

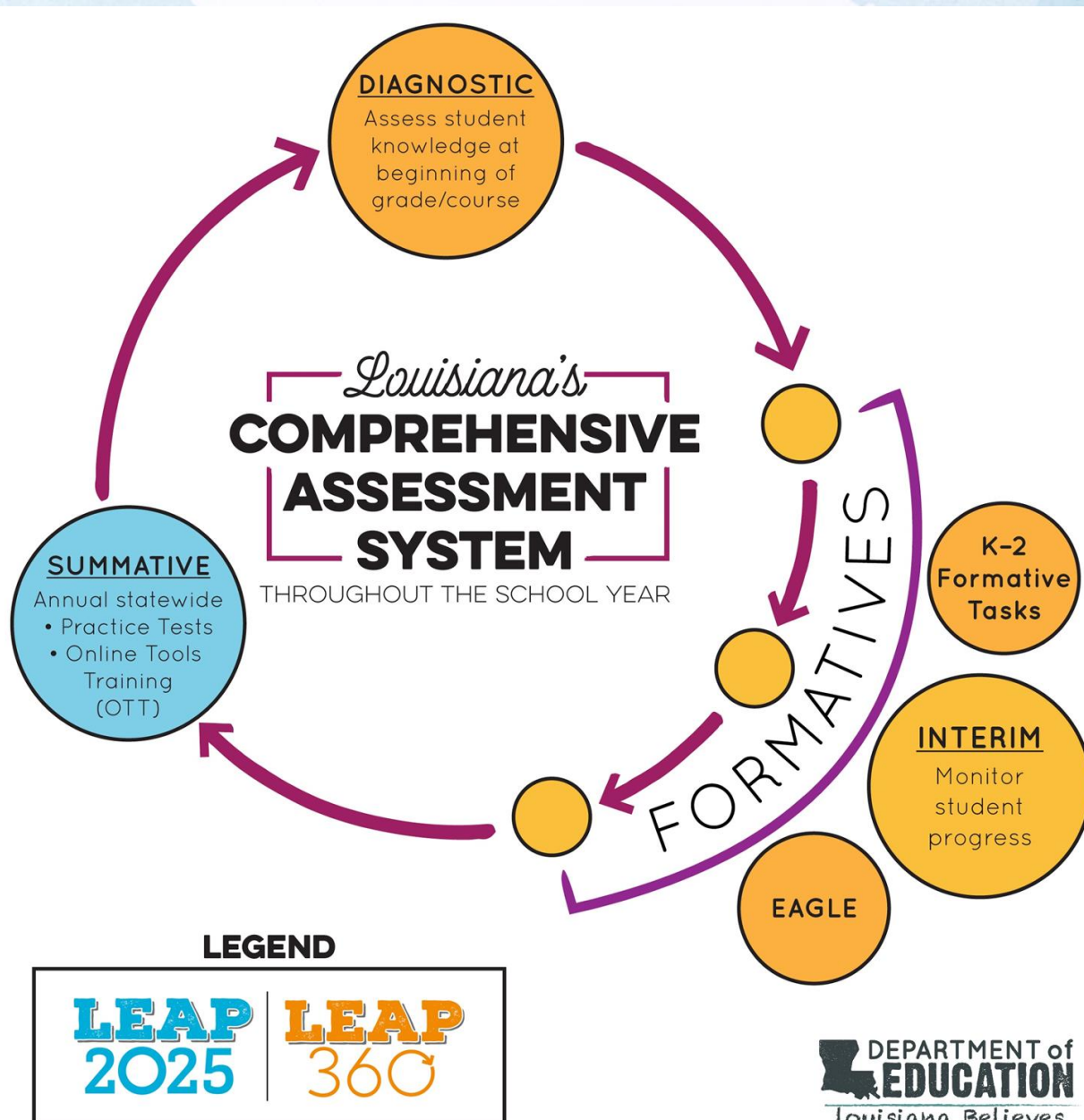
Louisiana Believes

Math K-2 Formative Tasks

Session Objectives

By the end of this session, participants will be able to:

- Describe the design or components of the K-2 Formative Math Tasks
- Analyze student responses to identify level of understanding
- Plan for implementation of the K-2 Formative Math Tasks
- Identify how and where to access the K-2 Formative Math Tasks



K-2 Formative Tasks: Overview

The K-2 formative tasks are a set of student-centered and engaging tasks, aligned to Louisiana's K-2 Student Standards, that:

- Focus on essential skills in ELA and mathematics;
- Offer teachers tools to observe and collect information about young students;
- Allow for performance-based opportunities for learning;
- Include checklists and rubrics to help teachers analyze student performance;
- Inform next steps of instruction for students.

K-2 Task: Benefits for Teachers

- A *Get Ready, Get Set, Go!* feature which includes:
 - research-based information regarding how students learn the mathematics involved in the task
 - common student misconceptions and errors
 - a step-by-step chart that describes the steps of the task and notes for teachers
- Observation checklists to record student progress in the learning trajectory
- Printable materials and templates

K-2 Formative Task Components

Section	What is the purpose?	What information is included?	How does it inform teacher actions? <i>(planning, teaching, communicating, reflecting)</i>	Notes
1- Overview				
2- Standards				
3- Get Ready...				
4- Get Set...				
5- Go...				
6- Observation Checklists				
7- Other Materials				
8- Sample Calendars & Pacing Suggestions				

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

Overview	
At a Glance	In this activity, students observe a situation in a picture, make comments about whatever they notice, and then pose mathematical questions about the situation. Then individuals answer the questions posed by the class.
Grade Level	Grade 1
Task Format	<ul style="list-style-type: none">• Small group or whole class and partner work• Three parts of increasing challenge to be used when students are ready for each part (i.e., they do not need to be done on consecutive days)
Materials Needed	<p><i>For each student</i></p> <ul style="list-style-type: none">• 1 pencil• a writing surface, such as a table or clipboard• 3 copies of the Problem Solving Template (provided)• counters, cubes, buttons, or base-10 blocks, if needed by students <p><i>For the teacher</i></p> <ul style="list-style-type: none">• Part 1: 1 large copy of Picture A: Strawberries and Cherries; counters, cubes, or buttons• Part 2: 1 large copy of Picture B: 9 cupcakes; 1 large copy of Picture C: 7 cupcakes; counters, cubes, or buttons• Part 3: story visible on a board or chart paper; counters, cubes, buttons, or base-10 blocks (1 ten and 10 ones)• Observation Checklist
Prerequisite Concepts/Skills	<ul style="list-style-type: none">• Counting to 100 by ones and by tens• Reading and writing numbers 0–20• Experience in representing addition and subtraction situations with objects, fingers, drawings, or acting out situations• Familiarity with combining collections to find totals $5 \leq n \leq 10$• Experience with composing and decomposing $n \leq 5$ into pairs

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

Grade 1 Task: Creating and Solving Word Problems

Content Standards Addressed in the Task:

1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

Extensions and Elaborations:

1.OA.A.2 Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects drawings, and equations with a symbol for the unknown number to represent the problem.

Standards for Mathematical Practice Embedded in This Task:

MP1 Make sense of problems and persevere in solving them.

MP4 Model with mathematics.

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

GET READY: Familiarize Yourself with the Mathematics

This task assesses students' understanding of *how* to solve various addition and subtraction situations involving totals ≤ 20 . The task is presented in three parts, broken into types of addition and subtraction situations (detailed below) of increasing difficulty.

Part 1: Students work with addition and subtraction situations in which all numbers are ≤ 10 . Part 1 focuses on problems in which the result is known, but one of the addends is not.

Part 2: In this part, students are working with Compare type problems in which the *difference* between two quantities is the focus.


Part 3: Students solve problems similar in type to Parts 1 and 2, but now with numbers ≤ 20 . Each part is its own task.

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

GO: Carry Out the Task

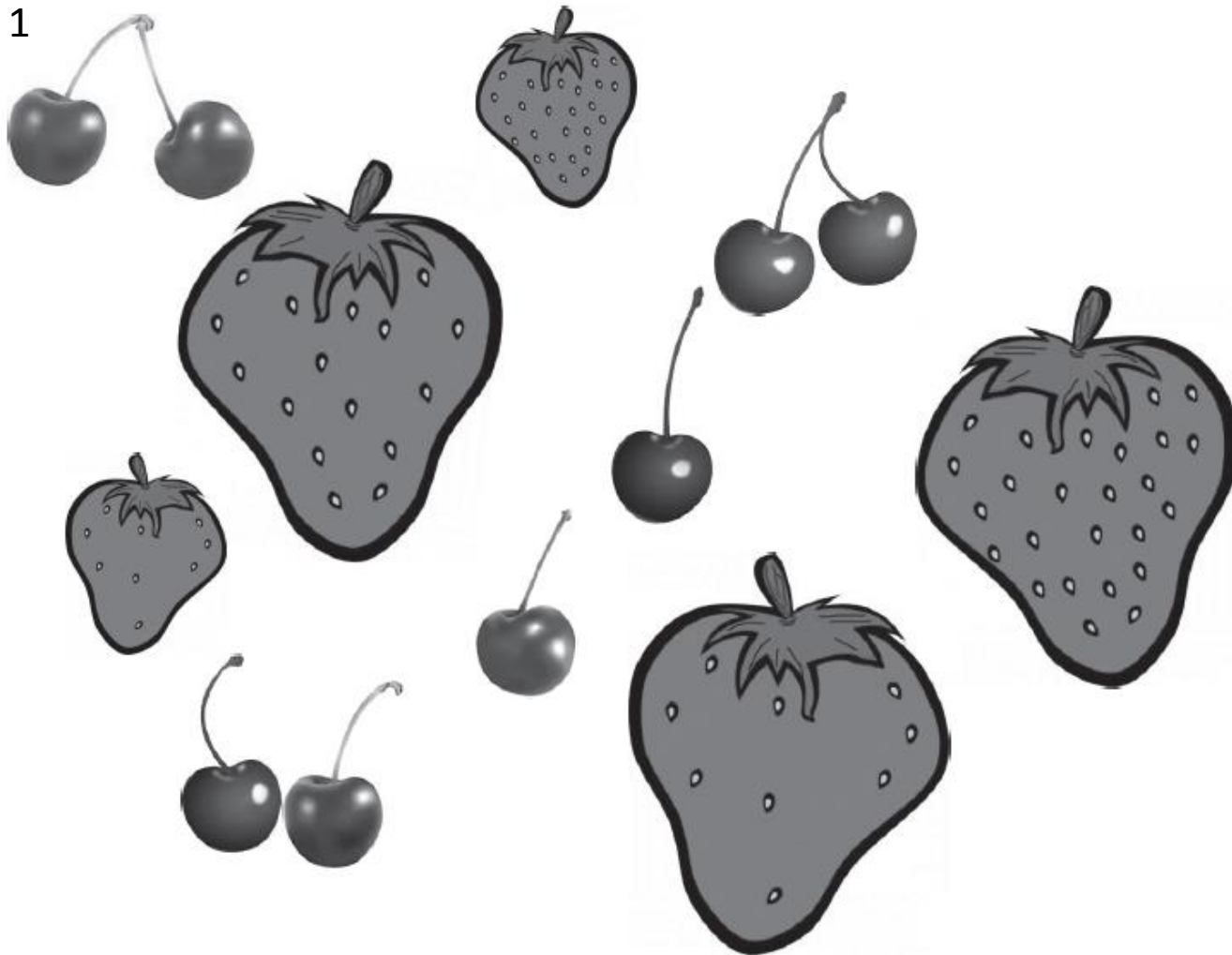
Part 1: Add To/Take From – Change/Start Unknown or Put Together/Take Apart—Addend Unknown word problems with totals ≤ 10

Task Steps	Keep in Mind	Observations of Students
<p>1. Show either a small group of students or your whole class Picture A. Ask students to describe what they see. Accept any descriptions that the students provide.</p>  <p>SAY to STUDENTS:</p> <p><i>Tell me what you see in this picture.</i></p> <p><i>Yes, and what else can you say?</i></p> <p>Try to elicit as many observations as the students are willing to provide. Maybe include one of your own.</p> <p>Avoid asking leading questions like "How many ____ do you see?" or "Are they all the same size?" Let students add those details spontaneously as they try to find more to say about the picture. Such added detail builds toward proficiency in <i>MP6: Attend to precision</i>.</p>	<ul style="list-style-type: none"> This task can give you insights into your students' thinking: <ul style="list-style-type: none"> What do students observe? Do students count, add, subtract? Do students spontaneously comment on size or quantities (e.g., large and small strawberries, pairs of 2 cherries, the number of fruits by category or total)? The design of the art is intentional: multiple sizes of strawberries with different numbers of seeds and sets of cherries. These variations create the possibility for a number of observations and numerical combinations. At this point in the task, if students attach calculations to their descriptions (e.g., saying "I see 3 small strawberries, 2 large strawberries and 8 cherries, so that's 13 pieces of fruit"), accept it, but don't push for it. The goal in this portion of the task is descriptions of the picture, attending to increasing detail; other sections will address students' ability to attach and perform calculations. 	<ol style="list-style-type: none"> Student gives a single qualitative description, like "fruit" or "strawberries," with no further detail, such as number or size. Student categorizes by only one attribute (fruit type or size) and does not include <i>number</i> as part of the description (e.g., student says "strawberries and cherries" or "large fruits and small fruits"). Student includes a single quantitative description, for example, counting all objects together or counting only one subset (by size or kind), but does not count more than one subset (e.g., student says "I see five strawberries," but does not mention or count the cherries). Student is able to categorize in several different ways (type of fruit, size, etc.) and names the quantities of at least some of these sets.

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

Part 1, Step 1



Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

Part 1, Step 1: Stating	Student Observations
<p>Show either a small group of students or your whole class Picture A.</p> <p>Ask students to describe what they see. Accept any descriptions that the students provide.</p>	<p>A. Student gives a single qualitative description, like "fruit" or "strawberries," with no further detail, such as number or size.</p> <p>B. Student categorizes by only one attribute (fruit type or size) and does not include <i>number</i> as part of the description (e.g., student says "strawberries and cherries" or "large fruits and small fruits").</p> <p>C. Student includes a single quantitative description, for example, counting all objects together or counting only one subset (by size or kind), but does not count more than one subset (e.g., student says "I see five strawberries," but does not mention or count the cherries).</p> <p>D. Student is able to categorize in several different ways (type of fruit, size, etc.) and names the quantities of at least some of these sets.</p>

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

Part 1, Step 2: Modeling	Student Observations
<p>Using <i>no objects of any kind</i>, pretend to put 3 strawberries in Student A's hand.</p> <p>SAY to ALL STUDENTS: <i>I have 7 invisible strawberries in my hand! I'm going to give _____ [student's name] 3 strawberries.</i></p> <p>Then move to Student B. Pretend to put a secret number of strawberries in his or her hand.</p> <p>SAY to ALL STUDENTS: <i>Now I'm going to give the rest of my strawberries to _____ [student's name].</i></p>	<p>E. Student benefits from using physical objects (e.g., counters or cubes) in place of "invisible objects."</p> <p>F. Student is able to visualize the number of "invisible objects" by telling the correct number, when prompted.</p> <div data-bbox="1025 856 1835 1192"><p><i>Review the information under "Keep In Mind" for Step 2 to answer the following:</i></p><ul style="list-style-type: none">- <i>Why does the modeling use invisible objects?</i>- <i>What does the "check" process help a student do?</i></div>

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

Groups 1 & 2: Steps 3 & 4 (pgs. 12-13)

- *Review the Task Steps, "Keep In Mind" and Student Observations to identify the information that most supports teachers as they plan to use this assessment.*

Groups 3 & 4: Steps 5 & 6 (pgs. 13-14)

- *Review the Task Steps, "Keep In Mind" and Student Observations to identify the information that most supports teachers as they plan to use this assessment.*

Let's Take a Look: Grade 1 Task

"Creating and Solving Word Problems"

All Participants:

Review Part 1, Steps 6-8. What is the connection to the identified standard?

1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

K-2 Formative Tasks: Additional Resources

Student Observation Checklists:

- Excel Files
- PDF Versions

Timelines for Use:

- [Eureka Pacing](#)
- [Sample Kindergarten Calendar](#)
- [Sample Grade 1 Calendar](#)
- [Sample Grade 2 Calendar](#)

K-2 Formative Tasks: Creative Uses

- Adapt the tasks for use with curricula currently implemented in classrooms (e.g., Tier 1).
- Use the tasks to provide extra support for students who need it instead of purchasing a commercial intervention/remediation program.
- Incorporate the tasks in after-school programs, math camps, or summer school programs.
- Organize a series of Family Math Nights using the tasks.
- Partner with other organizations to include tasks in community-based education events.

K-2 Math Formative Task Components

The task components for the Math Formative Performance Tasks in grades K-2 are:

- Overview:
 - At a Glance
 - Grade Level
 - Task Format
 - Materials Needed
 - Prerequisite Concepts/Skills
- Content Standards Addressed in This Task (Focus Standard(s), Extensions and Elaborations, Standards for Mathematical Practices)
- Get Ready: Familiarize Yourself with the Mathematics
- Get Set: Prepare to Introduce the Task
- Go: Carry Out the Task
- Task Resources:
 - Observation Checklists (PDF and Excel)
 - Teacher/Student Materials (for displaying and/or printing)

K-2 Formative Tasks: Kindergarten

KINDERGARTEN TASKS	STANDARD DOMAINS		
	Counting and Cardinality	Operations and Algebraic Thinking	Numbers and Operations in Base Ten
<i>Two Numbers</i>	★	★	
<i>Creating Teen Numbers</i>		★	★
<i>How Many Do I Have?</i>		★	
<i>Breaking Apart Numbers</i>	★		
<i>Counting Stories</i>	★		
<i>Pairs that Make 10</i>	★		

K-2 Formative Tasks: Grade 1

GRADE 1 TASKS	STANDARD DOMAINS		
	Operations and Algebraic Thinking	Numbers and Operations in Base Ten	Measurement and Data
<i>Creating and Solving Word Problems</i>	★		
<i>Smart Calculator</i>	★		
<i>Unknown Numbers</i>	★		
<i>Equality Game</i>	★		
<i>Comparing Two-Digit Numbers</i>		★	
<i>Making and Breaking Two Digit Numbers</i>		★	

K-2 Formative Tasks: Grade 2

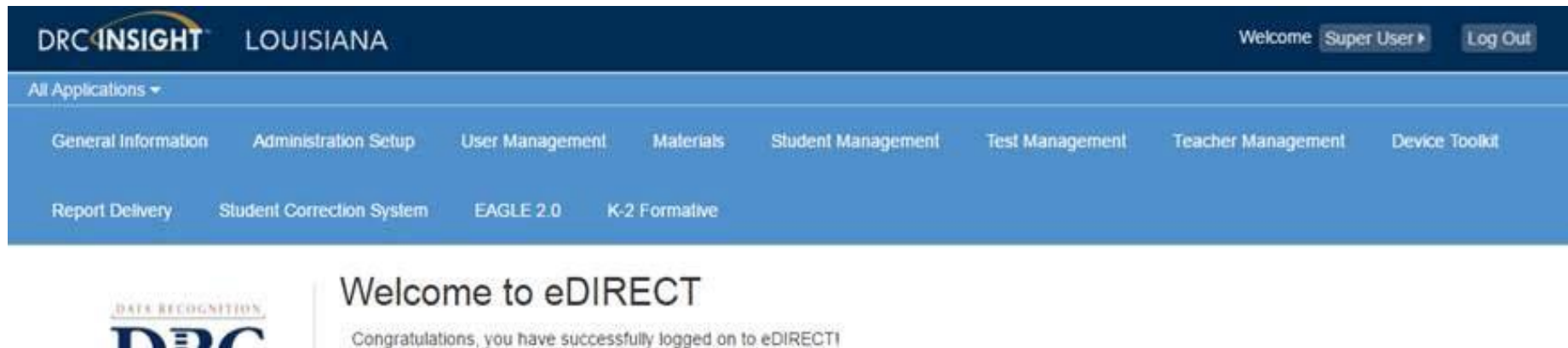
GRADE 2 TASKS	STANDARD DOMAINS		
	Operations and Algebraic Thinking	Numbers and Operations in Base Ten	Measurement and Data
<i>Adding and Subtracting within 100, 1000</i>		★	
<i>One Step Word Problems</i>	★	★	
<i>Math Scavenger Hunt</i>			★
<i>Math Libs Two Step Word Problems</i>	★		

K-2 Formative Tasks: Getting Started

The K-2 formative tasks are available to district and school users from eDIRECT, the administrative portal for statewide assessments.

District Test Coordinators should follow these steps to preview the tasks:

1. Use a web browser to navigate to the eDIRECT website at <https://la.drcedirect.com>.
2. Log in with their **Username** and **Password**.
3. Click on **All Applications**.
4. Select **K-2 Formative** from the top navigation menu.



K-2 Formative Tasks: Getting Started

How do district administrators access these resources?

District Test Coordinators will be required to grant permissions to **all other district and school users** by following these steps:

1. Select **User Management** from the top navigation menu.
2. Click on the **Edit User** tab, select the LEAP administration, and find all appropriate users using the search filters.
3. Click on the **Profiles** tab.
4. Select the users requiring the K-2 Formative permissions.
5. Click on **Copy to New Administration**. Select **K-2 Formative** and click **Submit**.
6. Keeping the users selected in the **Profiles** tab, click on **Assign Permissions**.
7. Select **“K-2 Formative Access”** from the Available Permissions. Move this to Assigned Permissions using the single right arrow, and click **Save**.

District administrators may email questions to assessment@la.gov or call the Assessment Hotline at 1-844-268-7320.

Wrap up!

- What are you most excited about with regard to the K-2 tasks?
- How can you use this information to teach others about the K-2 tasks?