Teacher: Caitlyn Blankenship
Special Education Teacher: April Thomas-Robinson

Date: 2/25/21

Subject area/course/grade level: Math/Second Grade

Materials: I-Pad, Envision Workmat 4-3, Number Pieces App, Paper, Pencil, Place Value Blocks, Document Camera

Standards (State and ISTE Standards for Students):
NBT.5- Fluently add and subtract within 100 using strategies based on place value, properties of operation, and/or the relationship of addition and subtraction.
OA.3-Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends
ISTE 1.c- Students use technology to seek feedback that informs and improves their practice to demonstrate their learning in a variety of ways.

Objectives: Students will use an educational app "Number Pieces" to use place value blocks. They will complete two-digit addition problems that involve regrouping.

Differentiation Strategies This lesson will address the following learning styles: auditory, verbal, visual. Once the whole group lesson is complete, students who need assistance will work with the teacher in a small group.

ENGAGEMENT:
-Before the lesson, pose the following problem: Leslie collects 36 rocks. Her brother collects 27 rocks. How many rocks do they collect in all? Use place value blocks to help you solve.
-To build understanding ask the following questions:
- What are you asked to find?
- What tools do you have to help you find out how many rocks Leslie and her brother collect in all?
-Have students work in pairs. Distribute place value blocks. 9 ten rods and 15 cubes to each pair.

Assessment: Teacher observation through class discussion.

EXPLORATION:

- While students are working together to solve the problem, the teacher will circulate the classroom and ask guiding questions as needed. Guiding questions can include, but are not limited to: *Can you model each number using place value blocks? How many ones make one ten? What simple drawings could you to represent the place value blocks?*
- Have students share and discuss their solutions. Students can share their solutions using the document camera.

- Transition to the visual learning bridge by saying *You have added two 2 digit numbers. Later in this lesson you will learn another way to add 2 digit numbers.*
- Students who finish early can work on the following problem: *What are some two digit numbers you can add to 36 where you will have fewer than 10 ones?*

Assessment: Teacher observation through class discussion.

EXPLANATION:

- The teacher will show students the visual learning bridge (an interactive video that is a part of the math curriculum). This will connect students thinking from the exploration phase of the lesson.
- The visual learning bridge will show students how to create a model to add 37+19 and how to add using place value blocks. The teacher will ask the following questions to guide instruction: *How do both workmats show the numbers that are added? What do you notice about the columns of each workmat? In the ones column of the place value mat, all the ones are combined. How many ones are there? Is this the sum of 36+19? How are 16 ones regrouped? What is in the ones column of the sum? Where do you write the regrouped ten? What is in the sum of the tens columns? Why? How much is 5 tens? What is the sum of 37+19?*
- The teacher will complete guided practice #1-3 with students in a whole group setting. They will practice adding, drawing place value blocks to show their work.
- Students will complete independent practice on their own. The teacher will pull struggling students into a small group setting to help guide them through independent practice. 2 students will go to the Special Education teacher to complete independent practice.
- Students who are still struggling on independent practice will complete the following intervention activity:
  - Working in pairs, each student will write a 2-digit number up to 49 on an index card.
  - Partners will add their numbers using place value blocks and, at the same time, record each step in the addition.
  - Each pair will make two more index cards to repeat the activity. If more than one pair of students is working, students can mix up and distribute the cards to repeat the activity.
- Once students have finished, they will login to their Dreambox math account and work on different activities that are customized to their individual level.

Assessment: Teacher observation, guided practice, independent practice, Dreambox report

ELABORATION:

Using the Number Pieces app, students will work out 32+19. Students must write the problem on their I-Pad and use the digital place value blocks. When regrouping, the students must circle ten ones and put them together as a ten rod. Students will then write the answer to their problem and label each number of their sum. Students will then take a screenshot of their final product and upload it to SeeSaw, an educational app that allows their parents to see their work.

Assessment: Screenshot of student work.

EVALUATION:
Students will be graded based on the following criteria: Problem written on I-Pad, Digital Place Value Blocks, Regrouping, Labels.

References:

Bybee, R.W. et al. (1989). *Science and technology education for the elementary years: Frameworks for curriculum and instruction.* Washington, D.C.: The National Center for Improving Instruction.

Bybee, R. W. (1997). *Achieving Scientific Literacy: From Purposes to Practices.* Oxford: Heinemann.

National Research Council. (1999). *Inquiry and the national science education standards: A guide for teaching and learning.* Washington, D.C.: National Academy Press.

Polman, J.L. (2000). *Designing project-based silence: Connecting learners through guided inquiry.* New York: Teachers College Press.