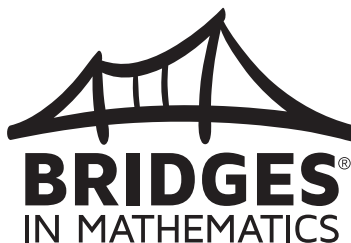


Teachers Guide

KINDERGARTEN – UNIT 2 – MODULE 3

Preview



Module 3

Five & Some More

Session 1 Craft Stick Tallying, Day 1	3
Session 2 Craft Stick Tallying, Day 2	7
Session 3 Which Bug Will Win?	11
Session 4 Introducing Work Place 2C Which Bug Will Win?	15
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Teacher Masters

Pages renumber with each module.

2C Which Bug Will Win? Record Sheet.....	T1
Work Place Guide 2C Which Bug Will Win?	T2
Work Place Instructions 2C Which Bug Will Win?	T3
Numbers & Number Racks Checkpoint.....	T4
Dots, Tallies & Numbers Bingo Game Board 1	T5
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Work Place Guide 2D Beat You to Ten	T7
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Home Connections Pages

Page numbers correspond to those in the consumable books.

Toothpick Pictures & Tallying	35
Which Bug Will Win?	39

Module 3

Five & Some More

Overview

In this module, students continue their work with number up to 10. They have further opportunities to visualize groups of 5, and to think about numbers between 5 and 10 as “5 and some more.” Using craft sticks, Ten-Frame Display Cards, Tally Cards, and graphing activities, students practice counting on from 5. They also practice recognizing and matching numerals while playing bingo games.

The ability to subitize (recognize groups of 5 and less) is helpful to students as they develop number sense. Students can use this recognition to develop such capabilities as counting on, composing and decomposing numbers, and operational skills. Using the “flash” technique of showing the objects for only a few seconds challenges students to find strategies other than by 1s counting to determine how many are in a set.

Planner

Session & Work Places Introduced	P&I	WP	A	HC
Session 1 Craft Stick Tallying, Day 1 Students set up craft sticks in tally form, explore various groupings, and add one at a time until they reach 10. Then they remove sticks one by one, exploring various ways to determine the number remaining. The teacher shows Tally Display Cards and students determine how many they see. Students spend the rest of the session at Work Places.	●	●		
Session 2 Craft Stick Tallying, Day 2 In this session, students build the quantity shown on the Tally Display Cards with their craft sticks. Then the teacher “flashes” several of the cards for three seconds, and students again build what they saw. Students spend the rest of the session at Work Places.	●	●		
Session 3 Which Bug Will Win? The teacher and students play Which Bug Will Win? together, spinning the top spinner to determine which of two bugs moves ahead on the graph. Students take turns spinning the spinner, and the teacher records an X on the graph for each spin, until one column is filled. Students spend the rest of the session at Work Places. The Toothpick Pictures & Tallying Home Connection is assigned.	●	●		●
Session 4 Introducing Work Place 2C Which Bug Will Win? The teacher models the activity once again, spinning the bottom spinner to determine which of two bugs moves ahead on the graph. The game becomes a Work Place. The teacher assesses small groups of students on reading and writing numbers and building quantities on the number rack while the class is engaged in Work Places. Work Place 2C Which Bug Will Win? Students choose one of two spinners on the record sheet and spin it repeatedly, recording the results on the graph. An X is recorded for each bug until one column is completely filled.		●	●	
Session 5 Dots, Tallies & Numbers Bingo Students review and match the Ten-Frame Five-Wise Display Cards, Tally Display Cards, and Number Cards. Then they play a bingo game two or three times, first matching the ten-frame cards to the numerals on their bingo boards, and then playing again with the tally cards. Students spend the rest of the session at Work Places.	●	●		
Session 6 Introducing Work Place 2D Beat You to Ten In this game, teams take turns spinning the 0-3 spinner and covering the indicated number of squares with Unifix cubes. The first team to cover 10 is the winner. Students spend the rest of the session at Work Places. The Home Connection Which Bug Will Win? is introduced and assigned. Work Place 2D Beat You to Ten This partner game is similar to the previous game Beat You to Five. Players take turns spinning the 0-3 spinner and covering the indicated number of pictured cubes with actual Unifix cubes. They use a different color on each turn. The first player to cover ten exactly is the winner.		●		●

P&I – Problems & Investigations, **WP** – Work Place, **A** – Assessment, **HC** – Home Connection

Materials Preparation

Each session includes a complete list of the materials you'll need to conduct the session, as well as notes about any preparation you'll need to do in advance. If you would like to prepare materials ahead of time for the entire module, you can use this to-do list.

Task		Done
Copies	Run copies of Teacher Masters T1–T8 according to the instructions at the top of each master.	
	If you choose to, run a display copy of the Home Connections for this module, using pages 35–40 in the Home Connections Book.	
	If students do not have their own Home Connections books, run a class set of the assignments for this module using pages 35–40 in the Home Connections Book.	
Work Place Preparation	Prepare the materials for Work Places 2C and 2D using the lists of materials on the Work Place Guides (Teacher Masters T2 and T6).	



Additional Resources

Please see this module's Resources section of the Bridges Educator site for a collection of resources you can use with students to supplement your instruction.

Preview

Session 1

Craft Stick Tallying, Day 1

Summary

After students count out 10 craft sticks each, they explore the sticks for a few minutes. They learn how to set up their sticks in tally form, explore various groupings, and add 1 at a time until they reach 10. Then they remove sticks from their collections one by one, exploring various ways to determine the total number of remaining sticks as they work. The teacher shows Tally Display Cards and students determine how many sticks they see. Students spend the rest of the session at Work Places.

Skills & Concepts

- Count to 10 by 1s (K.CC.1)
- Count backward from any number in the range of 10 to 1 (supports K.CC)
- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
- Identify the number of objects as the last number said when counting a group of objects (K.CC.4b)
- Demonstrate that each successive number name refers to a quantity that is one larger than the previous number name (K.CC.4c)
- Given a number from 1–10, count out that many objects. (K.CC.5)
- Recognize the number of objects in a collection of 6 or fewer, arranged in any configuration (supports K.CC)
- Represent addition and subtraction with objects (K.OA.1)
- Attend to precision (K.MP.6)
- Look for and make use of structure (K.MP.7)

Materials

Copies	Kit Materials	Classroom Materials
Problems & Investigations Craft Stick Tallying, Day 1		
	<ul style="list-style-type: none"> • craft sticks in several containers, 10 per student, plus 10 for display • Tally Display Cards 1–10 	<ul style="list-style-type: none"> • 9" × 12" sheets of construction paper, 1 per student, plus one for display
Work Places in Use		
1F Spill Five Beans (introduced in Unit 1, Module 2, Session 4) 1G Beat You to Five (introduced in Unit 1, Module 3, Session 5) 1H Which Numeral Will Win? (introduced in Unit 1, Module 3, Session 6) 1I Unifix Cube Patterns (introduced in Unit 1, Module 4, Session 4) 2A Count & Compare Dots (introduced in Unit 2, Module 1, Session 5) 2B Numbers & Number Racks (introduced in Unit 2, Module 2, Session 4)		

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master
 Copy instructions are located at the top of each teacher master.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

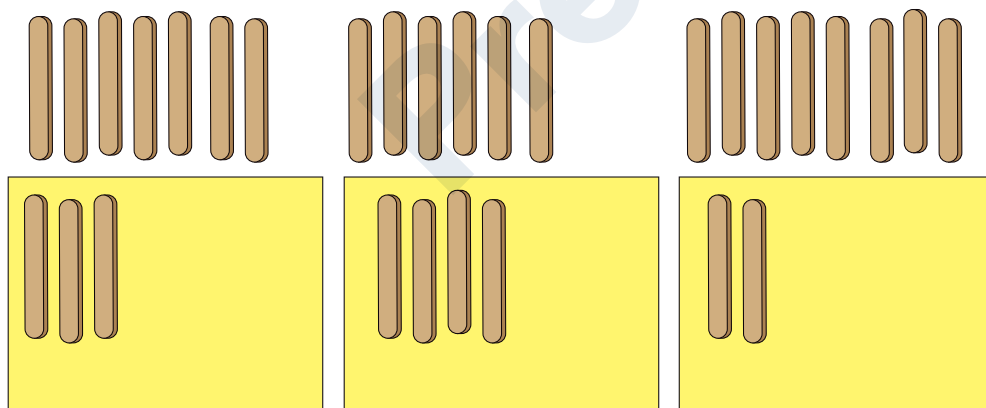
one*
 two
 three
 four
 five
 six
 seven
 eight
 nine
 ten
 above*
 next to*
 tally

Problems & Investigations

Craft Stick Tallying, Day 1

- With students seated in a circle in the discussion area, introduce the session by setting out collections of craft sticks and having students count out ten each. Students may know these better as Popsicle sticks.
- Give each student a construction paper work mat and have them check their sticks once more to be sure they have 10. (Have them help each other when necessary.)

SUPPORT. Having a mat to work on keeps students focused, keeps the materials in a confined space, and creates a solid background (as opposed to the rug or floor, which might be patterned). This is especially important for students who are easily distracted or have visual perception difficulties.
- Give students a few minutes to explore with their sticks. Encourage them to make some stick pictures and look around at what other students have done. Ask them to keep the sticks on the work mat.
- Model for students how to place their craft sticks vertically above their work mats.
- Once everyone is ready, have students set out 3 of their sticks vertically on their mat, side by side, starting on the left side. Model on your own mat.
- Ask them to change that quantity to 4 sticks, and then 2 sticks. Watch as students work. Can they add and subtract sticks easily or do they clear off all their sticks and start again from one each time?



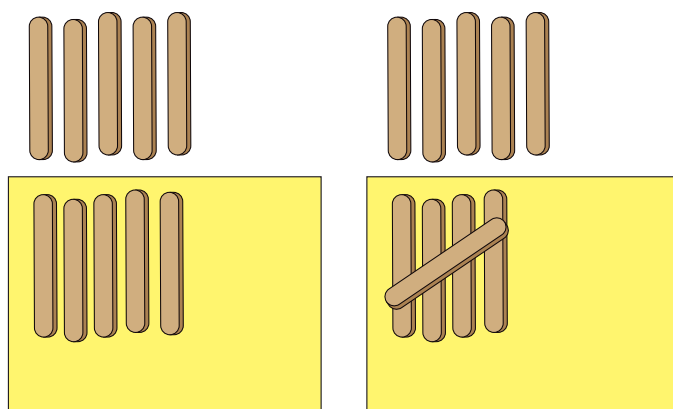
- Now ask students to change their group of 2 sticks to 5 sticks.
- Show them how to pick up their 5th stick and lay it diagonally across the other 4. Explain that some people call this a “gate” because that’s what it looks like.

Literature Connections

The following books are suggested read-alouds for Modules 1, 2, and 3:

Ten Black Dots by Donald Crews

One Watermelon Seed by Celia Barker Lottridge



ELL & SUPPORT If you have students who will not be familiar with the word “gate,” you may want to show a picture of one.

- 9 Explain that organizing sticks like this in groups of 5 is called tallying, and that people use this method to make counting easier. Discuss: Why is it easier?
- 10 Have students add 1 more stick, discuss the sum, and project the addition of 1 more stick.
 - How many do you have now?
 - If you add 1 more, how many will you have in all?
- 11 Continue in this manner until students have set up their second group of 5, and then create another “gate.”

Teacher How many sticks have we added on to our first group of 5?

Students Five more!

1, 2, 3, 4, 5—yeah, 5 more.

Can we do that tally thing again?

Yeah, this should make another gate!

Teacher Yes, let’s take our 5th stick and cross it over the other 4.

Now how many do we have in all?

Students 5 and 5!

That’s 10.

I counted to be sure—it’s 10.

- 12 Ask students to take off the last stick they put on, discussing how many they have now and how they know.

Teacher You took away 1 stick. How many are left?

Students It’s 9—I just know.

Wait! One, 2, 3, 4, this guy is 5, 6, 7, 8, 9. It’s 9 all right!

You can see the 5. My mom and her friends write that when they play cards. Then I go 6, 7, 8, 9.

Nine is just before 10, so I know it’s 9.

- 13 Continue to subtract sticks one by one until they get back to zero.



**Math Practices
in Action** K.MP.7

Tallying is a way for students to impose and make use of structure when counting and computing. When students are comfortable with groups of 5 and 10, they can estimate and compute by making use of those structures.

- 14 After the sticks and work mats have been collected, show students the Tally Display Cards, one at a time. Discuss what they see.
- Whisper to a neighbor how many sticks you see on the card.
 - Does everyone agree?
 - How did you figure it out?
- 15 Close this part of the session by telling students they will work with craft sticks again in the next session.
- SUPPORT** Some students may appear confused or prefer to play with the sticks rather than engage in the number tasks. It may help to have craft sticks available during free play time for a few days to give them more experience.



Work Places

- 16 Invite students to spend the rest of the session at Work Places, suggesting that they might try something new today.
- Shuffle the name cards.
 - Call students' names and have them place their cards in the Work Places chart.
- While they do Work Places, circulate around the room to make observations and provide differentiation. The Work Place Guides include suggestions for differentiating the activities to meet students' needs.*
- 17 Close the session.
- Give students a few minutes of warning before clean-up time.
 - Have students clean up and put away the Work Place materials.

Session 2

Craft Stick Tallying, Day 2

Summary

In this session, students build the quantity shown on the Tally Display Cards with their craft sticks. Then the teacher “flashes” several of the cards for three seconds, and students again build what they see. The card is held up again so students can confirm, discuss, and correct if necessary. Students spend the rest of the session at Work Places.

Skills & Concepts

- Count to 10 by 1s (K.CC.1)
- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
- Identify the number of objects as the last number said when counting a group of objects (K.CC.4b)
- Count collections of objects in different ways to demonstrate that the arrangement of objects and the order in which they are counted do not change the total number of objects (K.CC.4b)
- Demonstrate that each successive number name refers to a quantity that is one larger than the previous number name (K.CC.4c)
- Count up to 10 objects arranged in a line (K.CC.5)
- Given a number from 1–10, count out that many objects. (K.CC.5)
- Recognize the number of objects in a collection of 6 or fewer, arranged in any configuration (supports K.CC)
- Attend to precision (K.MP.6)
- Look for and make use of structure (K.MP.7)

Materials

Copies	Kit Materials	Classroom Materials
Problems & Investigations Craft Stick Tallying, Day 2		
	<ul style="list-style-type: none"> • craft sticks in several containers, 10 per student, plus 10 for display • Tally Display Cards 1–10 	<ul style="list-style-type: none"> • 9" × 12" sheets of construction paper, 1 per student, plus 1 for display
Work Places in Use		
1F Spill Five Beans (introduced in Unit 1, Module 2, Session 4) 1G Beat You to Five (introduced in Unit 1, Module 3, Session 5) 1H Which Numeral Will Win? (introduced in Unit 1, Module 3, Session 6) 1I Unifix Cube Patterns (introduced in Unit 1, Module 4, Session 4) 2A Count & Compare Dots (introduced in Unit 2, Module 1, Session 5) 2B Numbers & Number Racks (introduced in Unit 2, Module 2, Session 4)		

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master
 Copy instructions are located at the top of each teacher master.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

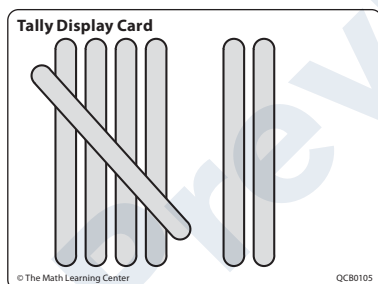
one*
 two
 three
 four
 five
 six
 seven
 eight
 nine
 ten
 above*
 next to*
 tally



Problems & Investigations

Craft Stick Tallying, Day 2

- 1 With students seated in a circle in the discussion area, introduce the session by setting out collections of craft sticks and having students count out 10 each.
- 2 Give each student a construction paper work mat, have them check their sticks once more to be sure they have 10, and then place them above their work mat. Model for them on your mat.
- 3 Explain that today you will do a new activity with the craft sticks. You will show them a Tally Display Card and they will build what they see on their work mat, using the same number of sticks.
- 4 Hold up the tally card with 4 sticks, discuss the amount, have students build it and then check.
 - How many sticks do you see?
 - How do you know?
 - Can you build this on your work mat?
 - Let's look at the card again. Does yours look like this?
- 5 Repeat step 4 with the Tally Display Card with 7 sticks, focusing on the fact that there are "5 and some more."



Teacher I noticed that some of you saw how many there were very quickly. How did you do that?

Students I saw that gate thing and I knew that was 5, and then I went 6, 7.

It just popped into my head!

I had to count them, but now I'm going to look for the gate.

I said 5 plus 2 is 7.

- 6 Continue holding up the Tally Display Cards, one at a time, and having students build what they see.
If necessary, refer to each card again, giving students an opportunity to discuss and correct.
SUPPORT If some students are having difficulty finding ways to count, encourage them to look for the "gate" of 5.
- 7 Show students just four or five of the tally cards again, one at a time. This time use the "flash" technique of showing the card for three seconds only.

Teacher Are you ready for some fast action? I'm going to "flash" a card for three seconds. Build what you see on your mat. Ready, set, go!

Students I've got it—there were 7!

Wait! I saw 8—5 all together and then 3 more, 6, 7, 8.

Me, too! I just saw the pattern and made it on my mat—I think it's 8.

Teacher Let's look at the card again.

- 8 Close this part of the session by asking again what it is about tallying that makes counting easier.



Work Places

- 9 Invite students to spend the rest of the session at Work Places, explaining that the Spill Five Beans game will be available for only a few more days.

- Shuffle the name cards.
- Call students' names and have them place their cards in the Work Places chart.

While they do Work Places, circulate around the room to make observations and provide differentiation. The Work Place Guides include suggestions for differentiating the activities to meet students' needs.

- 10 Close the session.

- Give students a few minutes of warning before clean-up time
- Have students clean up and put away the Work Place materials.

Preview

Session 3

Which Bug Will Win?

Summary

The teacher and students play Which Bug Will Win? together, spinning Spinner A to determine which of two bugs moves ahead on the graph. Students take turns spinning the spinner and the teacher records an X on the graph for each spin. Emphasis is on counting “5 and some more” and the idea that 10 is composed of two sets of 5, while graphing and probability play a role as well. Students spend the rest of the session at Work Places.

Skills & Concepts

- Recognize the number of objects in a collection of 6 or fewer, arranged in any configuration (supports K.CC)
- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to ten objects (K.CC.6)
- Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)
- Classify objects into categories and count the number of objects in different categories (K.MD.3)
- Attend to precision (K.MP.6)
- Look for and express regularity in repeated reasoning (K.MP.8)

Materials

Copies	Kit Materials	Classroom Materials
Problems & Investigations Which Bug Will Win?		
TM T1 2C Which Bug Will Win? Record Sheet	• Which Bug Will Win? Spinners A & B	
Work Places in Use		
1F Spill Five Beans (introduced in Unit 1, Module 2, Session 4) 1G Beat You to Five (introduced in Unit 1, Module 3, Session 5) 1H Which Numeral Will Win? (introduced in Unit 1, Module 3, Session 6) 1I Unifix Cube Patterns (introduced in Unit 1, Module 4, Session 4) 2A Count & Compare Dots (introduced in Unit 2, Module 1, Session 5) 2B Numbers & Number Racks (introduced in Unit 2, Module 2, Session 4)		
Home Connection Toothpick Pictures & Tallying		
HC 35–38 Toothpick Pictures & Tallying		

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master
Copy instructions are located at the top of each teacher master.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

one*
two
three
four
five
six
seven
eight
nine
ten
zero
graph
less than*
greater than*



Problems & Investigations

Which Bug Will Win?

- 1 With students seated where they can see the projector screen, introduce the session by displaying the 1A Which Bug Will Win? Record Sheet Teacher Master and circling the top spinner (Spinner A).
- 2 Have students think-pair-share their observations about the game board in general and about the top spinner in particular.
- 3 After a minute, ask several students to share their ideas with the class.
 - If not brought up by students, be sure to point out that there are 10 boxes in each column.
 - Also be sure to discuss the solid black line between the fifth and sixth box, and that it marks sections of 5.
- 4 Explain that in this game you spin the spinner over and over and each time it's spun you show the results by marking an "X" on the graph.
- 5 Before the first spin, ask students to make some predictions regarding which bug will fill a column on the graph first, using the top spinner.

Teacher If we spin the top spinner many times and record the results of each spin on the graph, which bug do you think will fill a column first?

Students The ladybug—it's pretty and it's more.

The spider 'cause it's big and fast.

Ladybugs might win because there's 4 of them.

Spiders can catch ladybugs—they'll win.

Teacher How many ladybugs do you see on the spinner?

Students Four—more than the spiders.

Teacher Do you suppose it will make any difference in our investigation that there are 4 ladybugs on the spinner and only 2 spiders?

As adults, we know that the arrow is more likely to land on a ladybug than a spider. However, some kindergartners will be swayed by other factors, such as attractiveness or strength. Notice that in the dialogue above, the teacher calls attention to the fact that there are more ladybugs, but doesn't attempt to explain the odds or teach the children about probability. These understandings will take several years to develop.

- 6 Randomly select students to come up and spin the arrow on Spinner A while you record.
 - Discuss methods of counting, particularly when a column gets to 5.
 - Emphasize repeatedly that there are 5 and 1 more, 5 and 2 more, and so on.

ELL Be sure to point and use hand gestures when talking about the amounts of 5 and 10 on the graph, and the concepts of more and less.
- 7 Stop periodically to discuss the results, and ask if anyone wants to change their prediction midway through.

Unit 2 Module 3 | Session 3 class set stored in the Work Place bin p us 2 cop es for display

2C Which Bug Will Win? Record Sheet

A

B

Bridges in Mathematics Kindergarten Teacher Masters T1 © The Math Learning Center | mathlearningcenter.org

- 8 Continue playing until one of the columns is filled to the top and discuss the final results.
- Which bug won?
 - How many does the winner have?
 - How do you know it's 10? (Emphasize that two groups of 5 make 10.)

CHALLENGE Ask students, “How many more does the winner have than the other bug?”

- 9 Close this part of the session by telling students you will play Which Bug Will Win? again in the next session, using the bottom spinner, and then it will become a Work Place.

Work Places

- 10 Invite students to spend the rest of the session at Work Places.
- Shuffle the name cards.
 - Call students’ names and have them place their cards in the Work Places chart.

While they do Work Places, circulate around the room to make observations and provide differentiation. The Work Place Guides include suggestions for differentiating the activities to meet students’ needs.

- 11 Close the session.
- Give students a few minutes of warning before clean-up time.
 - Have students clean up and put away the Work Place materials.



Home Connection

- 12 Introduce and assign the Toothpick Pictures & Tallying Home Connection, which provides more practice with the following skills:
- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
 - Given a number from 4 to 9, count out that many objects (K.CC.5)
 - Add with sums to 10 (K.OA.2)

Be sure to have some toothpicks on hand for students who don't have any at home.

Preview

Session 4

Introducing Work Place 2C Which Bug Will Win?

Summary

The teacher models the activity once again, spinning Spinner B to determine which of two bugs moves ahead on the graph. The game becomes a Work Place. The teacher assesses small groups of students on reading and writing numbers and building quantities on the number rack while the class is engaged in Work Places.

Skills & Concepts

- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
- Recognize the number of objects in a collection of 6 or fewer (supports K.CC)
- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to ten objects (K.CC.6)
- Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)
- Classify objects into categories and count the number of objects in different categories (K.MD.3)
- Construct viable arguments and critique the reasoning of others (K.MP.3)
- Look for and express regularity in repeated reasoning (K.MP.8)

Materials

Copies	Kit Materials	Classroom Materials
Work Places Introducing Work Place 2C Which Bug Will Win?		
TM T2 Work Place Guide 2C Which Bug Will Win?	<ul style="list-style-type: none"> Which Bug Will Win? Spinners A & B 2C Which Bug Will Win? Menu Card 	
TM T3 Work Place Instructions 2C Which Bug Will Win?		
TM T1 2C Which Bug Will Win? Record Sheet		
Assessment Numbers & Number Racks Checkpoint		
TM T4 Numbers & Number Racks Checkpoint	<ul style="list-style-type: none"> Number Cards 0-10 	<ul style="list-style-type: none"> copy paper, class set
Work Places in Use		
1G Beat You to Five (introduced in Unit 1, Module 3, Session 5) 1H Which Numeral Will Win? (introduced in Unit 1, Module 3, Session 6) 1I Unifix Cube Patterns (introduced in Unit 1, Module 4, Session 4) 2A Count & Compare Dots (introduced in Unit 2, Module 1, Session 5) 2B Numbers & Number Racks (introduced in Unit 2, Module 2, Session 4) 2C Which Bug Will Win? (introduced in this session)		

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master
Copy instructions are located at the top of each teacher master.

Preparation

- In today's session, you'll introduce Work Place 2C Which Bug Will Win? Before this session, you should review the Work Place Guide and Work Place Instructions, and assemble the bin for Work Place 2C, using the materials listed on the Guide. The Work Place Guide also includes suggestions for differentiating the activity to meet students' needs.
- Remove Work Place 1F and add Work Place 2C, and replace the Menu Card for 1F with the Menu Card for 2C in the Work Place pocket chart.

Vocabulary

An asterisk [] identifies those terms for which Word Resource Cards are available.*

one*
two
three
four
five
six
seven
eight
nine
ten
zero
graph
greater than*
less than*



Work Places

Introducing Work Place 2C Which Bug Will Win?

- 1 With students sitting where they can see the projector screen, display the 2C Which Bug Will Win? Record Sheet and remind students that you played the game yesterday with the top spinner.
- 2 Circle the bottom spinner (Spinner B) and ask students to think-pair-share about their observations regarding the bottom spinner. Tell them to listen carefully to what their partner says, as they may be called upon to report it.
 - How is it different from the top spinner?
 - Will this make any difference in which bug will win?
 - What are your predictions for which bug will win?
- 3 After a minute of pair sharing, invite a few students to share what their partners said.
- 4 Summarize the game.

Students choose one of two spinners on the record sheet and spin it repeatedly, recording the results on the graph. An X is recorded for each bug until one column is completely filled.

To the students you might say:

You'll choose which spinner you want to use and circle it. Spin the spinner over and over. Mark an X in a box for every bug you spin until one bug's column is completely filled.
- 5 Now play the game according to the Work Place Instructions 2C Which Bug Will Win? Teacher Master, using Spinner B.
 - Discuss methods of counting, particularly counting on from 5.
 - Discuss which bug won, and why.

CHALLENGE How many more does the winner have than the other bug?
- 6 Show students the contents of the Which Bug Will Win? Work Place bin and the new Menu Card.
- 7 Discuss what you want students to do with their record sheets when they're done.

Do you want them to go in their cubbies for going home? What if they didn't finish? Do you want to see them first?
- 8 Students will spend the rest of the session at Work Places. Tell the students that you will be in assessment mode at the designated assessment table and cannot be interrupted.
 - Put on your assessment hat or coat
 - Explain that you will call them four at a time.

Extension

Hang all of the completed Which Bug Will Win? Record Sheets on the wall. When the Work Place is retired, gather students around the display to interpret and analyze the results.



Math Practices in Action K.MP.8

While repeating this exercise in the context of Work Places, students will begin to look for regularity and will attempt to make sense of the patterns and trends they notice in their results. For some students, this might be an exercise in counting, while others may begin to reason about which bug wins more often.



Assessment

Numbers & Number Racks Checkpoint

- 9 While students are engaged in Work Places, today and for the next few days, use the time for a checkpoint during which you will observe four students at a time writing, identifying, and building numbers 0–10 using a number rack.
- 10 Use a Numbers & Number Racks Checkpoint Teacher Master with each group of four students.
 - Give students a blank sheet of paper and a pencil and have them write their names on their papers.
 - Give all four students the first prompt, which asks them to write all the numbers they know on their paper.
 - While students are busy writing their numbers, complete the second prompt with each student individually by showing the Number Cards one by one (out of order) and asking the student to identify the numeral on each.
 - When you have shown the Number Cards to all students and they are finished writing their numbers, have them get their number racks ready and complete the third prompt.
- 11 Record your observations on the Numbers & Number Racks Checkpoint Teacher Master.
- 12 Use the results of your observations to plan differentiated activities for your students.

Assessment Guide

See the Kindergarten Assessment Guide for scoring and intervention suggestions.

Preview

Session 5

Dots, Tallies & Numbers Bingo

Summary

The teacher and students review and match the Ten-Frame Five-Wise Display Cards, Tally Display Cards, and Number Cards. Then they play a bingo game two or three times, first using the ten-frame cards and then the tally cards. In the game, they count the dots or sticks on the cards and match them to the numerals on their bingo boards. Students spend the rest of the session at Work Places.

Skills & Concepts

- Read numbers from 0 to 10 (supports K.CC)
- Count up to 10 objects arranged in a line, rectangular array, or circle to answer “how many?” questions (K.CC.5)
- Recognize the number of objects in a collection of 6 or fewer, arranged in any configuration (supports K.CC)
- Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)
- Look for and make use of structure (K.MP.7)
- Look for and express regularity in repeated reasoning (K.MP.8)

Materials

Copies	Kit Materials	Classroom Materials
Problems & Investigations Dots, Tallies & Numbers Bingo		
TM T5–T6 Dots, Tallies, & Numbers Bingo Game Boards 1 & 2 (see Preparation)	<ul style="list-style-type: none"> • Ten-Frame Five-Wise Display Cards, 1–10 • Tally Display Cards, 1–10 • Number Cards, 1–10 	<ul style="list-style-type: none"> • Unifix cubes in a few tubs (9 cubes per student) • standard pocket chart
Work Places in Use		
1G Beat You to Five (introduced in Unit 1, Module 3, Session 5) 1H Which Numeral Will Win? (introduced in Unit 1, Module 3, Session 6) 1I Unifix Cube Patterns (introduced in Unit 1, Module 4, Session 4) 2A Count & Compare Dots (introduced in Unit 2, Module 1, Session 5) 2B Numbers & Number Racks (introduced in Unit 2, Module 2, Session 4) 2C Which Bug Will Win? (introduced in Unit 2, Module 3, Session 4)		

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master
 Copy instructions are located at the top of each teacher master.

Preparation

Run a half-class set of each Dots, Tallies & Numbers Bingo Game Board on a different color copy paper so students can easily distinguish one board from the other. Consider laminating the sheets and storing them for use in future years.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

one*
two
three
four
five
six
seven
eight
nine
ten
zero
number*
numeral



Problems & Investigations

Dots, Tallies & Numbers Bingo

- 1 With students gathered in the discussion area, introduce the session.
 - Explain that you're going to play a game of Bingo today.
 - First, though, you'll practice looking at the calling cards so they can quickly mark their boards when the game starts.
- 2 Hand out all of the Ten-Frame Five-Wise Display Cards, the Tally Display Cards, and the Number Cards.

It may be necessary to give one student two cards. In that case, use your discretion in handing these out. A student who is less confident with reading numbers, dot cards, and tally cards might be confused and feel put on the spot.
- 3 Ask a child holding a Ten-Frame Five-Wise Display Card to place it in the pocket chart. Have students pair-share the amount and how they figured it out.
- 4 After a minute, invite several students to share their thoughts with the class.

Students It's 5—1, 2, 3, 4, 5.

I just knew it was 5 'cause there's always 5 in the line on those cards.

I could see that half of the frame is filled in, so that's 5.

- 5 Have students look around to find the person who is holding the matching Number Card, and have that student place it in the pocket chart beside the Ten-Frame Five-Wise Display Card.
- 6 Ask who has the Tally Display Card that matches these cards, and have that student place it with the others.
- 7 Have students think-pair-share how the tally card and the dot card are alike and different.
- 8 After a minute of pair-sharing, invite several students to share their observations with the class.

Teacher Let's hear how you think the cards are the same.

Students They both have 5.

The 5s are in groups.

Teacher Can you explain what you mean?

Student Well, the dots are all in a line together, and the sticks are in a bunch together with that last stick crossed over the others.

Teacher Good observations. Now, how about telling us how the cards are different.

Students One has sticks and the other has dots.

The sticks don't have any frames around them.

The dots are blue.

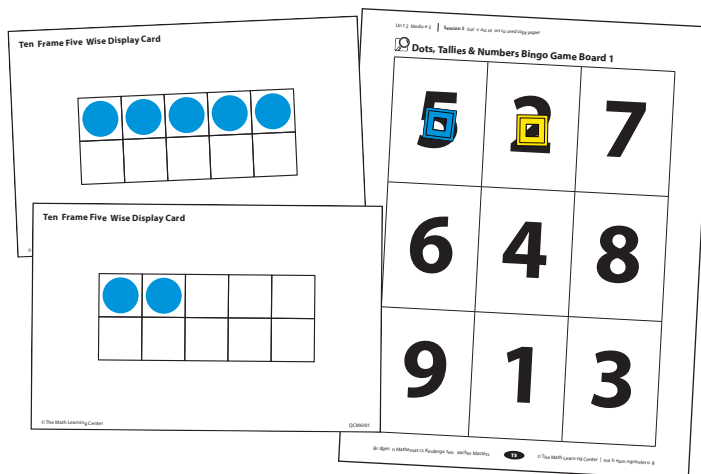
The dots are in two rows and the sticks go straight across.

- 9 Repeat with another Ten-Frame Five-Wise Display Card, Tally Display Card, and Number Card until all of the cards have been posted.



- 10 Now have students move into a circle and hand out the Dots, Tallies & Numbers Bingo Game Board Teacher Masters. Alternate sheet 1 and sheet 2 among the students.
 - 11 Put out small tubs of Unifix cubes and have students count out nine each. While they do this, pull the Ten-Frame Five-Wise Display Cards out of the pocket chart in random order.
 - 12 Demonstrate for students how they can win the game by having three cubes in a horizontal line, a vertical line, or a diagonal line. Explain that the students who get three in a row first will win the game.
- If this is the first game of bingo your students have played this year, or if it's been a while, you may want to have them actually place the cubes in the lines instead of just demonstrating.*
- 13 Hold up a Ten-Frame Five-Wise Display Card, discuss how many dots are on the card, and have students find the matching numeral on their bingo boards and cover it with one cube

SUPPORT. If some of the students haven't learned to read numerals yet, you could hold up the Number Card each time.



- 14 Continue in this manner with the ten-frame cards until one group of students gets three in a row. Encourage them to help one another.
- 15 Have students clear their boards of cubes—“Erase!”
Remind students if necessary that this means to gently sweep the cubes off their card with their hand.
- 16 Play again using the Tally Display Cards.
- 17 If time and interest hold, play a third time, using either the ten-frame cards or the tally cards.



Work Places

- 18 Invite students to spend the rest of the session at Work Places.
If there is a limited amount of time for Work Places, send students out without using the name cards.
 - Shuffle the name cards.
 - Call students’ names and have them place their cards in the Work Places chart.*While they do Work Places, circulate around the room to make observations and provide differentiation. The Work Place Guides include suggestions for differentiating the activities to meet students’ needs.*
- 19 Close the session.
 - Give students a few minutes of warning before clean-up time.
 - Have students clean up and put away the Work Place materials.

Session 6

Introducing Work Place 2D Beat You to Ten

Summary

The teacher and students play a new game which becomes a Work Place. Teams take turns spinning the 0–3 spinner and covering the indicated number of pictured cubes with Unifix cubes. The first team to cover 10 exactly is the winner. Students spend the rest of the session at Work Places. The Home Connection Which Bug Will Win? is introduced and assigned.

Skills & Concepts

- Read numbers from 0 to 10 (supports K.CC)
- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
- Count up to 10 objects arranged in a line, rectangular array, or circle to answer “how many?” questions (K.CC.5)
- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to ten objects (K.CC.6)
- Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)
- Attend to precision (K.MP.6)
- Look for and make use of structure (K.MP.7)

Materials

Copies	Kit Materials	Classroom Materials
Work Places Introducing Work Place 2D Beat You to Ten		
TM T7 Work Place Guide 2D Beat You to Ten TM T8 Work Place Instructions 2D Beat You to Ten	<ul style="list-style-type: none"> • Beat You to Ten Game Board • 2D Beat You to Ten Menu Card 	<ul style="list-style-type: none"> • 20 Unifix cubes (10 of one color and 10 of a second color)
Work Places in Use		
1H Which Numeral Will Win? (introduced in Unit 1, Module 3, Session 6) 1I Unifix Cube Patterns (introduced in Unit 1, Module 4, Session 4) 2A Count & Compare Dots (introduced in Unit 2, Module 1, Session 5) 2B Numbers & Number Racks (introduced in Unit 2, Module 2, Session 4) 2C Which Bug Will Win? (introduced in Unit 2, Module 3, Session 4) 2D Beat You to Ten (introduced in this session)		
Home Connection Which Bug Will Win?		
HC 39–40 Which Bug Will Win?		<ul style="list-style-type: none"> • a few paperclips (for students who might not have some at home)

HC – Home Connection, **SB** – Student Book, **TM** – Teacher Master
Copy instructions are located at the top of each teacher master.

Preparation

In today’s session, you’ll introduce Work Place 2D Beat You to Ten. Before this session, you should review the Work Place Guide and assemble the bin for Work Place 2D, using the materials listed. This guide also includes suggestions for differentiating the activity to meet students’ needs. The Work Place Instructions provide detailed directions for the activity.

Remove Work Place 1G and add Work Place 2D, and replace the Menu Card for 1G with the Menu Card for 2D in the Work Place pocket chart.

Vocabulary

An asterisk [*] identifies those terms for which Word Resource Cards are available.

one*
two
three
four
five
six
seven
eight
nine
ten
zero
greater than*
less than*



Work Places

Introducing Work Place 2D Beat You to Ten

- 1 With students seated where they can see the projection screen, explain that you are going to play a new game called Beat You to Ten.
- 2 Display the Beat You to Ten Game Board, and ask students to think-pair-share observations, to listen carefully to their partners, and to repeat back what they hear their partners say.
- 3 After a minute of partner sharing, invite several students to report one of their partner's observations to the class.

If it doesn't come from the students, be sure to have them count and compare the Unifix cubes pictured on each side of the game board.

- 4 Summarize the game.

This partner game is similar to the previous game Beat You to Five. Players take turns spinning the 0–3 spinner and covering the indicated number of cubes with actual Unifix cubes. They use a different color on each turn. The first player to cover ten exactly is the winner.

You might say to the students:

You and I will take turns spinning the spinner and covering that number of cubes with real Unifix cubes. We'll use a different color for each turn. The first team to cover all 10 cubes wins. You must get 10 exactly.

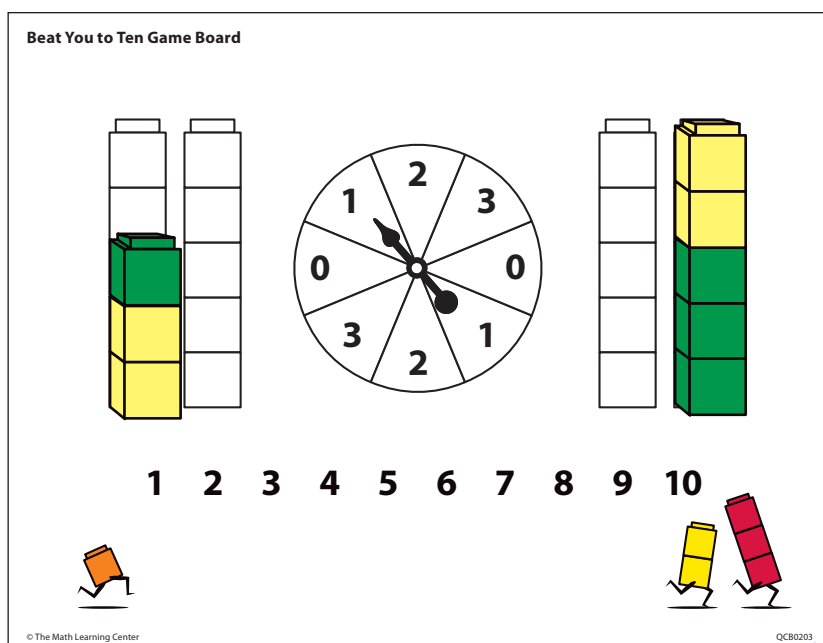
Using two different colors helps students subitize, or see small groups without counting. It also makes it easy to see combinations to 10.

- 5 Play the game according to the directions on the Work Place Instructions 2D Beat You to Ten Teacher Master, having students come up to take turns for the class.
- 6 Ask questions as you play that help students see combinations to 10.
 - You already have 3. When you cover 2 more, how many will you have?
 - Now you have 6! How many more do you need to get to 10?
 - How many more would I need to catch up with you?



Math Practices in Action K.MP.6

When students have to make it to exactly 10 to win, they must attend to precision. The game board helps them keep track of their cubes, and they consider how many more cubes they need in order to win before taking each turn.



- 7 When the game is over, compare the amounts the two teams have.
 - Who won?
 - By how much?
 - How do you know?
- 8 Show students the contents of the Beat You to Ten Work Place bin and the new Menu Card, and remind them that they will need a partner to play this game.
- 9 Invite students to spend the rest of the session at Work Places.
 - Shuffle the name cards.
 - Call students' names and have them place their cards in the Work Places chart.

While they do Work Places, circulate around the room to make observations and provide differentiation. The Work Place Guides include suggestions for differentiating the activities to meet students' needs.
- 10 Close the session.
 - Give students a few minutes of warning before clean-up time.
 - Have students clean up and put away the Work Place materials.

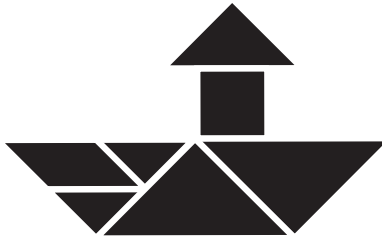


Home Connection

- 11 Introduce and assign the Which Bug Will Win? Home Connection, which provides more practice with the following skills:
 - Recognize the number of objects in a collection of 6 or fewer (supports K.CC)
 - Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to ten objects (K.CC.6)
 - Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)

This Home Connection is an extension of Work Place 2C. You may need to remind students how to use a pencil and a paperclip as a spinner.

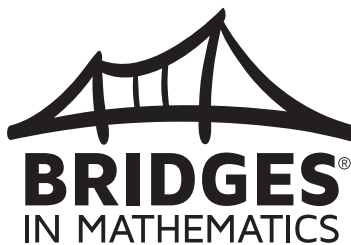
Preview



Teacher Masters

KINDERGARTEN – UNIT 2 – MODULE 3

Preview





Work Place Guide 2C Which Bug Will Win?

Summary

Students choose one of two spinners and spin it repeatedly, recording the results on the graph. An X is recorded for each bug until one column is completely filled.

Skills & Concepts

- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to ten objects (K.CC.6)
- Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)
- Recognize the number of objects in a collection of 6 or fewer (supports K.CC)

Materials

Copies	Kit Materials	Classroom Materials
TM T1 2C Which Bug Will Win? Record Sheet TM T2 Work Place Guide 2C Which Bug Will Win? TM T3 Work Place Instructions 2C Which Bug Will Win?	<ul style="list-style-type: none"> Which Bug Will Win? Spinners A & B, 3 of each 	

Assessment & Differentiation

Here are some quick observational assessments you can make as students begin to play this game on their own. Use the results to differentiate as needed.

If you see that...	Differentiate	Example
A student has difficulty counting or marking the boxes.	SUPPORT. Have the student place Unifix cubes, one in each box, instead of marking with a pencil, then count the boxes (cubes) each time: How many are filled in now? When finished, the student can mark an X in each box as the cube is removed.	
A student continues to count over starting from 1 to get a total.	SUPPORT. Have the student use a different color crayon or pencil for each turn. Then encourage the student to count on and to see small groups and five without counting.	Ask questions like the following: <ul style="list-style-type: none"> “Do you see how many are in this small group?” (5 or less) “There were two before and now you added one—how many is that?” “How many are below the black line?” (5) “Can you count on from there?”
A student completes the activity easily.	CHALLENGE. Have the student write equations to match the results on the graph. Have the student compare with other students who have used the same spinner and draw conclusions about their results.	If there are 10 ladybugs and 6 spiders: $10 + 0 = 10$, $6 + 4 = 10$, $10 - 6 = 4$, and so on
English-Language Learners Use the following adaptations to support the ELL students in your classroom.		
Be sure to point and use hand gestures when talking about the amounts of five and ten on the graph, and the concepts of more and less.		



Work Place Instructions 2C Which Bug Will Win?

Each pair of players needs:

- 2 Which Bug Will Win? Record Sheets (1 per player)
- 1 Which Bug Will Win? Spinner (either A or B)

- 1 Each player writes his name on the record sheet and circles the spinner he is using.
Which bug do you think will win? Why?
- 2 Each player spins the spinner and marks an X in the first box at the bottom of the column above the bug that's been spun.

Unit 2 Module 3 | Session 3

2C Which Bug Will Win? Record Sheet

A

	X
	X
X	X
X	X
X	X

B

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- 3 Players continue spinning and recording until one column is completely full.
- 4 Players compare results.
 - Which bug won? Why?
 - How much did the bug win by?



Numbers & Number Racks Checkpoint

Materials

- Blank paper & pencils for 4 students
- Number Cards 0–10 (out of sequence)
- Student number racks

Instructions

- Give students each a piece of blank paper and have them label it with their name.
- Pose the first prompt to the group.
- While all four students are busy writing their numbers, conduct the second prompt with each individual by holding up the Number Cards one by one and asking the student to identify the numeral on each.
- After you've completed the first two prompts, have students get out their number racks. Then conduct the third prompt with all four students at the same time.

Student Name

Student Name	Writes Numbers Write numbers from 0 to ____ K.CC.3			Reads Numbers Read numbers from 0 to 10 Supports K.CC			Builds Quantity Given a number from 1–10, count out that many objects K.CC.5		
	Writes ALL numbers 1–10	Writes 5 or more numbers 1–10	Writes only a few numbers or is unable to write numbers	Correctly reads ALL numbers in the range 0–10	Correctly reads some numbers in the range 0–10 (record which numbers)	Unable to correctly read any numbers in the range 0–10	Correctly builds quantity in the range 0–10 without counting by ones (i.e. pushes in groups)	Correctly builds some quantities in the range 0–10 counting by ones	Unable to correctly build quantity in the range 0–10 (indicate issue*)

* Indicate whether the error is related to a number word sequence error, one-to-one correspondence error, or cardinality error.



Dots, Tallies & Numbers Bingo Game Board 1

5	2	7
6	4	8
9	1	3



Dots, Tallies & Numbers Bingo Game Board 2

1	6	2
7	3	9
8	5	4



Work Place Guide 2D Beat You to Ten

Summary

This partner game is similar to the previous game Beat You to Five. Players take turns spinning the 0–3 spinner and covering the indicated number of pictured cubes with actual Unifix cubes. They use a different color on each turn. The first player to cover ten exactly is the winner.

Skills & Concepts

- Read numbers from 0 to 10 (supports K.CC)
- Count objects one by one, saying the numbers in the standard order and pairing each object with only one number name (K.CC.4a)
- Count up to 10 objects arranged in a line, rectangular array, or circle to answer “how many?” questions (K.CC.5)
- Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group for groups of up to ten objects (K.CC.6)
- Decompose numbers less than or equal to 10 into pairs in more than one way (K.OA.3)

Materials

Copies	Kit Materials	Classroom Materials
TM T6 Work Place Guide 2D Beat You to Ten TM T7 Work Place Instructions 2D Beat You to Ten	<ul style="list-style-type: none"> • 3 Beat You to Ten Game Boards 	<ul style="list-style-type: none"> • 3 containers of 20 Unifix cubes (each containing 10 of one color and 10 of a second color)

Assessment & Differentiation

Here are some quick observational assessments you can make as students begin to play this game on their own. Use the results to differentiate as needed.

If you see that...	Differentiate	Example
A student has difficulty with counting or cardinality.	SUPPORT Be sure the student is using a different color for each turn. This helps students to accurately count out the number of cubes needed each time, and to see number combinations more clearly.	
A student does not readily see the number combinations.	SUPPORT Ask the student questions that will help her visualize the number combinations to 10.	“You had 3 on your first turn and 2 on your second. How many cubes do you have now?” “You have 7 cubes now. How many do you need to get to 10?”
Students easily read, count, and compare numbers.	CHALLENGE Invite students to play Game Variation A or B.	
English-Language Learners Use the following adaptations to support the ELL students in your classroom.		
<ul style="list-style-type: none"> • Stress the vocabulary for this activity (more than, less than, numbers 1–10). • Use hand gestures to indicate <i>more than</i> and <i>less than</i>. 		

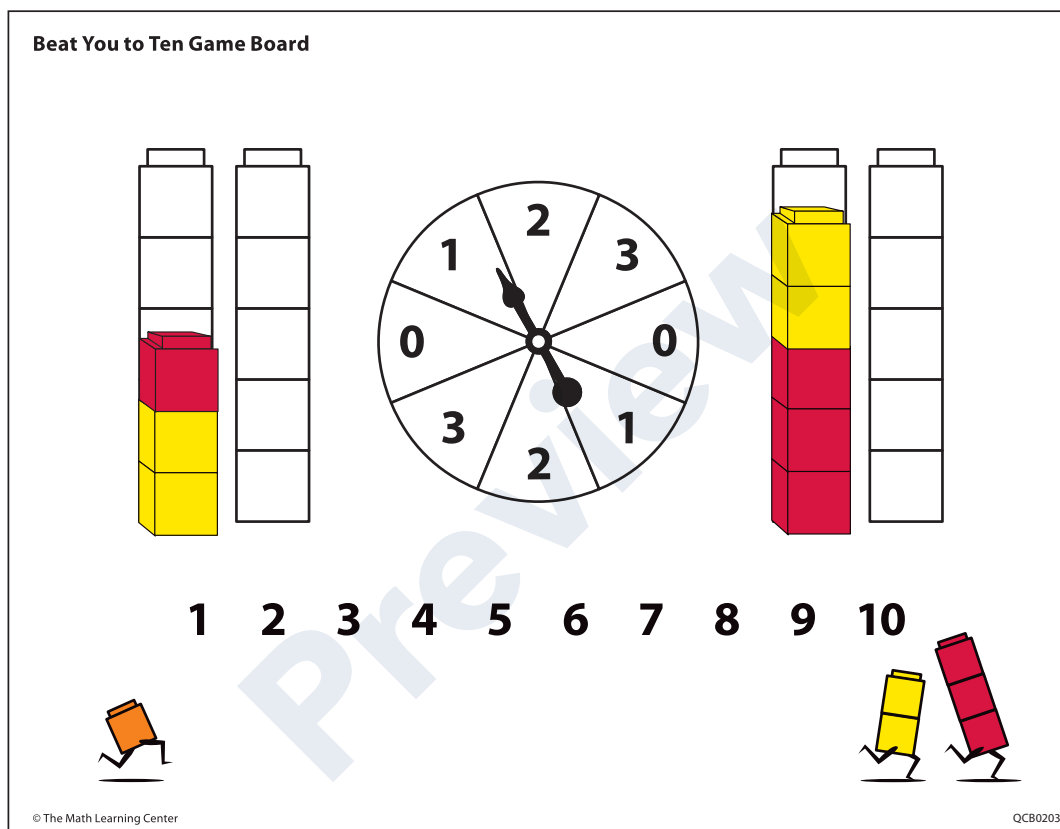


Work Place Instructions 2D Beat You to Ten

Each pair of players needs:

- 1 Beat You to Ten Game Board
- 1 container of Unifix cubes

- 1 Players place the Unifix cubes where they can share them easily.
- 2 Players take turns spinning the spinner and counting out that number of Unifix cubes of one color. They cover the squares on their side of the game board with the Unifix cubes.



- 3 Players use the opposite color of Unifix cubes each time they have a turn.
- 4 The first player to get to 10 exactly wins the game! If a player spins too many and goes over 10, that player has to wait and try again.

Game Variations

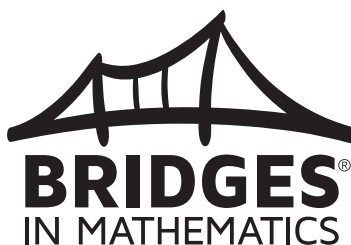
- A Partners play as usual, and write addition equations for each turn. (A student who spins 2 on the first turn and 4 on the second, for example, writes $2 + 4 = 6$. A third spin of three is recorded as $6 + 3 = 9$.)
- B Players start with all of the cubes covered, and subtract the cubes from 10 after each spin. They can also record the results as subtraction equations. (A student who spins 2 on the first turn, for example, writes $10 - 2 = 8$. A spin of 4 on the second turn is recorded as $8 - 4 = 4$.)



Home Connections

KINDERGARTEN – UNIT 2 – MODULE 3

Preview



NAME _____

DATE _____



Toothpick Pictures & Tallying page 1 of 2

Note to Families

Encourage your child to play with the toothpicks, make pictures or alphabet letters, and perhaps even glue a creation down. Then they can get to work on the Toothpick Tallying.

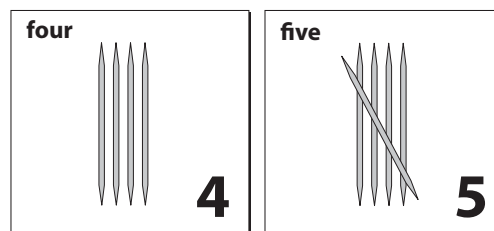
Materials

- Toothpick Pictures & Tallying, pages 1 & 2
- small handful of toothpicks
- scissors
- glue or tape (optional)

Instructions

- 1 Take a few minutes to just play with the toothpicks and make some pictures or alphabet letters.
- 2 Cut apart the six cards on page 2. Can you read the numbers?
- 3 Lay out the cards in order from 4 to 9.

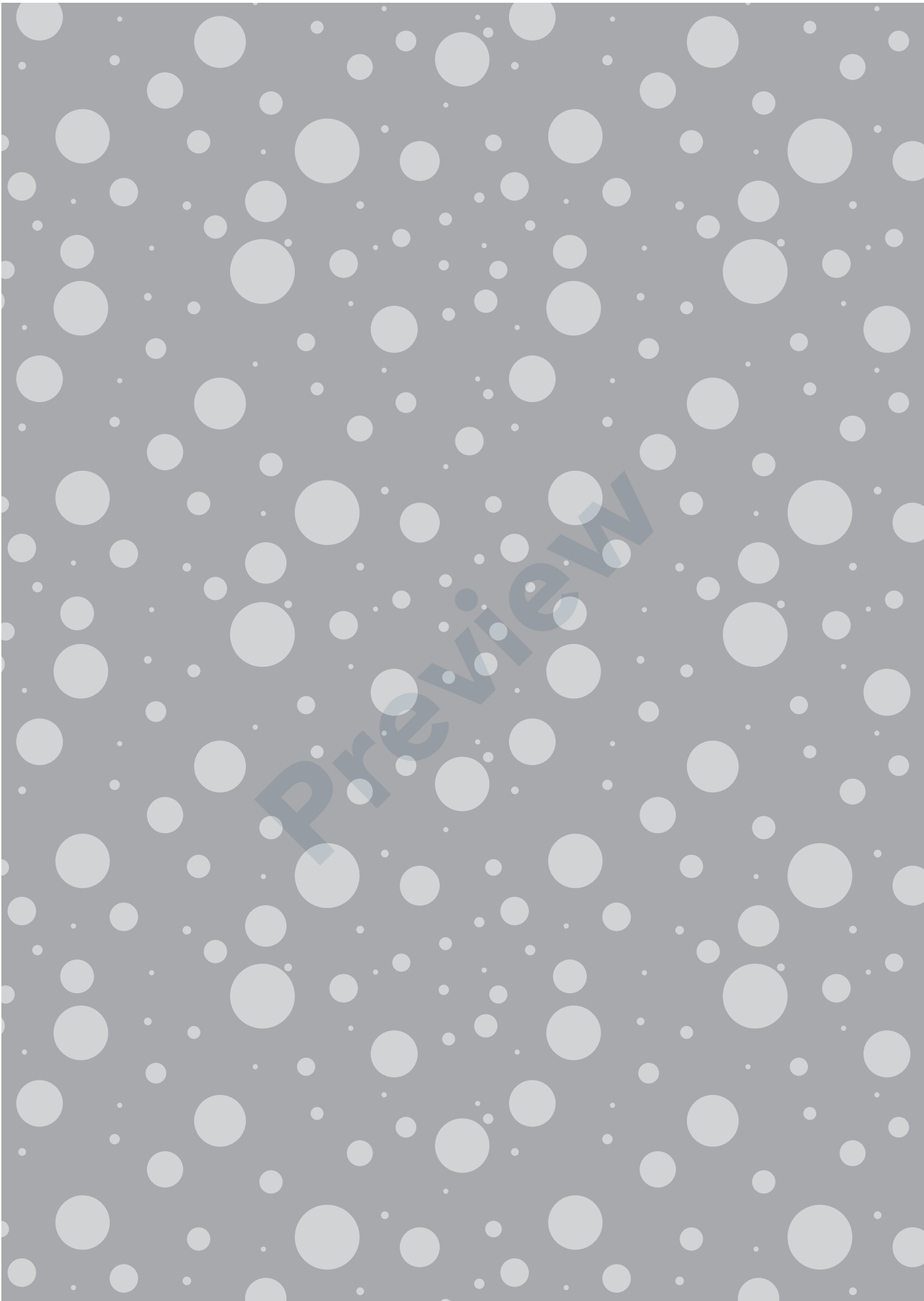
- a Carefully set 4 toothpicks out on the first card.
- b Count out 5 toothpicks for the second card. Lay out the first 4 and lay the 5th one diagonally over the others.



Is it easy to see the "gate" of five?

- 4 Keep going until you have set out toothpicks on all the cards. Make a gate of 5 each time.
- 5 Do you see how you can either count them one by one or think about them as 5 and some more?
- 6 Save the cards for another day and try again. Can you predict how each group will look before you build it with toothpicks?
- 7 **CHALLENGE** If this seems easy for your child, challenge her to build some bigger numbers. For example, she could build 12 with 2 groups of 5 and 2 more.

(continued on next page)



NAME _____

DATE _____

Toothpick Pictures & Tallying page 2 of 2

four

five

six

4

5

6

seven

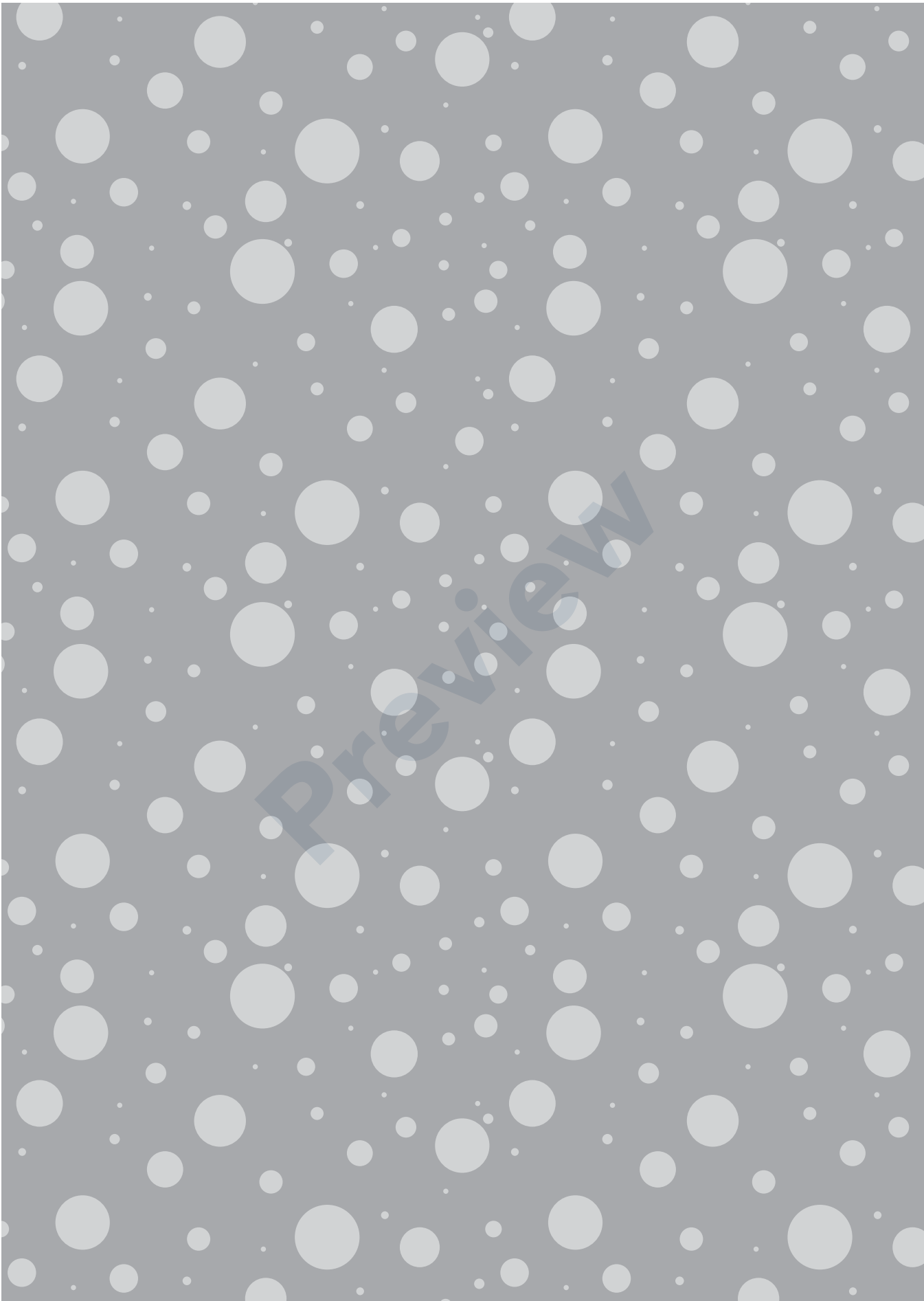
eight

nine

7

8

9





Which Bug Will Win? page 1 of 2

Note to Families

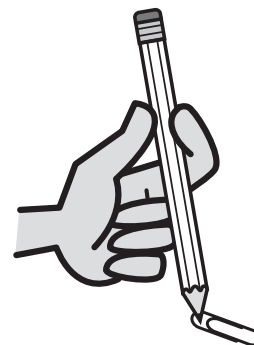
We've been playing this game in school. Students use a different spinner each time they play and then think about the results for each bug. Does one bug win because of the spinner used?

Materials

- Which Bug Will Win? pages 1 & 2
- paperclip and pencil (to use as a spinner)

Instructions

Use your pencil and paperclip to make an arrow for the spinner. Place the pencil, point down, through one end of the paperclip and onto the dot at the middle of the spinner.



- 1 Look at Spinner 1. Which bug do you think will win?
- 2 Spin the spinner over and over. In the first graph, record the results for each spin with an X until one column is filled to the top.
 - Which bug won?
 - Why do you think that happened?
 - Will you get the same results another time?
- 3 Play again using Spinner 1. Spin and record the results on the second graph.
- 4 Play two times using Spinner 2. Record the results on the graphs below.
 - Which bug do you think will win?
 - Which bug won?
 - Why do you think that happened?
 - Do you think your classmates got the same results?
- 5 Return your paper to your teacher.

(continued on next page)

