**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* |  | |