Annotated Unit Plan Template
Understanding By Design Model
(Revised: October 2020)

Title of Unit	Whole Numbers	Grade Level	2
Subject	Mathematics	Time Frame	December start date; could be 2 weeks
Developed By	Paige Doud		

Stage 1 - Identify Desired Results

Saskatchewan Curricular Learning Outcome(s)
What relevant goal(s) will this unit address?

Outcome N2.1: Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by:
- Representing (including place value)
- Describing
- Skip counting
- Differentiating between odd and even numbers
- Estimating with referents
- Comparing two numbers
- Ordering three or more numbers

Indicators:
- d) represent quantities to 100 using proportional materials (e.g., tallies, ten frames, and base ten blocks) and explain how the representation relates to the numeral used to represent the quantity
- f) Identify whole numbers to 100 stated as a numeral or word form in everyday situations and read the number out loud (e.g., 24 on the classroom door would be read as twenty-four, and read out loud "seventy-three" when found in a piece of writing being read in class).
- i) Analyze a sequence of numbers in order to describe the sequence in terms of a skip counting strategy (by 2's, 5's, or 10's as awell as forward and backward) and extend the sequence using the pattern

Essential Questions
What provocative questions (one or two) will foster inquiry into the content?

When should you skip count?

What ways can I represent different numbers?

How can I be aware that numbers are everywhere?

Knowledge: What math knowledge will student acquire as a result of this unit? (think of nouns – chunks of knowledge)	Skills What math skills will students acquire as a result of this unit? (think of verbs – what will you be able to observe students doing)
Students will know... - that using manipulatives is a way of representing numbers - skip counting is an effective way to quickly find a number - numbers are all around us - numbers can be written in words or numerically	*Students will be able to...* - use manipulatives to create numbers - skip count - identify numbers in daily life - write numbers they find - say the numbers out loud they find - say numbers out loud when skip counting

Stage 2 – Assessment Evidence (excerpt)

Mathematical Misconceptions (or errors) [use resource posted on UR Courses]
What kind of mathematical misconceptions might students display during this unit? What can you, as teacher, do to specifically address these?

A mathematical misconception students may make is during the first lesson activity which is using base ten blocks to create numbers. Students may forget or find it difficult to remember that a single cube is 1 and a rod is 10. As the teacher, I can go over this and do a few examples before the activity to get students to understand and ask any questions they may have.

Another mathematical misconception students may have is in regards to the second lesson activity which is searching for numbers. This is why there will be examples before they search of what kind of things to look for and make sure they can accurately identify single and double-digit numbers

Another mathematical misconception the students may have is how to skip count. That is why before the lesson there will be examples and the whole class will skip count out loud together. Also, the teacher can rotate between groups to answer any questions that any of the groups may or may not have.

Evidence

Through what evidence – student work samples, observations, quizzes, tests, self-assessment or other means – will students demonstrate achievement of the desired results of this unit?	

The evidence of student achievement for this unit will take place in three main forms of assessment:
- pictures of the ways the students use the base ten blocks to create single and double-digit numbers. The photos will be used to check the students understanding of both place value and how numbers can be represented.
- Math journal. The students will be required to write or draw or any other form of representing they can think of in their math journal to show that they can identify numbers and they know where they were found so the teacher knows the completed the activity
- Exit slip. The students will write down if they enjoyed the skip counting hopscotch, what they did (said numbers out loud while skip counting), and an example of skip counting using five numbers. This will be used to check for understanding of skip counting
- Observation. The teacher will walk around the room and listen to conversations the students have, listen to them saying their numbers out loud, and answer any questions the students may have.

Stage 3 - Learning Plan (Stage 3)

Where are your students headed? Where have they been? How will you make sure the students know where they are going?	The students are working towards learning to identify numbers, represent them using manipulatives, and skip counting. They have been working on smaller numbers and representing them so this unit is taking it another step further. Various forms of assessment will be used to engage the students and gauge their progress as well as several examples for the students to follow.
How will you hook students at the beginning of the unit and engage their interest?	To hook the student's, we will do a variety of examples together as a whole group and discuss different ways they can solve everything they need to solve. Games will also be included throughout the unit
What events will help students experience and explore the big ideas and essential questions in the unit? How will you equip them with needed skills and knowledge?	Games will also be included throughout the unit so they are still learning but having fun and are not sitting the whole time. To give the students the needed skills and knowledge, there will be multiple examples done as a whole group and they will have engaging activities to do as well.
How will you cause students to reflect and rethink? How will you guide them in rehearsing, revising, and refining their work?	The math journals and exit slip will allow the students to have an opportunity to think about the lesson they have done and reflect on what they did. This is a self-reflection and self-evaluation piece the students will be taking part of.
How will you help students to exhibit and self-evaluate their growing skills, knowledge, and understanding throughout the unit?	Same as above, their math journals and the exit slip will aid them in this. Since each of these are to do with different lessons, it will allow the students to have check their understanding multiple times
How will you tailor and otherwise personalize the learning plan to optimize the engagement and effectiveness of ALL students, without compromising the goals of the unit?	There will be different difficulty levels for each student. The sheets for students to practice with base ten blocks can be personalized for students who need a challenge or adapted for students who are a bit behind. The same goes for every other activity, there are multiple difficulty levels for each student and every student will find an area that they excel at in regards to these.
How will you organize and sequence the learning activities to optimize the engagement and achievement of ALL students?	These activities and lessons all flow in an order that makes sense for student growth and understanding. They are building their way up to skip counting, not starting with skip counting. This will benefit all students as there are varying difficulty levels within each plan and therefore they will be achieving things at their own pace and difficulty level.

How will we get there?
Instructional Plan – activities:

Consider using:
Mini-lessons
Multiple Intelligences
Models
Manipulatives
Rich problems
Math journals
Games
Stations
Literature
Integration with other subject areas
Projects
Homework

Resources:
Teacher's guide
Textbook
Technology
Equipment
Books

Strategies:
T-chart
Think/Pair/Share
KWL
Drama
Connections

Activities/Lesson 1
Source of activity: Thought of this on my own; could find template online or create own
Objective(s) The objectives for this lesson fall into outcome N2.1 and indicator d.
Hook: go over different numbers with the children. Do a count up to 20. Have a couple examples of using base ten blocks to represent numbers (do two single digit numbers and 2 double digit numbers).
Brief description of activity: Each student will be provided with the base ten blocks they need and a sheet. The sheet will have 6 different squares and in the squares, will be a different number (3 single digit and 3 double digit). The students will be required to use their base 10 blocks to represent these numbers.
Assessment: Take a picture of each student's sheet once they are finished representing their numbers to use to assess

Activities/Lesson 2
Source of activity: Thought of this on my own; using math journaling
Objective(s): The objectives for this lesson fall into outcome N2.1 and indicator f
Hook: hold up various flashcards with numbers on them and get students to identify them. Tell students that there are different numbers everywhere in the classroom and they have to go on a scavenger hunt to find them. (the numbers will be both on objects and printed flashcards hidden) show students an example of a flashcard to look for and an example of an object, could be a number on a pencil
Brief description of activity: students will go around the classroom to find different numbers. They will have a sheet that they will write their numbers on that they find. Following this activity, the students will do an entry in their math journal and write the numbers they saw, where they were or what the object was that had the number on it (they can be creative with this or just simply write the numbers).
Assessment: Math journal will be used for assessment as well as observing the children as they find numbers

Activities/Lesson 3
Source of activity: I got the idea for this lesson plan on https://www.education.com/lesson-plan/count-on-it/ but have adapted it to my own ideas to suit the outcomes and grade level.
Objective(s): The objectives for this lesson fall into outcome N2.1 and indicator i.
Hook: Ask students if they remember how to count to 10, then 20, then 30. Ask students if they have ever played hopscotch. Tell students they will be working in small groups to play some games of hopscotch. Before going outside tell students what skip counting is and do an example.
Brief description of activity: Once outside, there will be three different hopscotch set ups. The students will be in three different groups and will be doing hop scotch while skip counting numbers. Each hopscotch will be a pattern of three different ways to skip count. The first is skip count by 2's, second by 5's, and third by 10's.

The students will rotate these three stations and practice their skip counting by saying the numbers out loud as they play hopscotch.

Assessment: Have students fill out an exit slip that is about what they did today, if they enjoyed it, and a short example of skip counting. Ex: skip count 5 numbers, 2, 4, 6, 8, 10.

From: Wiggins, Grant and J. Mc Tighe. (1998). _Understanding by Design_, Association for Supervision and Curriculum Development
   ISBN # 0-87120-313-8 (ppk)

Full Lesson Plan
(this includes the activity that you will present to peers in class)

LESSON DESIGN Planning Template (V2):
*Based on the Ideas of Madeline Hunter and Barrie Bennett's _Beyond Monet_*

Title of Lesson: Whole Numbers	Subject & Grade: 2
Topic: Working with Whole Numbers	Designer(s): Paige Doud
Original Source(s) of activities: https://www.education.com/lesson-plan/teach-about-odd-and-even-numbers/#:~:text=Tell%20students%20that%20even%20numbers%20can%20be%20divided,number%20because%20each%20person%20could%20have%20five%20apples.	

Outcome (and appropriate indicators) from Saskatchewan Curriculum	N2.1: Demonstrate understanding of whole numbers to 100 (concretely, pictorially, physically, orally, in writing, and symbolically) by: • representing (including place value) • describing • skip counting • differentiating between odd and even numbers • estimating with referents • comparing two numbers • ordering three or more numbers. Indicators:

	n) Analyze a number relevant to one's self, family, or community to determine if it is odd or even and verify the conclusion by using concrete, pictorial, or physical representations.

Why these activities? (How are they appropriate? How are they effective?)

I chose these activities because I think it is a good way to get students thinking about odd and even numbers. They have a chance to do examples with a teacher, some brainstorming with a partner, and individual work that also includes cutting and gluing to get the students engaged. I think this will be effective because they are not doing the same thing for 30 minutes, there is some change up and they also get to discuss with their peers.

Assessment: How will you know what students have learned?
What evidence of misconceptions will you need to look out for?

Throughout the lesson the teacher will ask questions and take examples from students to gain an understanding of where their understanding is at. The students will also be handing in their odd and even t-chart to be assessed for understanding. Things to look out for will be if students are struggling to determine if double digit numbers are odd or even. Also, if the students have mixed up the definitions of each word.

Required Resources & Materials for lesson activities

Large printed apples to stick on white board (10)
Two images of people to stick on white board
T-chart with the labels odd and even
Sheet with numbers for students to cut out and glue
Pencils
Glue
scissors

Activity Plan: you can insert your own sections to this but must start with "Mental Set (Hook)" and end with "Closure)			
Stage	**Timing**	**Teacher Activity**	**Student Activity**
Mental Set (Hook)	5 minutes	Ask students if they know what odd or even numbers are. Put brainstormed answers on the board	Students will be brainstorming what they think odd numbers are and what even numbers are. They will be encouraged to talk to their peers about their ideas.
Activity 1	10 minutes	On the board have 10 printed apple pictures to stick to the board. Have two pictures of people printed out and say we need to sort the apples. Give each person 5 and explain that 10 is an even number because each person gets the same amount, 5 apples. Then do an example with odd. If it is 7 apples, one person will get 4 and the other person will get 3.	Students will help count the apples out loud as the teacher does the example. Students will answer questions as the teacher asks them Students will also be encouraged to help the teacher think of what to do
	5 minutes	Give students 1 minute to brainstorm with 2 odd numbers. Do it again with even numbers. Put the examples on the board and explain why the students are correct or incorrect	The students will be brainstorming 2 even and 2 odd numbers with a partner (the person sitting beside them) They will then share one of their answers and it will be put onto the board
	10 minutes	Hand out t-chart template with the top	Students will put their name on their sheets and will cut out the numbers and glue them into the table as odd or even

		labelled odd on one side and even on the other. Give students a sheet with different numbers, they will cut the numbers out and then glue them onto the odd or even side depending what they are Answer questions as needed	They can ask questions when stuck and also refer to the board of examples for further guidance This will be handed in to the teacher to check for the students understanding of odd and even numbers
Closure	3 minutes	Briefly ask students what they learned today Ask students if 3 is odd or even Ask students if 8 is odd or even Have students hand in work	Students will answer the teacher prompted questions They will then hand in their work for assessment

Extensions	How might the activities be extended for students who are ready for more of a challenge? There could be higher numbers in the third activity for students who are ready for a challenge The students who need more of a challenge could be encouraged to help their peers when they need it
Adaptations	How might the activities be adapted for students who need more support? The teacher could state in the lesson that skip counting (which was taught previously in the unit) can help with odd and even numbers. Starting at 2 (which is even) and skip counting will give you all even numbers. Same goes for odd. The numbers for the students to cut and glue could be cut ahead of time for students with fine motor issues More examples and explanations