**Lesson Seed:** Lesson seeds are ideas for the domain/cluster/standard that can be used to build a lesson.

Lesson seeds are not meant to be all-inclusive, nor are they substitutes for instruction.

|  |
| --- |
| **Domain:** Numbers and Operations in Base Ten  **Cluster:** Work with Numbers 11-19 to gain foundations for place value    **Standard(s):** K.NBT.A.1 Compose and decompose numbers from 11-19 into ten ones and some further ones,  e.g., by using objects or drawings, and record each composition or decomposition by a  drawing or equation |
| **Purpose/Big Idea:** Students will recognize the numbers 11-19 when shown on a rekenrek. They will use a rekenrek to compose and decompose the numbers 11-19. Students will also solve composing and decomposing story problems using their rekenreks and recording sheets.  To learn more about the Rekenrek follow this link: <http://bridges1.mathlearningcenter.org/media/Rekenrek_0308.pdf> |
| **Materials:**   * Resource Sheets 1A-K: Rekenrek Flash Cards * Rekenrek (or two-color counters and the Rekenrek Recording Sheets) * Resource Sheets 2A&B: Rekenrek Recording Sheets (placed in plastic sleeve protectors or laminated) * Resource Sheets 3A&B: Rekenrek Problem Solving Prompts * Whiteboards and markers * Resource Sheet 4: Number Cards |
| **Activity:**   * Begin by showing a rekenrek or a Rekenrek Flash Card with a number 11-19 represented. Students write the number which was represented on their whiteboards. Then have them say the number. * Discuss the composition and decomposition of each number as it is shown. (14 is made up of one ten and four ones, 14 is the same as ten and four, 14 take away four is ten, etc…) * Pass out rekenreks, or a recording sheet and 19 two-color counters, to each student. Show a number card and say the number shown. Ask the students to make the number using their rekenreks or the two-color counters and recording sheets. If using a rekenrek, encourage them to build the number in only 2 moves of the beads. (ten on the top rack and then the ones on the bottom rack) Repeat this process for all of the number cards. * Pass out the appropriate Rekenrek Recording Sheet needed for solving the prompts. Use the rekenreks or two-color counters to solve the composing and decomposing story problems. Have students record the equation for the problems on the Rekenrek Recording Sheet. Discuss each problem and solution. |
| **Guiding Questions:**  **For the Students:**   * What do you notice about the beads or counters on the top row as we build the numbers 11-19? * Is it possible to build 14 on just one row? Why not? * If there are 10 on the top row and I want to show 16, how many do I need on the bottom row? * If there are 3 on the top row and I want to make 13, how many do I need on the bottom row? * If I have 9 on the top row and I add 10 more on the bottom row, how many do I have? * If my number is 17, how many beads or counters could I have on each row?   **For the Teacher:**   * Are students able to accurately write and say the number represented on the Rekenrek? * Can students build the numbers on the Rekenrek in two moves or do they have to count each bead? * Do students demonstrate cardinality as they recognize the numbers represented on the Rekenrek? * Do the students count on from a group of 10? |

Resource Sheet 1A **Rekenrek Flash Cards**

Resource Sheet 1B **Rekenrek Flash Cards**

Resource Sheet 1C **Rekenrek Flash Cards**

Resource Sheet 1D **Rekenrek Flash Cards**

Resource Sheet 1E **Rekenrek Flash Cards**

Resource Sheet 1F **Rekenrek Flash Cards**

Resource Sheet 1G **Rekenrek Flash Cards**

Resource Sheet 1H **Rekenrek Flash Cards**

Resource Sheet 1I **Rekenrek Flash Cards**

Resource Sheet 1J **Rekenrek Flash Cards**

Resource Sheet 1K **Rekenrek Flash Cards**

Resource Sheet 2A  **Rekenrek Recording Sheet for Composing**

**and**

**make**

**+**

**=**

Resource Sheet 2B  **Rekenrek Recording Sheet for Composing**

**is**

**and**

**=**

**+**

Resource Sheet 3A **Prompts for Rekenrek Lesson Seed**

**Composing**

|  |  |
| --- | --- |
| Jeremy saw 10 pink flamingos and 4 pigeons. How many birds did he see? | There were 8 blue cars and 10 red cars in the parking lot. How many cars were in the parking lot? |
| Trisha jumped 5 times. Then she jumped 10 more times. How many times did Trisha jump? | Lee had 10 pennies. Then he found 6 more. How many pennies does Lee have now? |
| There were 3 ducks in the pond. Ten more ducks joined them. How many ducks are in the pond now? | Tony ran for 10 yards. Then he ran for 9 more yards. How many yards did Tony run? |

|  |  |
| --- | --- |
| There were 19 birds in the tree. Ten flew away. How many birds are left in the tree? | Marcus had 13 crayons. He lost 3 of them. How many crayons does Marcus have now? |
| There were 12 boys playing soccer. Two boys got tired and stopped playing. How many boys are still playing soccer? | Mom baked 17 chocolate chip cookies. Ten cookies were eaten. How many cookies are left? |
| There were 11 turtles on a log. One turtle dove into the pond. How many turtles are on the log now? | There were 19 red and yellow roses in the garden. Ten roses were red. How many roses were yellow? |

Resource Sheet 3B  **Prompts for Rekenrek Lesson Seed**

**Decomposing**

Resource Sheet 4 **Number Cards**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **10** | **11** | **12** | **13** | **14** |
| **15** | **16** | **17** | **18** | **19** |