

## Grade 2: The First 10 Days

### Launching Mathematics in the Common Core Classroom

The purpose of the First 10 Days is to establish math routines and expectations that will prepare students for the Common Core classroom. This resource provides lessons that allow students to develop number sense concepts within the structure of the CCSS Math Practices. As students transition into CCSS, time is needed to establish these mathematical practices. This document includes classroom routines, expectations, and math tools that encourage the Standards for Mathematical Practice. Included in this document are the following:

- Daily Problem-Solving **(Day 1- Day 10)**
- Listening and Speaking Expectations **(Day 1-10)**
- Mathematician's Turn \* **(Day 1-Day 10)**
- Talk Moves for Mathematical Discussions **(Day 1-Day 10)**
- Non-Verbal Signals **(Day 2-Day 10)**
- Number Talks \* **(Day 2-Day 10)**
- Expectations for Partner Games, Small Groups & Rotations, and Independent Work Time **(Day 3-Day 10)**

\* In this document, the *Mathematician's Turn* and *Number Talks* develop the routine of classroom conversations. Authors/researchers, Fosnot and Dolk (2002), state that the purpose of the class conversation is to support and direct the development of mathematicians in the classroom learning community, rather than fixing mistakes in the children's work. This conversation enables the teacher to focus the students on reasoning about a few big mathematical ideas derived from the mathematical thinking present in students' solutions. It focuses whole class discussion on two or three, strategically selected, student solutions in order to develop every student's mathematical learning.

The goals of the classroom conversations are to provide opportunities for students to (Smith, 2011):

- Share ideas and clarify misunderstandings
- Develop convincing arguments regarding why and how things work
- Develop a language for expressing mathematical ideas
- Learn to see things from other people's perspective

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<p><b>Day 1 Objectives:</b> Set the stage for problem-solving, including introducing: problem-solving notebook, choosing manipulatives, listening and speaking expectations, Mathematician's Turn and a math talk move.</p>	
<p><b><u>Introduce Problem-Solving:</u></b></p> <ul style="list-style-type: none"> <li>• Present this problem to students: "11 green apples and 8 red apples are on the table. How many apples are on the table?"</li> <li>• Allow the children to discuss how many apples are on the table.</li> <li>• Say: "Let's think about what we have to do to solve this problem. Lets share out."</li> </ul> <p>Together as a classroom, create a <u>Problem-Solving Chart</u> before distributing the problem-solving notebook and manipulatives. Discuss and write expectations and behaviors for problem-solving on the chart (here are some possible suggestions):</p> <ul style="list-style-type: none"> <li>• Have a positive attitude (I can do this!)</li> <li>• Keep trying and don't give up!</li> <li>• Use good problem-solving strategies</li> <li>• Work together, but do your own thinking</li> <li>• Explain your thinking</li> <li>• Safe Environment (what does that look like, sound like, feel like?)</li> </ul>	<p>To establish expectations for behaviors in a problem solving math classroom.</p> <p><u>Materials:</u>            *Chart paper            *Markers</p>
<p><b><u>Introduce Problem-Solving Notebook:</u></b></p> <ul style="list-style-type: none"> <li>• Give each student a problem-solving notebook.</li> <li>• Have manipulatives readily available to use for counting (base ten blocks, snap cubes, pattern blocks, color tiles, animal counters, etc.) For classroom management purposes you may want manipulatives in bins in an assigned area of your classroom. Discuss appropriate manipulatives use with your students.</li> <li>• Decide how to record the problem in the problem-solving notebook before solving it. Ideas include: copying the question on stickers, copying the question on half-sheets and gluing, students write question. Allow students time to draw and write their responses to the math problem in their problem-solving notebook</li> <li>• Students will share their responses in Mathematician's Turn (see next page.)</li> </ul>	<p>To set expectations for drawing/writing in the problem solving math notebook</p> <p>To establish appropriate manipulatives use and to allow students to strategically choose them for problem solving.</p> <p><u>Materials:</u>            *Problem Solving Notebook (<b>Option: "Problem-Solving Recording Sheet" from enVision</b>)            * Manipulatives</p>

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Day 1	<p><b><u>Introduce the Speaking and Listening Expectations:</u></b></p> <ul style="list-style-type: none"> <li>• Talk with the students about the actions of a good listener. Say: “What does a good listener do?” (A good listener listens with the intent to understand. They look at the person talking and visualize or picture in their head what the speaker said.)</li> </ul> <p><b><u>Talk Moves for Teacher Background Only:</u></b>  <b><i>In order to orchestrate productive discussions in the classroom, teachers need a set of moves that will help them lead whole-class discussions in which students share their thinking with one another in respectful and academically productive ways. Although there are many moves that teachers can use to lead productive classroom discussions, this document will only focus on five: (1) revoicing (2) asking students to restate someone else’s reasoning, (3) asking students to apply their own reasoning to someone else’s reasoning, (4) prompting students for further participation, and (5) using wait time.</i></b></p> <p><b><u>Talk Move #1: Revoicing</u></b>          Model revoicing (Teacher repeats all or part of exactly what a student has said, as students share during Mathematician’s Turn; the teacher can also prompt a student to revoice.)</p> <ul style="list-style-type: none"> <li>○ “What I heard you say was....”</li> <li>○ “You’re saying...”</li> </ul> <p><b><u>Mathematician’s Turn-For Teacher Background Only</u></b>  <b><i>Classroom conversations support learning from each other. Students share their strategies, and listen to the strategies of others. They reinforce their own skills by explaining how they solved a problem and they learn new ways of problem solving by listening to other students explain their thinking. They can safely work through mistakes and misconceptions by talking with their peers. At the beginning of the year, this sharing may take place in a big circle or with students at their seats and one student sharing at the document camera just so everyone can see each other and their student work. The idea is to build a community of learners, where the thoughts of students are shared and honored.</i></b></p> <p><b><u>Introduce the Mathematician’s Turn:</u></b>          The purpose of the Mathematician’s Turn is to provide a public forum where students will share, discuss, and provide feedback to one another. Students will share their solutions from the problem about apples. Strategically select 2-3 students with different solutions (i.e. a drawing, an equation, or using manipulatives). Have students share their solutions one at a time while the other students listen.</p>	<p>To set expectations for shared thinking when engaged in academic conversations around mathematics</p> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>* Problem Solving Notebook</li> <li>* Manipulatives</li> <li>* <u>Optional Classroom Discussions</u>, by Chapin and O’Connor, for reference</li> </ul> <p>Revoicing:          Student contributions are often difficult to hear and sometimes difficult to understand. Yet, all students need to have access to what a student has said if they are expected to think about and comment on it. For this reason, repeating part or all of a student’s response is often a worthwhile move for teachers.</p>
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<b>Day 2 Objectives:</b> To continue with problem-solving and setting up listening and speaking expectations, practice the Mathematician's Turn, introduce non-verbal signals and Number Talks		
<b>Day 2</b>	<p><b><u>Problem Solving:</u></b></p> <ul style="list-style-type: none"> <li>• Review the behaviors/expectations from the <u>Problem-Solving Chart</u> (from Day 1.)</li> <li>• Present and discuss today's math problem: "There are 18 apples on the table. 9 are red and the rest are green. How many apples are green?"</li> <li>• Allow children time to draw and write their responses to the problem in their problem-solving notebook.</li> <li>• The focus should be on "How can you show your answer?"</li> <li>• Have manipulatives available for counting and encourage students to use them to solve the problem.</li> <li>• (Students can share during Mathematician's Turn.)</li> </ul> <p><b><u>Listening and Speaking Expectations:</u></b> Make a poster (chart paper) of a <u>Good Listener and Not a Good Listener</u>. Use student suggestions.</p> <p><b><u>Mathematician's Turn:</u></b></p> <ul style="list-style-type: none"> <li>• During Mathematician's Turn, ask the students how they found their answer. It's important to point out the variety of solutions, especially students that used multiple methods.</li> <li>• Ask students which manipulatives they used and how they used them to solve the problem.</li> <li>• Model Talk Move #1: Revoicing</li> </ul> <p><b><u>Introduce Non-Verbal Signals:</u></b> Establish non-verbal signals that will support productive math discussions. These signals also support effective classroom management. Teach students the following signals:</p> <ul style="list-style-type: none"> <li>• Agree: Thumbs up held away from body</li> <li>• Disagree: " Safe" sign in baseball: palms flat and down, in a crossing motion in front of the chest</li> <li>• I don't know: hand over head, palm flat and facing floor, moves back and forth</li> <li>• Thinking: fist in front of chest</li> <li>• I have an answer: thumbs up in front of chest</li> <li>• I have another way of getting the answer: finger up in front of chest (can show additional finger for each way)</li> </ul>	<p>To continue to set expectations for writing in the problem solving math notebook.</p> <p>To set expectations for shared thinking when engaged in academic conversations around mathematics</p> <p>To encourage students to learn to share and discuss during math.</p> <p>To set expectations for classroom management during mathematics discussions</p> <p><b><u>Materials:</u></b> * Chart Paper * Markers * Problem-Solving Chart * Problem Solving Notebook</p>

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Day 2	<p><b><u>Number Talks-for Teacher Background only:</u></b>  <b><i>A Number Talk is a short, ongoing daily routine that provides students with meaningful practice with computation. Classroom conversations and discussions around purposefully crafted computation problems are at the very core of number talks. These are opportunities for the class to come together to share their mathematical thinking and develop efficient, flexible, and accurate computation strategies that build upon the key foundational ideas of mathematics such as composition and decomposition of numbers, our system of tens, and the application of properties. Mental computation is a key component of number talks because it encourages students to build on number relationships to solve problems instead of only relying on memorized procedures.</i></b></p> <p><b><u>Introduce Number Talks:</u></b>          Tell the students that we are going to be doing a Number Talk. They are to be thinking in their heads, and trying to figure out the number, or the answer to a problem. Tell them that they should be ready to share how they figured out the number. All number talks follow a basic six-step format.</p> <ol style="list-style-type: none"> <li><b>1. Teacher presents the problem:</b> Problems are presented in many different ways: a word problem, ten frames, dot cards, models. You can show problems on a document camera or write on the board. Present today's problem on the board:          "How many legs on 5 horses and 2 roosters?"</li> <li><b>2. Students figure out the answer.</b> Give time to figure out the answer. To make sure the students have the time they need, ask them to give a "thumbs-up in front of chest" when they have determined their answer.</li> <li><b>3. Students share their answers. Teacher:</b> "At the count of three, whisper your answer."</li> <li><b>4. Students share their thinking.</b> Have students think-pair-share before they share out their thinking. Have three or four students explain their thinking to the class.</li> <li><b>5. The class agrees on the "real" answer for the problem.</b> The answer that the class together determined is the right answer is presented as one would the results of an experiment. The answer a student comes up with initially is considered a conjecture. Models and explanations may help students see where their thinking went wrong, identify a step they left out, or clarify a point of confusion.</li> <li><b>6. The steps are repeated for additional problems.</b></li> </ol> <p>Thank the students for their participation in the Number Talk.</p>	<p>A number talk is a powerful tool for helping students develop computational fluency and number sense because the expectation is that they will use number relationships and the structures of numbers to add, subtract, multiply, and divide.</p> <p>Number Talks allow students to make connections and find relationships and patterns.</p> <p>Number Talks also allow students to use the language of mathematics.</p> <p>The conversation is the focus of the Number Talks, and the teacher takes on the role of facilitator.</p> <p>The teacher is not the ultimate authority in Number Talks. Students are clarifying their thinking with each other.</p>
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<b>Day 3 Objectives:</b> To introduce partner math games, continue with daily problem-solving, review listening and speaking expectations, review non-verbal signals, practice Mathematician's Turn, and do a Number Talk		
Day 3	<p><b><u>Introduce a Partner Math Game:</u></b>            Show how to play a math game and model appropriate vs. inappropriate use of the math tools involved. Begin a class chart titled "Math Game Expectations" to record responsibilities and expectations for partner math games.</p> <ul style="list-style-type: none"> <li>○ What will the games look like?</li> <li>○ What will the game sound like?</li> <li>○ Where will the games take place?</li> <li>○ What will be the role of each partner during the game?</li> <li>○ What are the expectations for clean up?</li> </ul> <p>Possible math games:</p> <ul style="list-style-type: none"> <li>• EnVision center games</li> <li>• Exploration with manipulatives</li> <li>• Additional resources materials from the Curriculum Map</li> </ul> <p>After game is played for about 5 minutes, stop and facilitate a class self-assessment of expectations. What went well? What do we need to work on? What were the tools used during the game? What tools were appropriate to use and/or not appropriate to use? Game play should continue after self-assessment in order for pairs to work toward meeting classroom expectations.</p> <p><b><u>Problem-Solving:</u></b>            Review <u>Problem-Solving Chart</u> for behaviors/expectations. Present and discuss today's math problem:            "Grandma has 24 flowers. How many can she put in her red vase and how many in her blue vase?"</p> <ul style="list-style-type: none"> <li>• Allow children time to draw and write their responses to the problem in their problem-solving notebook.</li> <li>• The focus should be on "How can you show your answer?"</li> <li>• Have manipulatives available for counting and encourage students to use them to solve the problem.</li> </ul> <p>This is an open-ended problem with multiple solutions. Ask students to show different ways to make the target number. Students might use visual representations, equations, models, etc. (Students share responses during Mathematician's Turn.)</p>	<p>To begin to establish expectations for independent games and activities.</p> <p><u>Materials:</u>            * Math Games            * Manipulatives            * Chart Paper</p> <p>Possible norms for charting:            *Be Your Own Problem-Solver            *Ask 3 Before Me            *Use a 6-inch Voice            *Take Turns            *Clean Up            *Make Wise Choices</p> <p>To continue drawing and writing about math using precise vocabulary and establish shared expectations for math problem-solving notebooks.</p> <p><u>Materials:</u>            *Problem-Solving Chart            *Problem-Solving Notebook            *Manipulatives</p>

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<b>Day 3</b>	<p><b><u>Listening and Speaking Expectations:</u></b> Review the <u>Good Listener and Not a Good Listener</u> poster from Day 2.</p> <p><b><u>Introduce Talk Move #2: Restate</u></b> Model asking students to restate someone else's reasoning. Instead of revoicing a student's idea in the exact same words, you can ask another student to restate in his or her own words, what the first student has just said.</p> <p><b><u>Review Non-Verbal Signals:</u></b></p> <p><b><u>Mathematician's Turn:</u></b> <i>(Model Talk Move #2 &amp; Non-Verbal Signals)</i></p> <ul style="list-style-type: none"> <li>• During Mathematician's Turn, ask the students how they found their answer to the problem about flowers. Encourage them to explain their thinking process and reasoning. Ask several students to share their solutions. Remember to strategically select a variety of problem solving methods.</li> </ul> <p><b><u>Number Talk:</u></b> <i>(Model Talk Move #2 &amp; Non-verbal Signals)</i> Follow the same 6 steps as outlined in Day 2 (Math Talks). Write today's problem on the board: "15 + 13 = ____." <b>Teacher:</b> Think about how to solve this problem. Put your fist on your chest like this (show). When you have one way of getting the answer, put up your thumb, like this (model). When you have a second way of getting the answer, put up a finger, like this (model). I'll ask you to tell me the answer when most people are ready. Now I'm giving you think time.</p> <p>Addition strategies based on place value for <math>15 + 13 = \underline{\quad}</math> may include:</p> <ul style="list-style-type: none"> <li>* Adding by place value: <math>10 + 10 = 20</math> and <math>5 + 3 = 8</math> and <math>20 + 8 = 28</math></li> <li>* Incremental adding (by tens and ones); <math>15 + 10 = 25 + 3 = 28</math></li> <li>* Composing and decomposing (making a "friendly" number): (decompose the 13 to 5 + 8) <math>15 + 5 = 20, 20 + 8 = 28</math></li> </ul>	<p>Restating: A student's restating of another student's contribution marks the contribution as being especially important and worth emphasizing. It signals to the author that his or her idea is being taken seriously.</p> <p>To continue to understand the concept and encourage the use of Number Talks.</p> <p>Number Talks can take many forms. During a Number Talk, the teacher writes a problem on the board, horizontally, and gives the students time to solve the problem mentally. The focus is "How did you get your answer?"</p> <p>Mistakes play a part in developing math thinking, as they call for questioning and discussion. Help the students realize that mistakes are important for our learning, and celebrate the opportunities!</p> <p>Materials: *Listener/Not a Good Listener poster</p>
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<p><b>Day 4 Objectives:</b> To practice a new partner math game, review listening and speaking expectations, introduce a new talk move, review non-verbal signals, continue with daily problem solving, Mathematician's Turn, Number Talk.</p>		
<p><b>Day 4</b></p>	<p><b><u>Practice New Partner Math Game:</u></b>            Revisit the math game from Day 3. Remind students about the game procedures and expectations. Review "Math Game Expectations Chart" on expectations for partner math games.</p> <ul style="list-style-type: none"> <li>• Debrief "what is going well" vs. "what needs to be better" in relation to math games expectations. What were the tools used during the game? What tools were appropriate to use and/or not appropriate to use?</li> </ul> <p><b><u>Problem-Solving:</u></b> <i>(Model Talk Move #2 &amp; Non-Verbal Signals)</i>            Tell the students: "Today we are going to introduce a tool to help us with problem-solving. It's called a <b>bar diagram</b> (aka, part, part, whole mat in K-2) This is a tool we can use throughout the school year. One of our jobs as mathematicians is to build a toolbox of tools, or strategies, that we can use to help ourselves. When we share our tools or strategies that we use for problem-solving, we help each other understand math. And that's one of the most important things about math, that it makes sense! And that it's fun!"  <i>(Bar diagrams help students understand relationships between the quantities in the problem, and this helps students choose a correct operation to solve the problem. You can find more information on Bar Diagrams in the Program Overview of enVision MATH.)</i></p> <ul style="list-style-type: none"> <li>• Present and discuss today's math problem: "Carina collected 14 ladybugs in her backyard. The next day, she collected 12 more. How many ladybugs does she have now?"</li> <li>• Ask the students, "How might we use this bar diagram to help us solve this problem?"</li> <li>• Discuss strategies and then have the students solve the problem in their problem-solving notebooks. (Students discuss solutions during Mathematician's Turn.)</li> </ul> <p><b><u>Review Listening and Speaking Expectations</u></b></p> <p><b><u>Review Non-Verbal Signals:</u></b></p> <p><b><u>Mathematician's Turn:</u></b> <i>(Model Talk Move #2 &amp; Non-Verbal Signals)</i></p> <ul style="list-style-type: none"> <li>• During Mathematician's Turn, ask the students how they found their answer to the ladybug problem. Encourage them to explain their thinking process and reasoning. Ask several students to share their solutions. Reminder to strategically select a variety of problem solving methods.</li> </ul>	<p>To establish expectations for independent games and activities.</p> <p>To establish the concept of a tool box for problem-solving throughout the year</p> <p>Difficulty getting started?            Ask questions: What is the problem asking us to find out? What do you know? Without giving away the answer, how are you thinking about solving the problem?</p> <p><b><u>Materials:</u></b>            * Math Game Expectations Chart            * Problem-Solving Notebook            * Bar Diagram (Part/Part Whole Mat can be found in enVision—Teaching Tools #4)</p>

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<b>Day 4</b>	<p><b>Number Talk:</b> (<i>Model Talk Move #2 &amp; Non-Verbal Signals</i>) Follow the same 6 steps as outlined in Day 2 (Number Talk). Introduce today's problem on board: "25 - 11 = _____"</p> <p>Subtraction strategies based on place value for 25 - 11 may include:</p> <ul style="list-style-type: none"> <li>• Adding up (from smaller number to larger number): 11 + 9 = 20, 20 + 5 = 25.</li> <li>• Incremental subtracting: 25 - 5 = 20, 20 - 5 = 15, 15 - 4 = 11</li> <li>• Subtracting by place value: 25 - 10 = 15, 15 - 4 = 11</li> </ul> <p>Remind the students that they should be ready to share their strategies with the class. Model Non-Verbal Signals. Give think time.</p> <p>When most students indicate that they are ready through their hand signal, then call on four or five students to share their sum and record them on the board.</p> <p>Ask for students to share their strategies and justifications with the class. Encourage the class to use hand signals to agree/disagree, and explain why. Thank the children for participating.</p>	<p>To continue to understand the concept and encourage the use of Number Talks.</p>
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**Day 5 Objectives:** Introduce small groups, review non-verbal signals, review listening and speaking expectations, continue problem-solving, Mathematician's Turn, Number Talk.

<b>Day 5</b>	<p><b><u>Introduce Small Group and Independent Work Time:</u></b>  <i>(It's important to set up expectations for small group rotations and independent work time. There will be times when the teacher will need to work with a small group of students to meet their needs. It's important that the other students know how to work independently and in small groups. They will also need to know how to rotate from location to location or activity to activity.)</i> Break the class into 3-4 heterogenous groups. Assign groups to their own location within the classroom. Provide instructions on behavior expectations, rotation procedures, and clean up signal. Give each group a bin with one type of manipulative and allow groups to explore the items for 5 minutes. At the end of the time, signal for clean up time. Create a sticker chart and reward groups who clean up quickly and quietly. Have students rotate to each station so that each group will have an opportunity to explore each type of manipulative.</p> <p>Establish clear expectations for small group activity rotations:</p> <ul style="list-style-type: none"> <li>• When will we rotate and what is the signal?</li> <li>• How do I know what to do first, then next?</li> <li>• Where will activities be located and who will get them?</li> <li>• What is the expectation for clean up between activities?</li> </ul> <p><b><u>Problem-Solving:</u></b>  Present and discuss today's math problem.  "Max had 17 baseball cards. His Mom gave him some more. Now he has 30 baseball cards. How many baseball cards did his Mom give him?" Tell students that they will once again practice using a tool from their toolbox of tools/strategies for math. They will use a bar diagram. Draw a bar diagram on the board and ask students to problem solve using the bar diagram. (Students can discuss solutions during Mathematician's Turn.)"</p>	<p>To establish expectations for small groups and independent work time</p> <p><u>Materials:</u>  *Bins  *Manipulatives  *Optional sticker chart</p> <p>Continue to establish the concept of a tool box for problem-solving throughout the year.</p> <p><u>Materials:</u>  *Problem-Solving Notebook</p>
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<p><b>Day 6 Objectives:</b> To continue establishing small group rotation and independent work time expectations, review listening and speaking expectations (optional), review non-verbal signals (optional), continue with problem-solving, Mathematician's Turn, Number Talk.</p>		
<p><b>Day 6</b></p>	<p><b><u>Continue with Small Group and Independent Work Time:</u></b> Extend the time at each station (5-10 minutes). While all other groups will continue with the manipulative exploration, one group will play the partner game previously introduced. Continue to monitor and set expectations for stopping, cleaning up, and rotating. Select a team captain responsible for bringing the bins to and from the designated area. Continue to praise those groups following agreed upon procedures.</p> <p><b><u>Review Listening and Speaking Expectations</u></b> <i>(optional)</i></p> <p><b><u>Review Non-Verbal Signals:</u></b> <i>(optional)</i></p> <p><b><u>Problem-Solving:</u></b> Revisit the <u>Problem-Solving Chart</u> to review expectations for problem-solving. Tell the students: "Today we are going to introduce a tool to help us with problem-solving. It's called a <b>ten frame</b>. This is a tool that will be part of our toolbox so that we can use it to help us understand math. Show a double ten frame on the document camera and use counters to represent the numbers.</p> <p>Present and discuss today's math problem. Rosa has 9 blue pens. She also has 8 red pens. How many pens does she have in all?. Ask students: "How might we use these ten frames to help us solve this math problem?" Discuss strategies and then have the students solve the problem in their problem-solving notebook. (Students can discuss solutions during Mathematician's Turn.)</p>	<p>To continue to establish expectations for small groups and independent work time</p> <p><u>Materials:</u> *Bins *Manipulatives</p> <p>Continue to establish the concept of a tool box for problem-solving throughout the year.</p> <p>Ten Frames combines the development of spatial abilities with the development of number relationships. It encourages children to move beyond counting.</p>

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<b>Day 6</b>	<p><b>Mathematician's Turn:</b> <i>(Model Talk Move #3 and use Non-Verbal Signals)</i> Share some of the entries in their problem-solving notebooks, celebrate efforts and establish pride in written work. Allow students to practice Talk Moves #1, #2, and #3.</p> <p><b>Number Talk:</b> <i>(Model Talk Move #3 and use Non-Verbal Signals)</i> Follow the same 6 steps as outlined in Day 2 (Number Talk).</p> <p>Introduce today's problem on the board: "<math>28 - 9 = \underline{\quad}</math>"</p> <p>Ask students to make sense of student strategies. For example, ask, "Why did Jose take away ten instead of nine? Why did he add one at the end?"</p> <p>Encourage students to explain other students' strategies, for example, ask, "Why did Jenny break the number nine apart into six and three? Why did she select those numbers?"</p> <p>If there are a limited number of participants, after a quiet think time suggest, "Turn to one other person and share your answer and how you thought about it."</p> <p>Then prompt, "Let's list our solution strategies. Who thought the same way/differently? Who has the same answer, but a different way to explain it?"</p>	<p>To express their opinions, critique the reasoning of others, agree/disagree, etc.</p> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>* Problem-solving chart</li> <li>* Problem-solving notebook</li> <li>* Ten Frame (available in enVision –Teaching Tools #5 &amp; #6)</li> <li>* Counters</li> </ul>
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### Launching Mathematics in the Common Core Classroom

<p><b>Day 7 Objectives:</b> To continue small group rotation and independent work time expectations, review listening and speaking expectations/non verbal signals (optional), introduce a talk move, continue with problem-solving, Mathematician's Turn, Number Talk.</p>		
<b>Day 7</b>	<p><b><u>Introduce New Partner Game or Small Group Activity:</u></b>            As a whole group, revisit "Math Game Expectations Chart" for game expectations. Introduce a new game and review the games rules. Model the new game/activity and have all the students play. Inform students that the new game will be added to the group rotation. Break the class into groups and have the students play today's games plus the previously taught games/activities. Have them play 5-10 minutes and then rotate to a different game/activity.</p> <p style="text-align: center;">Game ideas can come from the enVision materials, the additional resources in the curriculum maps, and from your own bank of materials.</p> <p><b><u>Review Listening and Speaking Expectations</u></b> <i>(optional)</i></p> <p><b><u>Introduce Talk Move #4: Prompting students for further participation</u></b>            After students have shared some initial ideas, more students can be asked to join in—prompt students for further participation. Examples:</p> <ul style="list-style-type: none"> <li>• "Does anyone have any other thoughts or comments on what we've been talking about?"</li> <li>• "Does anyone want to add to that?"</li> </ul> <p><b><u>Review Non-Verbal Signals:</u></b> <i>(optional)</i></p>	<p>To continue building independence and appropriate communication with partners.</p> <p>Prompting a wider range of students to weigh in adds more ideas to the discussion.</p>

## Grade 2: The First 10 Days

### Launching Mathematics in the Common Core Classroom

<b>Day 7</b>	<p><b>Problem Solving Notebook:</b> Present and discuss today's math problem: "Christina has 26 dolls. She gave 10 away. How many does she have now? " Show the problem using <b>ten frames</b> and counters. Tell students they will once again use the ten frame to solve the problem. Ask students: "How might we use these ten frames to help us solve this math problem?" Discuss strategies and then have the students solve the problem in their problem-solving notebook. (Students can share solutions during Mathematician's Turn.)</p> <p><b>Mathematician's Turn:</b> (Model Talk Move #4 and use Non-Verbal Signals) Share some of the entries in their problem-solving notebooks, celebrate efforts, and establish pride in written work. Encourage them to explain their thinking process and reasoning. Allow students to practice Talk Moves #1, #2, #3 and #4.</p> <p><b>Number Talk:</b> (Model Talk Move #4 and use Non-Verbal Signals) Follow the same 6 steps as outlined in Day 2 (Number Talk).</p> <p>Introduce today's problem: "<math>2 + 16 + 8 = \underline{\hspace{2cm}}</math>"</p> <p>Have students share their solutions. Example: A student might share: "I decided to add the 8 and 2 first (<math>8 + 2 = 10</math>) and then add 16 to get my answer (<math>10 + 16 = 26</math>.)" (Associative Property)</p>	<p>To practice drawing and writing about math.</p> <p>To express their opinions, critique the reasoning of others, agree/disagree, etc.</p> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>*Problem-solving notebook</li> <li>* Ten Frame (available in enVision –Teaching Tools #5 &amp; #6)</li> <li>* Counters</li> </ul>
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## Grade 2: The First 10 Days

### Launching Mathematics in the Common Core Classroom

**Day 8 Objectives:** To continue establishing small group rotation/independent work time expectations, review listening and speaking expectations, non-verbal signals (optional), continue with problem-solving, Mathematician's Turn, Number Talk.

<b>Day 8</b>	<p><b><u>Introduce New Partner Game or Small Group Activity:</u></b>          As a whole group, revisit the “Math Game Expectations Chart” to review expectations. Introduce a new game and review the games rules. Model the new game/activity and have all the students play. Inform students that the new game will be added to the group rotation. Break the class into groups and have the students play today’s games plus the previously taught games/activities. Have them play 5-10 minutes and then rotate to a different game/activity.</p> <p><b><u>Review Listening and Speaking Expectations</u></b> <i>(optional)</i></p> <p><b><u>Review Non-Verbal Signals:</u></b> <i>(optional)</i></p> <p><b><u>Problem-Solving:</u></b>          Revisit the <u>Problem-Solving Chart</u> to review expectations for problem-solving.</p> <p>Present and discuss today’s math problem:          “Julie went to the market and bought 19 peaches. Her friend Lynda went with her to the market and bought 14 peaches. How many more peaches does Julie have than Lynda?”</p> <ul style="list-style-type: none"> <li>• Allow students to discuss how they might solve the math problem.</li> <li>• If “Turn and Talk” or “Think-Pair-Share” is used, ask students what it looks like and model the procedures if necessary.</li> <li>• Have students solve the problem in their problem-solving notebook.</li> <li>• Have manipulatives readily available for students to use.</li> <li>• (Students can share solutions during Mathematician’s Turn.)</li> </ul>	<p>To continue to establish expectations for small groups and independent work time</p> <p><u>Materials:</u>          * Math game/activity          * Problem-solving chart          * Manipulatives</p>
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## Grade 2: The First 10 Days

### Launching Mathematics in the Common Core Classroom

<b>Day 8</b>	<p><b>Mathematician's Turn:</b> (Model Talk Move #4 and use Non-Verbal Signals)</p> <ul style="list-style-type: none"> <li>• Select a few students to share their solutions to the problem about peaches.</li> <li>• Sharing student is prompted to ask if there are any questions or comments.</li> <li>• Encourage them to explain their thinking process and reasoning.</li> <li>• At the conclusion of each student's turn, the class applauds and the process continues with the next student.</li> <li>• Allow students to practice Talk Moves #1, #2, #3 and #4.</li> </ul> <p><b>Number Talk:</b> (Model Talk Move #4 and use Non-Verbal Signals) Follow the same 6 steps as outlined in Day 2 (Number Talk). Tell the students: Today we are going to introduce a tool to help us during our number talk. It's called a <b><u>hundred chart</u></b>. This is a tool that will be part of our toolbox so that we can use it to help us understand math. Show a hundred chart on the document camera.</p> <p>Introduce today's problem: "I'm thinking of a number that is one more than 52 and one less than 54. What is the number?"</p> <p>Have students discuss their strategies and solutions. Students can use hundred chart on the document camera to help them solve. Select a student to share his/her solution. Repeat with a different problem.</p>	<p>To set expectations for shared thinking and to respond to classmates in a reasonable manner</p> <p><u>Materials:</u></p> <ul style="list-style-type: none"> <li>* Problem Solving Notebook</li> <li>* Hundred Chart (available in enVision Math—Teaching Tool 13)</li> </ul> <p>A student who is unconvinced of an answer should be encouraged to keep thinking, and keep trying to understand. If it doesn't make sense yet, keep thinking!</p>
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## Grade 2: The First 10 Days

### Launching Mathematics in the Common Core Classroom

**Day 9 Objectives:** To continue establishing small group rotation and independent work time expectations, introduce a talk move, continue with problem-solving, Mathematician's Turn, Number Talk.

<b>Day 9</b>	<p><b><u>Introduce New Partner Game or Small Group Activity:</u></b> As a whole group, revisit the "Math Game Expectations Chart" to review expectations. Introduce a new game and review the game rules. Model the new game/activity and have all the students play. The new game will be added to the group rotation. Break the class into groups, have the students play today's games plus the previously taught games/activities. Have them play 5-10 minutes and then rotate.</p> <p><b><u>Introduce Talk Move #5: Wait Time</u></b> Give students time to compose their responses. A teacher may tap his/her leg for ten seconds between posing a problem, and calling on a student to respond. Or point your finger at your temple, showing that you're thinking and hold it for ten seconds.</p> <p><b><u>Problem Solving:</u></b> Present and discuss today's math problem. Have students model a real-life mathematical situation with an equation. Students can use manipulatives and/or math drawings to explain the equation.</p> <ul style="list-style-type: none"> <li>• Have students create a story problem for the equation <math>21 + \square = 30</math>.</li> </ul> <p>For example, "There were 21 gumballs in the machine. Tom poured in some more gumballs. There are 30 gumballs in the machine now. How many did Tom pour in?" Have students share their real-life mathematical situation with a partner. Students can then write their equation and solution in their problem-solving notebook.</p> <p><b><u>Mathematician's Turn:</u></b> (Model Talk Move #5 and use Non-Verbal Signals)</p> <ul style="list-style-type: none"> <li>• Have students share their responses to the problem.</li> <li>• Ask students how they solved the problem.</li> <li>• Share explanation, thinking process and reasoning.</li> <li>• Allow students to practice Talk Moves</li> </ul> <p><b><u>Number Talk:</u></b> (Model Talk Move #5 and use Non-Verbal Signals) Follow the same 6 steps as outlined in Day 2 (Number Talk). Present a Head Problem, an oral, multi-step problem that is not written on the board (write it on a post-it beforehand).</p> <ul style="list-style-type: none"> <li>• Head Problem: Start with the number 20; add the number of sides in a square; subtract 2. What is the number?</li> </ul> <p>Ask students to tell you each step along with the answer to the corresponding step. Once finished, you can repeat with a different head problem.</p>	<p>To establish shared meaning and set expectations for class discussion and questioning.</p> <p>Wait time signals the value of deliberative thinking, recognizes that deep thinking takes time, and creates a normative environment that respects and rewards both taking time to respond oneself and being patient as others take the time to formulate their thoughts.</p> <p>More students are able and willing to join in if time is provided for them to create something that they feel comfortable about sharing.</p> <p><b><u>Materials:</u></b> * Problem-Solving Notebook * Manipulatives</p>
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## Grade 2: The First 10 Days

### Launching Mathematics in the Common Core Classroom

<p><b>Day 10 Objectives:</b> To continue establishing small group rotation and independent work time expectations, review listening and speaking expectations, non-verbal signals (optional), continue with problem-solving, Mathematician's Turn, Number Talk.</p>		
<p><b>Day 10</b></p>	<p><b><u>Introduce a Partner Math Game or Small Group Activity:</u></b> As a whole group, revisit the "Math Game Expectations Chart" to review expectations. Introduce a new game and review the games rules. Model the new game/activity and have all the students play. Inform students that the new game will be added to the group rotation. Break the class into groups and have the students play today's games plus the previously taught games/activities. Have them play 5-10 minutes and then rotate to a different game/activity.</p> <p><b><u>Review Listening and Speaking Expectations</u></b> <i>(optional)</i></p> <p><b><u>Review Non-Verbal Signals:</u></b> <i>(optional)</i></p> <p><b><u>Problem-Solving:</u></b> Revisit the <u>Problem-Solving Chart</u> to review expectations for problem-solving. Tell the students: "Today we are going to introduce a tool to help us with problem-solving. It's called a <b>number line</b>. This is a tool that will be part of our toolbox so that we can use it to help us understand math. Show a number line on the document camera.</p> <p>Present and discuss today's math problem.</p> <ul style="list-style-type: none"> <li>• "All 20 students in Sandy's classroom went to the carnival. 8 of them are boys. How many girls are in the classroom?"</li> </ul> <p>Ask students: "How might we use the number line to help us solve this math problem?" Discuss strategies and then have the students solve the problem in their problem-solving notebook. (Have students share their solutions during "Mathematician's Turn.")</p>	<p>Now that the class has experienced different games/activities and rotations, they should be able to work independently while the teacher works with a small group.</p> <p>Now that the class has experienced problem solving daily, they should be able to do this daily. Make sure students have opportunities to use the tools presented, such as bar diagrams, ten frames, hundreds chart, and number lines.</p> <p><b><u>Materials:</u></b> * Problem-solving chart * Problem-solving notebook * Number Line-(enVision Math—Teaching Tools #15)</p>

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### Launching Mathematics in the Common Core Classroom

<b>Day 10</b>	<p><b>Mathematician's Turn:</b> (Model Talk Move #5 and use Non-Verbal Signals)</p> <ul style="list-style-type: none"> <li>• Have students share their responses to the problem about students (above).</li> <li>• Ask students how they solved the problem.</li> <li>• Encourage them to explain their thinking process and reasoning.</li> <li>• Allow students to practice Talk Moves #1, #2, #3 and #4.</li> </ul> <p><b>Number Talk:</b> (Model Talk Move #5 and use Non-Verbal Signals) Follow the same 6 steps as outlined in Day 2 (Number Talk).</p> <p>Present a Head Problem, an oral, multi-step problem that is not written on the board. (Remember to write it on a post-it to remember the steps.)</p> <ul style="list-style-type: none"> <li>• Head Problem: Start with the largest number on the clock; subtract the number of legs in an elephant; add the number of months in a year.</li> </ul> <p>Ask students to tell you each step along with the answer to the corresponding step. Once finished, you can repeat with a different head problem.</p>	<p>Now that the class has experienced discussing mathematics the last two weeks, they should be ready to do this whenever there is problem-solving.</p> <p>Now that the class has experienced a variety of Number Talks, they will be able to do them at a rate of 3-4 times a week.</p>
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#### CONGRATULATIONS!

You have worked hard to establish the following important routines and expectations with your students during the first ten days of school:

- Daily Problem-Solving
- Listening and Speaking Expectations
- Mathematician's Turn
- Talk Moves for Mathematical Discussions
- Non-Verbal Signals
- Number Talks
- Expectations for Partner Games, Small Groups & Rotations, and Independent Work Time

By establishing and continuing to build these routines, your classroom is now a place where the Standards for Mathematical Practice can grow and thrive!

#### References:

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