**Day 2 “Loops and Groups”**

**Grade Level:** Pre – K

**Subject:** Mathematics

**Theme/Topic:** Making “0” (subtraction/ decomposition)

*D. Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.*

K.OA.1 Represent addition and subtraction with objects, fingers, mental images, drawings (Drawings need not show details, but should show the mathematics in the problem.(This applies wherever drawings are mentioned in the Standards.)), sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.

K.OA.2 Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

K.OA.3 Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1).

K.OA.4 For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.

K.OA.5 Fluently add and subtract within 5.

**Student Outcomes:** Students will be able to utilize natural objects to construct and deconstruct 10

**Required Materials:**

1. Their small leather pouch that they made.
2. A collection of special stones/student
3. Large poster paper/ for teacher
4. Marker/ for teacher
5. Small stick for each student
6. Small string tied into a loop

**Agenda:** This will be the major lesson in a typical outdoor forest school day from 9am – 1:00pm

**Warm Up:** Yesterday we practiced making 10 with addition using pinecones. This morning we will see if we can remember how to do that with special stones we collected on our morning walk. Turn to a partner and remind them how we made 10 yesterday.

**Anticipatory Set:**

**Teacher:“**Today we are magicians that are going to collect magic stones in our pouches. Today we will first practice if we can magically make 10 again like yesterday. Can we do it?

**Direct Instruction:** As we take our morning walk lets be collectors too! Let’s each grab our pouch and collect 10 special stones.

* Model what is looks like to gather 10 similar items counting out each one you pick up
* Model laying out the 10 items in a row
* Model laying a stick in between two pinecones and counting the pinecones on either side.
* Model now instead using 10 stones
* Lay them out and use a stick to make two groups by separating or encircling in the dirt.
* Model now dropping the stones like dice and using the string to encircle them
* **Tell them they can choose what material they wish to make the groups.**
* **Whichever group of stones falls inside the loop gets subtracted from the 10**
* **So we will record 10 – your looped group = whatever’s leftover**

**Guided Practice:** Students team up with a partner and decide together what item they will use to group their 10 stones. Together they practice looping a group and bringing their equation to the teacher for recording.

**Closure: “**Class it appears we have recorded many groupings that make zero. Take a moment to study the chart and see what you notice and if we can see any patterns. Share a noticing with your partner. “ Suns” start. “Moons” go next. Let’s go around the room and share our noticings.

**Independent Practice:**  “Now each of you lay out your pinecones and group them in your favorite way. Let’s share out our equation that make 0

**Assessement and Follow Up:**  Repeat the independent practice for individual assessment by a teacher or recorded in picture form on paper.