EASTERN UNIVERSITY
COLLEGE OF EDUCATION - LESSON PLAN TEMPLATE

Name: Sidney Ryan	Content Area:Math	Grade Level: Third Grade
Duration of Time: 1:30-2:20 math MTSS 2:20-2:50	Subject/Lesson Topic: Lesson 2.2 Round Multi-Digit Numbers and Math MTSS	

Context for Lesson (please describe what students did in lessons before and after this lesson plan)
This third-grade class consists of 20 students, including English learners and students who receive IEP, 504, and GIEP services. In the previous lesson, students learned to represent four-digit numbers in standard, expanded, and word form. Students used thousands, hundreds, tens, and ones base-ten blocks to construct four-digit numbers and identify the value represented by each digit. In Lesson 2.2, students will build on their understanding of place value to round three-digit whole numbers to the nearest ten and nearest hundred. The lesson will follow the sequence presented in Reveal Math Grade 3, Volume 1, Lesson 2-2, pages 108–112. Students will use benchmark numbers, halfway points, number lines, place-value reasoning, and a number chart to determine which ten or hundred is nearest to a given number. This knowledge will prepare students to use rounded numbers to estimate sums and differences later in Unit 2. This will be taught by the mentor teacher Mrs. Geiling. Following the whole-class lesson, students will participate in the scheduled Math MTSS block. The four MTSS groups were formed using students' previous-year STAR assessment data and information from the recent Unit 1 fluency practice. Groups 1 and 2 require the most direct place-value support and will meet with the teacher during this MTSS session. The MTSS teacher lesson will reinforce the prerequisite skill of reading and representing numbers in standard, expanded, and word form.

Common Core and/or PA State Standards	Essential Question(s)
CCSS.MATH.CONTENT.3.NBT.A.1: Use place-value understanding to round whole numbers to the nearest 10 or 100. PA Core Standard CC.2.1.3.B.1: Apply place-value understanding and properties of operations to perform multi-digit arithmetic. Standards for Mathematical Practice: MP4: Model with mathematics. MP5: Use appropriate tools strategically.	How can place value, benchmark numbers, and number lines help us round a number to the nearest ten or nearest hundred?

Instructional Objectives:

Overarching Goals/Big Idea (1-2 goals)	Assessment(s)
Students will know that… Students will understand that rounding replaces an exact number with a nearby ten or hundred that is easier to use.	Students' understanding will be assessed through teacher questioning, partner explanations, number-chart exploration, independent practice, and the lesson closure.

Students will understand that the location of a number in relation to the halfway point determines whether the number rounds to the lesser or greater benchmark number.	
Content/Knowledge Goals (4-5 goals)	Assessment(s)
Students will know… Students will understand that a benchmark number is a multiple of ten or one hundred used to determine which number is nearest. Students will identify the two tens or hundreds between which a number lies. Students will understand that the halfway point is the number exactly between two benchmark numbers. Students will understand that numbers at the halfway point round to the greater ten or hundred. Students will correctly use the words round, nearest, halfway point, tens, and hundreds when discussing their mathematical reasoning.	What are the students completing to demonstrate their understanding of this vocabulary? The teacher will listen for correct vocabulary during partner and whole-class discussions and review students' number lines, responses, and explanations.
Skill Goals (1-2 goals)	Assessment(s)
Students will be able to (use Bloom's Taxonomy)… Students will round three-digit whole numbers to the nearest ten and nearest hundred. Students will explain how a number line or place-value reasoning can be used to round a number.	Students will complete guided and independent rounding problems and explain at least one answer using words, a number line, or place-value reasoning.
IEP or ELL Goals (Defer to your instructor's instructions for this section, not required for all courses)	Assessments
This section is at the discretion of the instructor in the context of the course Given a number line, number chart, manipulatives, visual vocabulary, and a sentence frame, students will identify the nearest ten or hundred and explain their reasoning in at least four out of five opportunities. Students may demonstrate their understanding orally, in writing, by drawing and labeling a number line, or by using a place-value model.	The teacher will use observation, student responses, completed models, and small-group notes to document student progress.

During MTSS, students in Groups 1 and 2 will read and represent numbers in standard, expanded, and word form using a writable place-value chart and physical place-value materials.	

Materials/Resources
• Reveal Math Grade 3, Volume 1, Lesson 2-2, pages 108–112 • Block-sphere Notice and Wonder image • Number Chart 401–500 • Counters • Index cards or number cards • Class and individual number lines • Math notebooks and pencils • Base-ten blocks or other physical place-value components • Writable place-value charts • Student devices and headphones • Assigned independent worksheet • Visual timer • MTSS station-direction cards • Two place-value games

Instructional Process

Student Activities - what do you do in this lesson? (you should have most if not all highlighted)				
Building Background:	• Links to Experience	• Links to Prior Learning	• Key Vocabulary	• Explicit Instruction
Scaffolding:	• Modeling	• Guided	Independent (IEP)	• Explicit Instruction
Grouping:	Whole Class	Small Group	Partners	Independent
Processes:	Reading	Writing	Listening	Speaking
Strategies:	• Hands-on	• Meaningful	• Linked to Objectives	
Assessment:	Individual	Group	Written	Oral

Instructional steps include the amount of time allocated for each step, add as many parts as you need - be aware of transition time
Lesson Hook: 1:30 to 1:42 The lesson begins with the textbook's "Find the Pattern, Make a Pattern" number routine. Students examine a number sequence, determine the missing numbers, and identify the pattern rule. The teacher asks: "How did you determine the missing numbers?" "How did you find the pattern rule?" "How is your new number sequence similar to the first sequence?" "How is it different?"

After approximately five minutes, the teacher transitions to the textbook's Notice and Wonder launch. The teacher displays the picture of the sphere made from blocks without revealing the exact number of blocks. Students silently study the image and think of one mathematical observation and one question. Students share their ideas with a partner before participating in the whole class discussion.
The teacher records students' responses and circles ideas related to number, quantity, counting, and estimation. The teacher asks:
"What do you notice?"
"What do you wonder?"
"What math do you see in this image?"
"Could we determine exactly how many blocks are in the sphere just by looking at the picture?"
"What can we do when we cannot determine an exact amount?"
"If an exact number is not needed, could there be more than one reasonable answer? Explain."
The teacher connects students' responses to the lesson by explaining that people sometimes replace an exact number with a nearby number that is easier to use. The teacher asks, "When might it be helpful to use a number that is close to the exact number?"
The teacher then introduces the learning targets:
"I can round numbers to the nearest 10 and 100."
"I can explain how to round numbers to the nearest 10 and 100."
Source: McGraw Hill, Reveal Math Grade 3, Volume 1, Lesson 2.2, pages 108 to 109.

Main Activity: 1:42 to 2:15

I DO: MODEL ROUNDING 127
1:42 to 1:52

The teacher reveals that the sphere contains exactly 127 blocks and asks, "About how many blocks are there?"
The teacher explains that rounding can be used to describe approximately how many blocks are in the sphere. When rounding, students determine which ten or hundred is closest to the original number.
The teacher first models rounding 127 to the nearest ten using a number line. The teacher writes 120 at one end and 130 at the other end. Students identify 125 as the halfway point. The teacher places 127 on the number line and asks:
"Which two tens is 127 between?"
"What number is halfway between 120 and 130?"
"Is 127 to the left or right of the halfway point?"
"Is 127 closer to 120 or 130?"
The teacher explains that 127 is to the right of the halfway point and closer to 130. Therefore, 127 rounds to 130 when rounding to the nearest ten.
The teacher then models rounding 127 to the nearest hundred. The teacher writes 100 and 200 as the benchmark hundreds and identifies 150 as the halfway point. The teacher places 127 on the number line and asks:
"Which two hundreds is 127 between?"
"What number is halfway between 100 and 200?"
"Is 127 before or after the halfway point?"
"Is 127 closer to 100 or 200?"
The teacher explains that 127 is before the halfway point and closer to 100. Therefore, 127 rounds to 100 when rounding to the nearest hundred.
Next, the teacher connects the number line to place value.

To round 127 to the nearest ten, the teacher identifies the tens place and looks at the digit directly to its right. The digit in the ones place is 7. Since 7 is 5 or greater, 127 rounds to the greater ten, 130.
To round 127 to the nearest hundred, the teacher identifies the hundreds place and looks at the digit directly to its right. The digit in the tens place is 2. Since 2 is less than 5, 127 rounds to the lesser hundred, 100.
The teacher emphasizes that the same number can have different rounded answers depending on whether it is rounded to the nearest ten or nearest hundred.
The teacher asks, "Why is a number line a helpful tool for rounding?"

WE DO: COMPARE AND PRACTICE ROUNDING STRATEGIES

1:52 to 2:05

The teacher presents the textbook's Work Together problem:
"Ellie rounds 255 to 260. Carter rounds 255 to 300. Why are their rounded numbers different?"
Students discuss the problem with a partner before sharing their reasoning with the class.
The teacher guides students to determine that Ellie rounded 255 to the nearest ten. The number 255 is halfway between 250 and 260, so it rounds to the greater ten, 260.
Carter rounded 255 to the nearest hundred. The number 255 is between 200 and 300 and is greater than the halfway point of 250. Therefore, it rounds to 300.
The teacher asks:
"What place did Ellie round to?"
"What place did Carter round to?"
"Why is it important to identify the place before we begin rounding?"
"What happens when a number is exactly at the halfway point?"
Students then work with a partner using the Number Chart 401 to 500 and a counter. Students remain seated at their existing groups of four desks and work with an assigned partner.
One partner gently drops or places a counter on the number chart. The other partner selects one number touched by the counter. Together, the partners read the number aloud and identify the two tens between which the number lies.
Students determine the halfway point, decide which ten is nearest, and record the original number and rounded number. Students must explain how they know which benchmark is closer. Partners then switch roles and repeat the process with a new number.
The teacher circulates and asks:
"Which two tens is your number between?"
"What is the halfway point?"
"Is your number before, after, or exactly on the halfway point?"
"Which ten is nearest?"
"How could you prove your answer with a number line?"
"What rule would you give a friend for rounding to the nearest ten?"
The teacher selects one or two of the partners' numbers and guides the whole class in rounding those numbers to the nearest hundred. Students compare the number chart, number line, and place value strategies.
The teacher reinforces that numbers with 5 in the ones place round to the greater ten and numbers with 5 in the tens place round to the greater hundred.

YOU DO: INDEPENDENT PRACTICE

2:05 to 2:15

Students complete the assigned Lesson 2.2 practice problems involving rounding to the nearest ten and nearest hundred. Students work independently and show their mathematical thinking when directed.
Before students begin, the teacher reviews the following steps:
First, identify the place to which the number must be rounded.

Next, identify the two benchmark tens or hundreds surrounding the number.
Then, determine the halfway point.
Finally, decide which benchmark is nearest and record the rounded number.
Students may use an individual number line, the Number Chart 401 to 500, a place value chart, or base ten blocks when needed.
The teacher circulates and checks that students are rounding to the correct place. When a student needs support, the teacher asks:
"What place are you rounding to?"
"Which two benchmark numbers surround your number?"
"What is the halfway point?"
"Which benchmark is closer?"
"How could you use a number line to check your answer?"
Students who finish early identify all the whole numbers that would round to a teacher selected ten or hundred and explain how they determined the range.
Source: McGraw Hill, Reveal Math Grade 3, Volume 1, Lesson 2.2, pages 110 to 112.

Lesson Closure:
2:15 to 2:20
The teacher brings the class back together and returns to the essential question:
"How can place value, benchmark numbers, and number lines help us round a number to the nearest ten or nearest hundred?"
Students turn to a partner and explain one strategy they can use when rounding. The teacher invites several students to share their explanations with the class.
The teacher asks:
"What should you identify before you begin rounding?"
"What is the purpose of the halfway point?"
"What happens when a number is exactly halfway between two tens or two hundreds?"
"Why might the same number have two different rounded answers?"
The teacher reinforces the textbook's key takeaway:
"Rounding a number to the nearest ten or hundred makes the number easier to work with when an exact number is not needed."
The teacher gives one final oral example and asks students to determine whether the number rounds to the lesser or greater benchmark. Students show their response using the agreed classroom hand signal and explain how the halfway point helped them decide.
Students then complete a confidence check:
Thumbs up means, "I can round to the nearest ten and hundred and explain my thinking."
Thumb to the middle means, "I understand part of the lesson, but I need more practice."
Thumbs down means, "I need the teacher to explain this again."
The teacher scans and records the responses to determine which students need additional modeling or guided practice during future instruction.

Source: McGraw Hill, Reveal Math Grade 3, Volume 1, Lesson 2.2, pages 110 to 112.

Universal Design for Learning <= click on this link. Please include a minimum of one way to apply UDL pedagogy to your lesson for each of the three criteria listed below. Considerations must be specific to your lesson.

Engagement:
Students engage with rounding through the block sphere Notice and Wonder image, opportunities to make estimates, partner discussions, hands on work with the Number Chart 401 to 500, and connections to situations in which an approximate number is more useful than an exact number. Students have opportunities to make predictions, compare strategies, explain their thinking, and receive immediate teacher feedback. During independent practice, students may select an appropriate support tool, such as a number line, number chart, place value chart, or base ten blocks. Clear learning targets, partner roles, and visible time expectations support student focus and participation.

Representation:
Students engage with rounding through the block sphere Notice and Wonder image, opportunities to make estimates, partner discussions, hands on work with the Number Chart 401 to 500, and connections to situations in which an approximate number is more useful than an exact number. Students have opportunities to make predictions, compare strategies, explain their thinking, and receive immediate teacher feedback. During independent practice, students may select an appropriate support tool, such as a number line, number chart, place value chart, or base ten blocks. Clear learning targets, partner roles, and visible time expectations support student focus and participation.

Action and Expression:
Students demonstrate their understanding of rounding in multiple ways. They may identify benchmark numbers, place or point to a number on a number line, use a counter on the Number Chart 401 to 500, write a rounded number, draw and label a number line, use place value reasoning, or explain an answer orally to a partner or the class. Students may use the sentence frame, "_____ is between _____ and _____. The halfway point is _____. It rounds to _____ because _____." During independent practice, students select an appropriate tool and show how they determined the nearest ten or hundred. During MTSS, students demonstrate place value understanding by saying, building, charting, and writing numbers in standard, expanded, and word form. The teacher monitors each response format using the same mathematical criteria and provides immediate feedback, additional modeling, or a more challenging problem based on student performance.

Sources: CAST Universal Design for Learning Guidelines 3.0; McGraw Hill, Reveal Math Grade 3, Volume 1, Lesson 2.2, pages 108 to 112.

Differentiation Strategies:

ELL: The teacher will explicitly teach the meanings of close, nearest, halfway point, round, tens, and hundreds using visuals, gestures, number lines, and familiar classroom objects. Following the textbook language scaffold, the teacher may place several objects nearby and explain, "These objects are close to me, but this object is the nearest because it is the closest one." Students may rehearse their explanations with a partner before sharing with the class. The sentence frame, "_____ is between _____ and _____. The halfway point is _____. It rounds to _____ because _____," will remain visible during guided and independent practice. Directions will be stated in short steps and repeated or rephrased when necessary

LCLP (low content, low process):
Students requiring additional academic support will receive explicit modeling, reduced problem quantities, increased processing time, frequent checks for understanding, and immediate corrective feedback. Students may begin with two digit numbers before moving to three digit numbers. Number lines may already show the lesser benchmark, greater benchmark, and halfway point. Students may use the Number Chart 401 to 500, place value charts, counters, base ten blocks, or physical place value components. During MTSS, Groups 1 and 2 will receive direct teacher instruction using a say it, build it, chart it, and write it sequence. The teacher will adjust the number of examples and level of prompting according to student performance.

HCHP (high content, high process): Students who demonstrate early mastery, including students receiving GIEP services, will complete extension questions that require deeper mathematical reasoning. Students may identify every whole number that rounds to a selected ten or hundred, compare the result of rounding the same number to two different places, analyze and correct an inaccurate solution, or create a real world situation in which an estimate is more useful than an exact number. Students will be expected to justify their answers, compare strategies, and explain why a solution is reasonable rather than only provide a final answer.

IEP/504 Accommodations (EDUC 201/501/402/406/407/408 only): We have 3 GIEP, 1 IEP and 1 504.

Students with IEPs or 504 plans will receive the accommodations and specially designed instruction identified in their individual plans. Supports may include repeated or rephrased directions, visual directions, additional processing time, increased wait time, reduced problem quantities, enlarged number lines, preferential seating, frequent comprehension checks, access to manipulatives, movement opportunities, and oral response options. The teacher will privately check that each student understands the directions before independent work and MTSS stations begin. Students may demonstrate understanding by speaking, writing, drawing, pointing to a benchmark, or using a physical model while working toward the same rounding objectives as the class.

Sources: McGraw Hill, Reveal Math Grade 3, Volume 1, Lesson 2.2, pages 108 to 112; individual student IEP and 504 accommodations.

Management Plan:

Classroom arrangement

How do you set up your class for this specific lesson?

The classroom desks are already arranged in groups of four, so students will remain at their assigned desks during the whole class lesson, partner discussions, number chart activity, and independent practice. The teacher will explain and model each activity before distributing materials. When the chime sounds, students will place materials down, face the teacher, and become silent. The teacher will wait for complete silence before giving directions. Students will raise quiet hands, use respectful mathematical language, and treat mistakes as opportunities for learning. During independent work, the teacher will circulate, provide specific feedback, redirect students privately when needed, and record student understanding.

During MTSS, students will follow the posted rotation chart for Meet with the Teacher, XtraMath, At Your Desk, and Hands On Games. Expectations for devices, worksheets, Trap It, and Tic Tac Toe will be modeled before rotations begin. A visual timer and five to one countdown will support transitions. Students will move directly to their assigned station, prepare materials, show a calm body, turn voices off, and begin when directed. Groups 1 and 2 will meet with the teacher while the remaining students work independently using established station and help procedures.

Possible Problems with solutions - must be specific to your lesson plan

What do you do if you run out of time? Be specific here - If the whole class lesson runs short on time, the teacher will complete one number chart example instead of multiple examples and reduce independent practice to two representative problems. The closure and confidence check will remain because they provide important assessment information.

What do you do if your lesson ends early? If the lesson ends early, students will analyze an incorrect example, such as, “A student says 315 rounds to 310. Do you agree?” Students may also identify all the whole numbers that round to a selected ten or hundred.

What do you do if your resources fail? What exactly would you use instead? If the Reveal Math slides or projector do not work, the teacher will display the textbook under the document camera or draw the examples and number lines on the board. If number charts, counters, or manipulatives are unavailable, students will create open number lines in their math notebooks and use pencils or small classroom objects as counters. If XtraMath or student devices are unavailable during MTSS, students will complete a prepared rounding or place value worksheet. If pieces or directions for Trap It or Tic Tac Toe are missing, students will use number cards and dry erase boards to practice matching standard, expanded, and word forms.

What behavioral challenges and solutions do you anticipate? Students may confuse rounding to the nearest ten with rounding to the nearest hundred. The teacher will have students identify and underline the requested place before naming the two surrounding benchmark numbers.

- Students may believe that a number with 5 in the place to the right should round down. The teacher will return to the number line, identify the halfway point, and demonstrate that a number exactly halfway between two benchmarks rounds to the greater benchmark.
- Students may memorize a rounding rule without understanding why it works. The teacher will require students to identify the lesser benchmark, greater benchmark, and halfway point before applying place value reasoning.
- If a student calls out or the class continues talking after the chime, the teacher will wait until the class is completely silent before giving directions. The teacher will reinforce quiet hand raising and provide frequent whole class response opportunities.

VI. Reflect and Revise: (Defer to your instructor for specific guidance on the reflection)