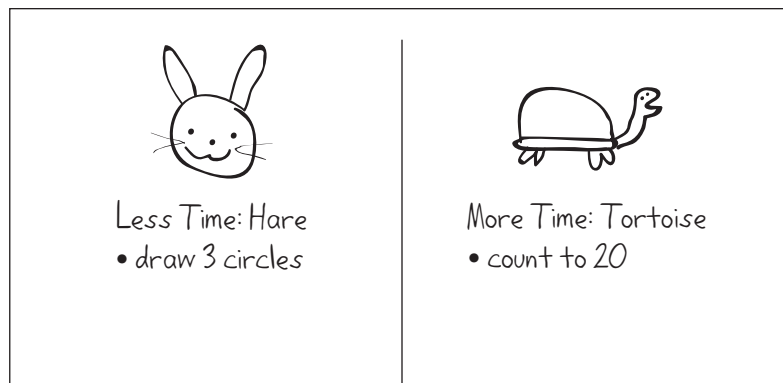
- ★ *The Tortoise and the Hare* (see note)
- ★ whiteboard and markers

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Note You'll probably find several different versions of this folktale in your school library. If not, you can find many different versions online.

Instructions for *The Tortoise & the Hare*

1. Gather children to your discussion circle. Read *The Tortoise and the Hare* to the class. As you read, pause to have the children show how the tortoise moved (very, very slowly) and how the hare moved (have them run in place).
2. Discuss the story when you've finished. Who took more time to complete the race, the tortoise or the hare? Who took less time? How was it possible that such a slow-moving creature as the tortoise took less time to finish the race?
3. Write the words "less time" and "more time" on the board. If the hare had paid attention and run his fastest instead of taking a nap, who would have taken less time to run the race? After some discussion, write the word "hare" under "less time" and make a simple sketch of a rabbit. Then write the word "tortoise" under "more time" and make a simple sketch to illustrate the word. Even though the tortoise always tried his very best, most children will agree that it would have taken him more time to finish the race if the hare had really been trying.
4. Then ask students whether they think it would take more time to draw three circles on the whiteboard or count to 20. After some discussion, call 2 very confident volunteers to try it as the rest of the class watches. (Explain to the class that this is an experiment rather than a race, and they'll need to keep as quiet as possible so both of their classmates can make their best efforts. Have the 2 volunteers get prepared and then give them a signal to start at the same time.)
5. Record the results under the appropriate labels on the whiteboard.

Activity 1 *The Tortoise & the Hare* (cont.)



6. Repeat steps 4 and 5 as time allows. Here are some more experiments you can try, or you might develop some of your own with the class. Call on a different pair of volunteers to perform each while the other students watch.

Does it take more time to:

- stack 12 Unifix cubes or write your name on the whiteboard?
- tie one shoe or sing Happy Birthday? (Have the class sing along.)
- write the numbers from 1–5 or draw 4 squares on the whiteboard?
- work a very simple puzzle or recite the alphabet? (Have the class recite the alphabet together.)

7. Record the results of each experiment on the board.

Set D6 ★ Activity 2



ACTIVITY

How Much Time?

Overview

This is a small-group activity in which students compare the amount of time it takes to perform simple tasks such as writing their name and counting to 10.

Skills & Concepts

- ★ compare events according to duration

Recommended Timing

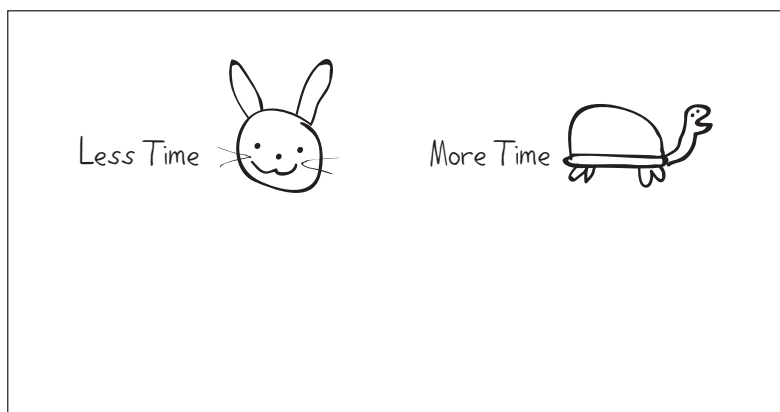
Anytime after Set D6 Activity 1

You'll need

- ★ How Much Time? Task Cards (pages D6.4–D6.8)
- ★ whiteboard and markers

Instructions for How Much Time?

1. Gather a small group of 4–6 children near the whiteboard. Write the words “Less Time” and “More Time” on the board. Draw a rabbit beside the “Less Time” label and a tortoise beside the “More Time” label. (Even though the tortoise always tried his very best, the hare would have taken less time to run the race if he'd been paying attention.)



2. Show them the task cards and then spread the cards out face down.

3. Choose 2 students to start. Have them both pick up a card from the collection at random. Examine the 2 cards with the group and have the 2 children get anything they'll need to perform the specified tasks. Ask the group to predict which task will take more time and which will take less. Remind them that this is an experiment rather than a race, and like the tortoise, they will need to do their best job with any card they draw when it's their turn.

4. At your signal, have them both do their task at the same time as the others in the group watch. When both have completed their tasks, place each card on the ledge of the whiteboard under the correct label.

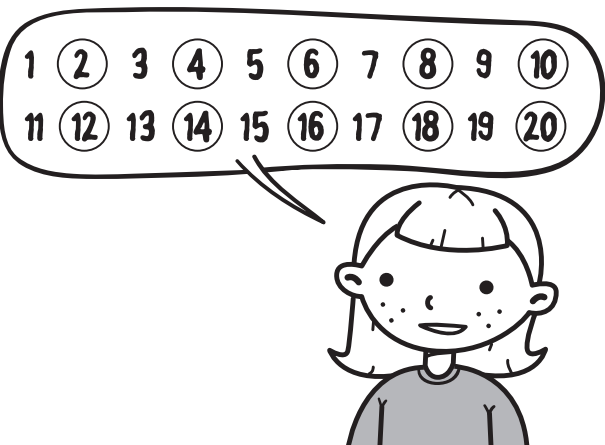
5. Repeat steps 3 and 4 until all the cards have been used up and each pair of children has had several turns.

How Much Time? Task Cards page 1 of 5



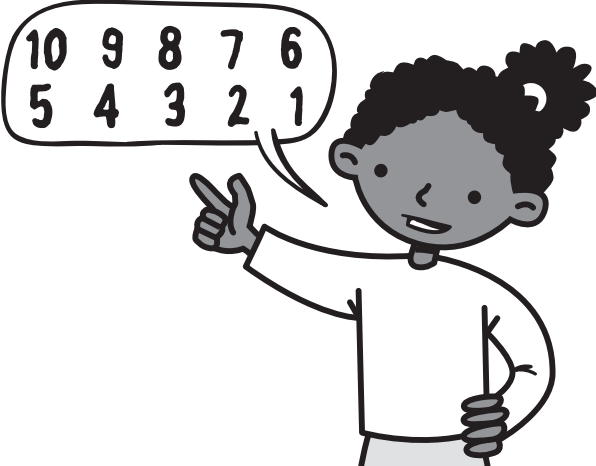
A boy with curly hair is waving. A speech bubble above him contains the alphabet: A B C D E F G H I J K L M N O P Q R S T U V W X Y Z.

How Much Time? Task Card



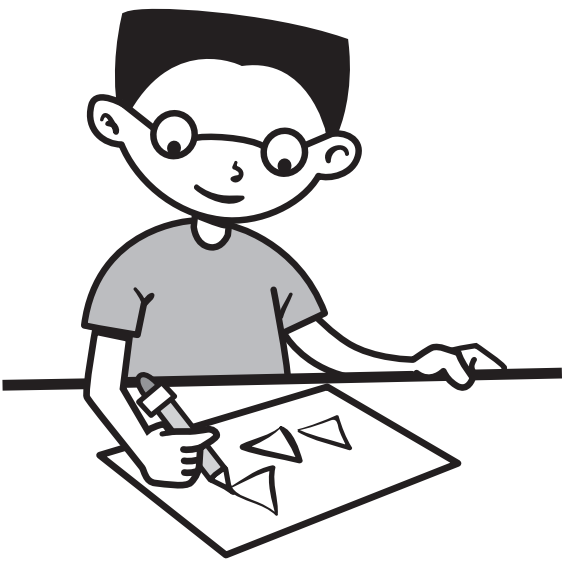
A girl with a ponytail is looking forward. A speech bubble above her contains the numbers 1 through 20, arranged in two rows: 1 2 3 4 5 6 7 8 9 10 and 11 12 13 14 15 16 17 18 19 20.

How Much Time? Task Card



A girl with curly hair is pointing upwards. A speech bubble above her contains the numbers 10 9 8 7 6 in the top row and 5 4 3 2 1 in the bottom row.

How Much Time? Task Card



A boy with glasses is sitting at a desk, drawing triangles on a piece of paper with a pencil.

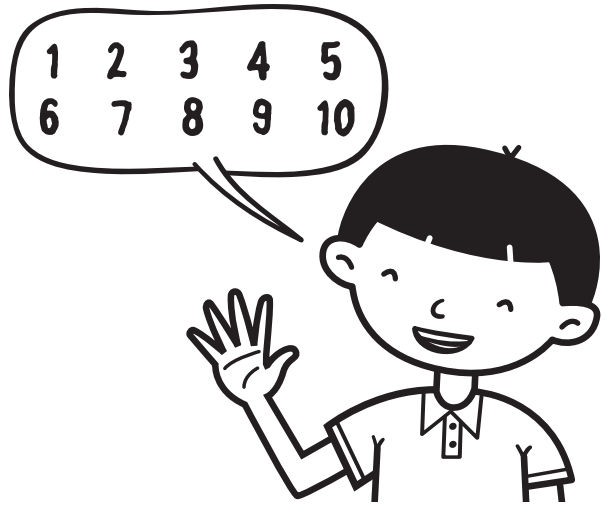
How Much Time? Task Card

How Much Time? Task Cards page 2 of 5



A cartoon illustration of a boy with short hair, wearing a vest and tie, holding up his right hand with five fingers extended. A speech bubble above him says "Happy Birthday to you...".

How Much Time? Task Card



A cartoon illustration of a boy with short hair, wearing a collared shirt, holding up his right hand with five fingers extended. A speech bubble above him contains the numbers 1 through 10 arranged in two rows: 1 2 3 4 5 and 6 7 8 9 10.

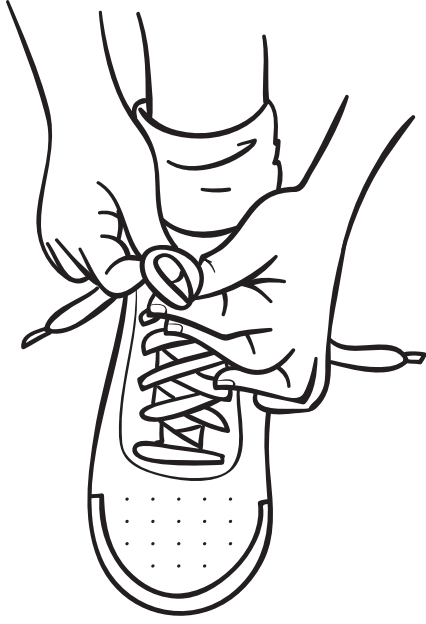
How Much Time? Task Card

9 Times



A line drawing showing a person's legs and feet in motion, stepping. The right foot is lifted and about to step down, while the left foot is on the ground.

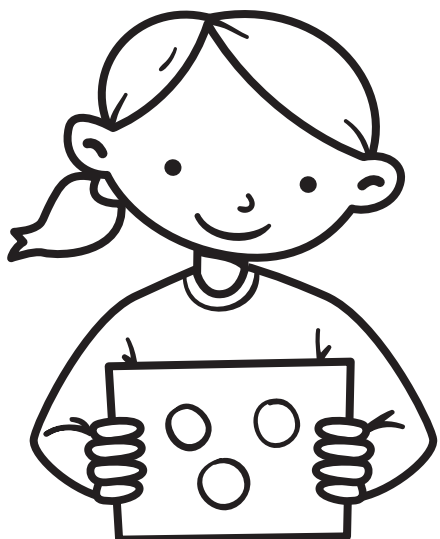
How Much Time? Task Card



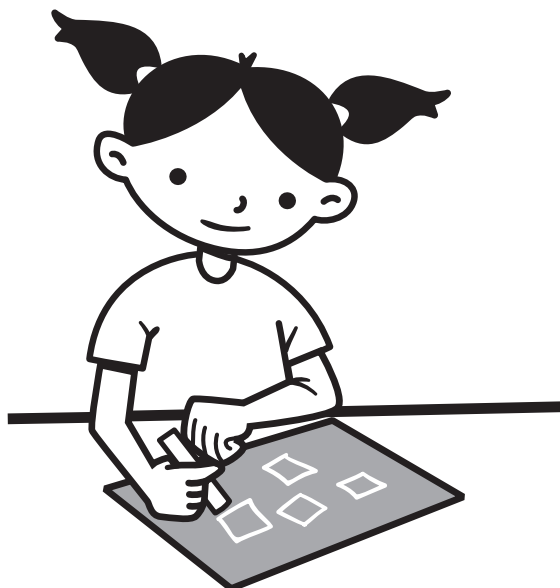
A line drawing showing a hand tying a shoelace on a shoe. The laces are crisscrossing to form a bow.

How Much Time? Task Card

How Much Time? Task Cards page 3 of 5



How Much Time? Task Card



How Much Time? Task Card

6 Long



How Much Time? Task Card

6 Tall

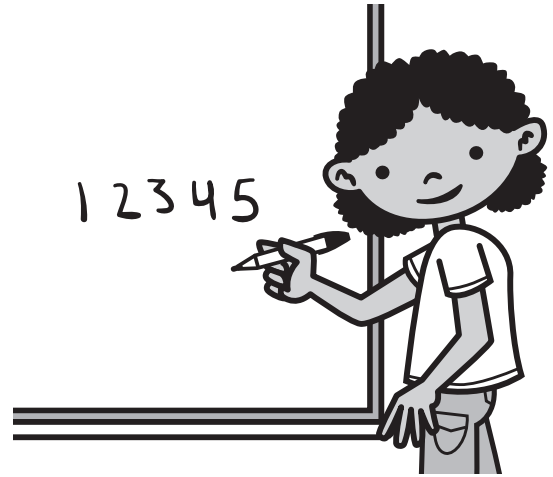


How Much Time? Task Card

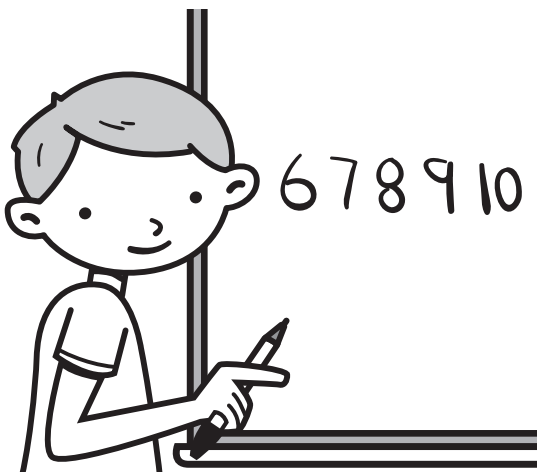
How Much Time? Task Cards page 4 of 5



How Much Time? Task Card



How Much Time? Task Card



How Much Time? Task Card



How Much Time? Task Card

How Much Time? Task Cards page 5 of 5

10 Times



How Much Time? Task Card



How Much Time? Task Card



How Much Time? Task Card



How Much Time? Task Card

Set D6 ★ Activity 3



ACTIVITY

Sinkers

Overview

In this Work Place or choosing time activity, students compare the amount of time it takes 2 metal jar lids with holes drilled in them to sink in a small tub of water.

Skills & Concepts

- ★ compare events according to duration

You'll need

- ★ 15–20 metal jar lids (see Advance Preparation)
- ★ clear container of water (see Advance Preparation)
- ★ cafeteria tray
- ★ 2 towels for spills
- ★ a single-colored plastic place mat or 9" × 12" piece of plastic cut from an old table cloth (see Advance Preparation)

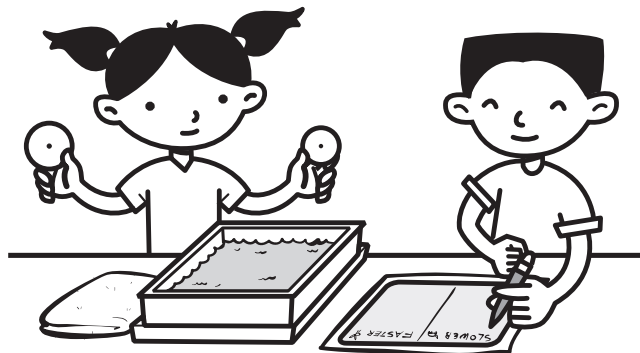
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Advance Preparation Use a hammer and a very large nail or a drill to make a hole approximately $\frac{1}{8}$ " in diameter in the middle of each lid. To make the lids sink more easily, add a little liquid detergent to the water to break the surface tension. Draw a line down the middle of the plastic mat and use a permanent black felt marker to write the word "slower" at the top of one side and "faster" at the top of the other. (You might want to draw a little tortoise on the "slower" side and a little rabbit on the "faster" side to help children remember what the 2 words say.)

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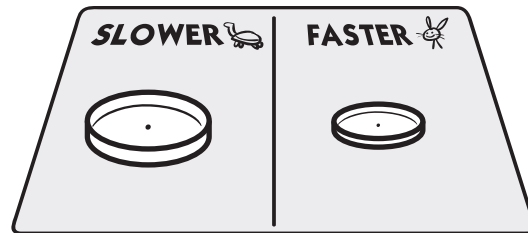
Instructions for Sinkers

1. Set up the materials as shown below in the middle of your discussion circle and invite your students to the circle. Model the Sinkers activity as described in steps 2–6 below, and explain that the children will each have a turn (or more than one turn) to try it for themselves over the next few days. Then set the materials up on a table as a Work Place or choosing activity. If the activity proves to be popular, you may want to leave it out for a few weeks.



Activity 3 Sinkers (cont.)

2. Choose 2 lids from the collection. Ask students to predict which one will sink faster and which will sink more slowly.
3. Set the 2 lids on top of the water and invite students to watch to see which one sinks faster. (If your lids don't sink, get them completely wet and start again.)
4. When both lids have sunk, remove them from the water. Dry them with one of the towels and, with student input, set each on the correct side of the plastic mat.



5. Try it again with 2 different lids.
6. Ask students to talk in pairs about anything they notice that is the same about the lids that sink quickly and those that sink more slowly. Then invite volunteers to share their ideas with the whole group.