Candidate Name: Abby Schlackman

Touro Course #: T00535129

<u>Context for Learning</u>

School: (Public DOE, Charter, Private): Merrimac Elementary School

Location: [e.g.: suburban/urban; <u>high needs/underserved,</u> *etc.):* Suburban, high needs/underserved

Grade Level: 2

Subject: Math

Number of Students: 21

Instructional Type: [General Ed, <u>Integrated Co-Teaching(ICT),</u> <u>Special Education Teacher Support Services(SETTS)]:</u>

 Integrated Co-Teaching (ICT)

Lesson Title*:* Using Models to Make Ten

Standards:

MA.NY-2.NBT.7a

Add and subtract within 1000, using concrete models or drawings, and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction. Relate the strategy to a written representation.

Big Idea: Students can visually represent values to solve math problems.

Key Ideas:

- Use models to represent equations.
- Use knowledge of place value and making tens to simplify solving.
- Represent solving strategies and solutions through writing.

MA.NY-2.NBT.7b

Understand that in adding or subtracting up to three-digit numbers, one adds or subtracts hundreds and hundreds, tens and tens, ones and ones, and sometimes it is necessary to compose or decompose tens or hundreds.

Big Idea: Students can use their knowledge of base ten numbers, putting together, and breaking apart to solve addition problems.

Key ideas:

- Effectively use a place value chart
- Recognize the need to break apart or group together

CCSS.ELA-LITERACY.W.2.2

Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.

Big Idea: Students can clearly and effectively express their process and ideas through writing.

Key Ideas:

- Demonstrate steps, process, and other important information through writing
- Use facts and other important information to explain
- Provide a conclusion or result

__Learning Objectives:__

Students will be able to draw concrete models to solve two-digit addition problems.

Students will be able to apply their knowledge of place value to solve.

__Learning Target:__

I can use concrete models to make a ten.

__Connections to prior learning, preassessment data usage and how you will measure progress toward the learning objective/target:__

In their last math unit, students learned how to represent data to solve problems. The knowledge of drawing and labeling will be needed to draw place value charts and represent values by drawing place value discs. Additionally, students learned about place value units, building ones, tens, and hundreds up to 1,000. Lastly, students have recently worked with converting three-digit numbers in standard, unit, expanded, and word form. From this, they learned the foundations of composing and decomposing numbers using place value.

The pre assessment was used to collect data on what knowledge of addition has been retained since 1st grade. The assessment used 1st grade concepts such as breaking apart, making ten, and one-step word problems.

__Resources and Materials:__

Smartboard

Eureka Math II: Level 2 Module 2 Topic B Lesson 8

- Video component

Slideshow

Whiteboards and markers

Eureka Math II Student Books

Pre-made Place Value Charts

Digital materials can be found [here](). The video components are through Eureka Math II's website.

Language Development:

Vocabulary: Place value, discs, composition, decomposition, exchange, discs, addition, sum.

This vocabulary has been introduced before and this lesson will help students apply the words to their work. Throughout the lesson, the language will be modeled in use and students will be prompted to use the vocabulary to explain their work as well.

Technology Integration:

I will use technology to support learning through the smartboard technology. Using a slide deck with a video component, students experience the "I do" and "we do" portions of the lesson through the smartboard. In addition, the majority of the class will do the "you do" portion with light support through the smartboard while small groups work at the back table(s). At the small groups, a whiteboard will be used to show up close step by step solving.

Essential and Guiding Questions:

Essential Question:

When do you make a new unit of ten?

Guiding Questions:

How do place value models help us add?

How can unit form help us make visuals?

Why is it important to set up your place value chart neatly?

Assessment(s):

Formative: Turn and talk, Checks for understanding, Problem sets, Exit ticket

Summative:

Unit Test (from the curriculum)

Methods of differentiation for Individuals/Small Groups:

Level 1:

Small group support for problem sets and exit ticket

Less problems to solve in the problem set and exit ticket

Number Charts

Pre-made Place Value Charts

Modified problem sets (individual)

Level 2:

Number Charts

Small group support if needed based on formative assessments

Theories of Teaching and Learning:

My instructional choices are supported by constructivist theory. Vygotsky theorizes that learners make meaning for words by applying the word in context with all its parts. (Van De Walle & Lovin, 2009) Students will build meaning for their vocabulary words by using them in the context of math problems, making meaning for each math vocabulary word and their relationships to each other. Students are also leaning hands on with concrete models to visually build skill and understanding. Additionally, cognitive load theory is supported in this lesson by limiting the mental work students need to complete the objective. (Medical College of Wisconsin, n.d.) Students have a primary focus of using concrete models to represent numbers to add. Students do not have to do extra addition solving strategies like the vertical algorithm. The skill of using drawings to add is in focus and is not distracted by other skillsets that are brand new.

References *(APA 7 format)*: ***Reference your two outside or course sources here:***

Medical College of Wisconsin. (n.d.). Cognitive Load Theory. Retrieved from https://www.mcw.edu/-/media/MCW/Education/Academic-Affairs/OEI/Faculty-Quick-Guides/Cognitive-Load-Theory.pdf

Van De Walle, J. A., & Lovin, L. H. (2009). Teaching student-centered mathematics: Grades K-3. ERIC. Retrieved from https://files.eric.ed.gov/fulltext/EJ854992.pdf

I Do/We Do *Teacher Actions*	*Student Actions*
### *FLUENCY* *Slides 2-16: unit form addition* "Who knows the answer to this problem? Raise your hand when you know." Show "3 ones + 2 ones = _____" "When I say go, read the equation with me. 1, 2, 3, go!" Reveal the answer. Ask students to then solve 3 tens + 2 tens using their knowledge of the previous problem. Continue the "3, 2, 1, go" choral routine. Reveal the answer. **Do as little or as many of these as you need until the majority of the class is participating. Skip any sets you do not need.*	Add in unit form. Choral reading. Choral reading.
Slides 17-32: number line next ten "Look at the number line. My number is 9. What is the next ten?" "How many more to make the next ten?" Reveal the answer. Read the number sentence chorally using "3, 2, 1, go". Do the same routine, but with 19.	Find the next ten and how many jumps we needed to make.

Do as little or as many of these as you need until the majority of the class is participating. Skip any sets you do not need.	Choral reading.
Slides 33-56 : standard form to unit form Represent numbers in the place value chart and say them in unit form. "When I say go, say the number in unit form. 3, 2, 1, go!" Reveal the visual and answer. Do the same routine, but with 14. *Do as little or as many of these as you need until the majority of the class is participating. Skip any sets you do not need.*	Choral reading.
LAUNCH *Slides 57-59* Explain how in the video we are about to watch, students are at an assembly. Classes are all wearing one color shirt each. Classes are all trying to sit together in the auditorium. Watch the video part 1. Ask students what they noticed. Note that the class in pink cannot sit together right now. TURN AND TALK: "What can the seated students do to fit the pink class so they can all sit together?" (1 min) Share out. Watch the video part 2. Explain how the other classes shifted to the empty seats throughout the auditorium to make room in the front. All rows starting from the back need to fill up in order for the pink class to sit together.	Closely watch the video. Talk with a desk mate about what they noticed in the video. Talk about solutions to the problem.

Ask students what they noticed about the groupings of full rows. Explain that the students made rows of 10. To do so, each class had to "borrow" rom another class to fill the seats.	Closely watch the second video. Explain what you noticed about the final row groupings.
Slides 60-82 Explain that we will be practicing more ways that we can group 10 ones as 1 ten. "Follow along with me. We all have 10 fingers. Hold them up. Let's count them one at a time." Wiggle each finger to represent one. "1, 2, 3, 4, 5, 6, 7, 8, 9…10" On 10, clap your hands together and clasp. "Now my 10 ones made 1 ten!" Show the example of the purple class with the place value chart. Show how two students had to move into their row, so we added two more discs. TURN AND TALK: What do you notice about the ones place?" Share out. Explain that we made 10. Now that we have 10 ones, we can exchange them for 1 ten. Bundle and move. Do the same with the orange class.	Follow along: Count to 10 using fingers Clap hands together to make 1 ten. Describe to your desk mate what you notice. Share out.

Show that the pink class can now sit together. "Now, let's use the place value chart to add the total number of students in the purple and orange classes." Model the first number. Add in the second number. "How can we make a ten?" Move the bundled 10 ones to make 1 ten. Read the number sentence. *Hand out one copy per student of the place value blank chart.* "Let's try one on your own. Let's add the total number of students in the pink and yellow classes." 26 + 17 Invite students to participate in the solving step by step.	Participate when prompted. Add 26 + 7 on the place value chart. Participate in solving.

You Do ***Teacher Actions (What teacher will do)***	
Direct students to lesson 8 in their workbooks. Instruct students to the carpet to follow along the light guidance for the problem set pages. Inform students that they will complete the exit ticket after the problem set. Solve along with the students for the first few problems or until you see they are comfortable to work independently.	Complete the problem set and use teacher guidance if needed.
Group 1	

Differentiation: Call the small group to the back table. Provide students with a packet of place value charts. Tell students that they can create their own charts in the book if they want, but they can use the pre-made charts if they need. Starting with the first problem, have students follow along with you working on the whiteboard. Model setting up the first problem. Ask guiding questions about next steps and how they know. Provide students extra visual strategies such as using two colors and scribbling out 10 ones once the exchange is done. Provide OT assistance as needed. Pace should be slowed and this group does not have to complete all of the problems.	

Group 2	

Differentiation: Students receive the same differentiation as group 1 in addition to: Modified numbers or simplified problems.	

Last Five ***Teacher Actions (What teacher will do)***	***Student Actions (What students will do)***
Ask students to complete the last few problems independently. Observe their independent work and ask clarifying questions to help guide their process. Answer questions from students as they arise.	Work independently on the carpet (unless in the small group). Ask questions if needed.

Closure *Teacher Actions (What teacher will do)*	*Student Actions (What students will do)*
Direct students who are done with the problem set to work on the exit ticket. Upon completion, students should come up and have their exit tickets checked. While checking, give quick feedback and praise completion and effort.	Independently complete the exit ticket. Have the teacher check the exit ticket.

Reflection on lesson planning:

This lesson has developed my ability to incorporate the structure of the curriculum's lesson heavily, incorporating a personal touch and specific student needs. This lesson structure incorporates fluency, modeling, guided practice, independent practice, and small group support for students who need it. The learning tasks support the objectives and standards. The lesson builds on prior learning and provides them with visual strategies for future math practices. In addition, the lesson incorporates a real-life scenario to help students build purpose in their practice. Lastly, this lesson provides multiple opportunities for formative assessment so I can tailor instruction to meet student needs.