Mathematics Strands and the Outdoor Learning Environment

Number   **pp 21-25 PYP Mathematics Scope and Sequence**

Our number system is a language for describing quantities and the relationships between quantities. For example, the value attributed to a digit depends on its place within a base system. Numbers are used to interpret information, make decisions and solve problems. For example, the operations of addition, subtraction, multiplication and division are related to one another and are used to process information in order to solve problems. The degree of precision needed in calculating depends on how the result will be used.

Phase 1

Learners will understand that numbers are used for many different purposes in the real world. They will develop an understanding of one-to-one correspondence and conservation of number, and be able to count and use number words and numerals to represent quantities.

Conceptual understandings

Numbers are a naming system. Numbers can be used in many ways for different purposes in the real world. Numbers are connected to each other through a variety of relationships. Making connections between our experiences with number can help us to develop number sense.

Constructing meaning

- Use number words and numerals to represent quantities in real-life situations: Children do this daily through play in the mud kitchen, water table, sand box and other areas of the outdoor learning environment.
- Use the language of mathematics to compare quantities in real-life situations, for example, more, less, first, second: Children do this daily through play in the mud kitchen, water table, sand box and other areas of the outdoor learning environment.

**The following learning outcomes are done outdoors every day through play and counting toys, other resources, rocks, sticks, leaves, nuts, feathers, etc.
- Understand and demonstrate one-to-one correspondence
- Understand that, for a set of objects the number name of the last object counted describes the quantity of the whole set.
- Understand that numbers can be constructed in multiple ways, for example, by combining and partitioning
- Understand conservation of number (five objects arranged differently is still five objects)
- Understand the relative magnitude of whole numbers
- Recognize groups of zero to five objects without counting (subitizing)

Transferring meaning into symbols

- Connect number names and numerals to the quantities they represent: The children use number mats (for bases) and number cushions during group games.

Applying with understanding

- Use simple fraction names in real-life situations, such as using ½ cup in the mud kitchen, water play and sand play; "half of the children are here"; etc.

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Pg 25 *"There are many opportunities in the units of inquiry and during the school day for students to practice and apply number concepts authentically."*

There are many opportunities in the outdoor learning environment for students to practice and apply number concepts authentically.