**LOK (Levels of Knowing) and DOK (Depth of Knowledge)\***

*For planning math units, lessons, and/or activities*

* How can you effectively move your learners through the levels of knowing?
* Which depth of knowledge level is appropriate for each student and/or class?

|  | **Levels of Knowing** | **Depth of Knowledge Level 1***Recall* | **Depth of Knowledge Level 2***Skill/concept* |
| --- | --- | --- | --- |
|  | **INTUITIVE***Connect to what the learner knows* | -Recall or recognition of a fact, term, information, or definition -Recall and use a simple procedure  | -Discuss use of mathematical operations in daily life -Describe an existing understanding of a skill and/or concept  |
| **CONCRETE***Hands on* | -Recognize an object -Measure an object  | -Organize or classify objects -Make observations -Collect data -Perform an experiment |
| **PICTORIAL***A visual representation* | -Identify and/or recognize an image and/or parts of an image -Recognize a pattern of images -Visualize and or draw a representation  | -Organize or classify images -Extend a pattern of images -Estimate using a number line -Display data using a table, line graph or bar graph |
|  | **ABSTRACT***Numbers & symbols* | -Identify and/or recognize a symbol -Recognize a pattern of symbols -Perform basic computations and/or procedures -Identify components of a formula -Use a formula | -Organize or classify symbols -Extend a pattern of symbols -Display data using pie charts |
| **APPLICATION***Math within a context* | -Retrieve information from a graph-Solve one-step word problems | -Make decisions as to how to approach the problem -Apply a skill or concept -Use given information -Estimate to solve a problem -Compare data -Multi-step word problems -Determine probability |
| **COMMUNICATION***Ask questions of learners and provide time for them to talk about math to you and each other* | -Describe an object, image, symbol, or situation | -Explain or interpret a concept or situation -Demonstrate conceptual knowledge through models and explanations -Explain relationships, examples, and non-examples |

**LOK LESSON PLANNING TEMPLATE**

| **Objective(s):** |  |
| --- | --- |
| **Learning Target(s):** |  |
| **Standard(s):** |  |

| **Levels of Knowing** | **Lesson Planning Notes** |
| --- | --- |
| **INTUITIVE***Connect to what the learner knows* |  |
| **CONCRETE***Hands on* |  |
| **PICTORIAL***A visual representation* |  |
| **ABSTRACT***Numbers & symbols* |  |
| **APPLICATION***Math within a context* |  |
| **COMMUNICATION***Ask questions of learners and provide time for them to talk about math to you and each other* |  |