

**National Mathematics Team**

**Grade 1 – Planning Sessions Template**

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| **Topics/Objectives** | **Main Concept** | **Teaching/Learning Activities** | **Assessment/Homework Activities**  |
| 1. Identify numbers 0-10.
2. Identify set with up to 19 members
3. Place number 1–10 in serial order
4. Use objects to create sets
5. Identify objects which belong/do not belong in a set.
 | * Numeral
* Number
* Sets
* Member
* Order
* Objects
 | **Identify numbers 0 - 10*** Have students use counters to complete the Number box below.

* Use rhythm/song and counting of objects to develop the stable order principle of counting. For example clapping hands or tapping on bench while counting up to 20.

**Identify sets with up to 19 members*** ***ICT Infusion***

Identify numbers 0-20: Go to <https://www.ixl.com/math/grade-1/counting-review-up-to-20> In this interactive activity, students listen to the instructions, count the objects and input their response in the space provided.**Creating sets*** Have students work in groups to form sets using information in their present environment. For example, given attributes (age, gender, height…) they could count the number of students in their class and use the information to create groups.

*Count the number of pupils of the same age and make a set.**In my class, there are 15 students that are 6 years old and 10 students that are 7 years old. In all there are … students in my class.*Students may record information in their journals.**Items that belongs/do not belong to a set** * Provide students with scenarios, using elements in their surroundings to determine those that belong and those that do not belong to a particular group. For example: *There are 10 boys in a race; 8 are from Grade One and 2 are from Grade Two. If the race is for boys in Grade One only, how many boys should stay in the race? How many of the boys do not belong to the race? Give reasons for your answer.*
 | **Identify sets with up to 19 members*** Have students engage with Problem solving tasks (*See page 7 of Resource document*)

**Placing numbers in serial order*** Have students fill in the missing numbers on a grid. The grid is a mat on which students place numeral cards in their appropriate positions. To begin, the number cards will be placed faced down on the desk. Students will be given a set of number cards (pre-packaged by the teacher) which they will place in the correct locations on the mat (for example 3, 5, 7, 9). Students would then place the remaining cards on the grid (for example 1, 2, 4, 6, 8, 10) to complete the sequence. *(See resource document page 3 and 4)*

**Creating sets*** Students will be given two sets of counters (10 each): For example red and blue. They will create a third group. To create the third group they will pull (drag) markers from Sets 1 and 2 without counting.

After forming the third group, they will report on the number of markers in Sets 1 and 2 (this can be done by counting the number of each colored markers used to form the new set – for example 3 blues and 4 reds made a set of 7 counters) and the total number of markers in the new set - third set. *(See resource document page 5)***Items that belongs/do not belong to a set** * Students will be given a set of Attribute blocks (which can be made by the teacher). *(See page 6 of Resource document).* Students will decide on an attribute of focus: for example yellow. They will report on the number of Yellow pieces and the number of pieces that are not a part of the group.

They will then look for two attributes: for example Yellow and Squares following the same procedure as above.They will then look for three attributes: Yellow, Square, Small following the procedure above.At the end of the exercise they will report on their observations including what they noticed as the number of attributes increased. |
| 1. Count the number of objects in a set
2. Matching members of a set-same/fewer/more.
3. Compare sets
4. Partition 2 – 10 members in two or more sets
5. Identify whole set
6. Identify parts of a set
7. Identify the empty set
 | * Numeral
* Number
* Whole
* Set
* Part
* Empty
* objects
 | **Count the number of objects in a set*** Use the conservation counting principle to match same sets

 For example:  is the same count asAfter observing the concept of the conservation counting principle teacher will engage students in a whole class discussion.***ICT Infusion**** Fishy Count: Go to <http://www.primarygames.com/math/fishycount/>

Students will be required to count the numbers of fishes on the screen and choose the correct numerical representation from the list of numbers given. **Matching members of a set-same /fewer /more*****ICT Infusion**** Have students watch a short video on More, Fewer and same. Engage them with guided questions during and after the video.

<https://www.eduplace.com/cgi-bin/schtemplate.cgi?template=/math/mw/models/tm_popup.thtml&grade=1&chapter=1&lesson=1&title=More,+Fewer,+and+Same&tm=tmfb0101e>**Identify parts of a set*** Use manipulatives (e.g: counters, fudge stick, Cuisenaire rods...) to identify whole set and part of a set.

Engage students in activities and scenarios that promotes this concept.* 3-2-1 Snack: Go to <http://pbskids.org/peg/games/3-2-1-snack>

This activity prompts students to identify sets of items on a farm up to ten numbers and follows an interesting narrative.**Identify the empty set*** Have a set of students stand at the front of the class or outdoors if space is limited. Create 2 circles on the ground in front of the students using wool, rope, or cord. Inform the students that they will be forming two groups or sets based on the instructions given.

Begin the task with attributes that are obvious: Girls with brown shoe, girls with black shoes; boys with black belt, boys with brown belt. Then progress to sets that allow for an empty set. For example: Girls with black socks, and girls with red and white polka dot socks. Assuming that the latter is not allowed, then the students would be exposed to a set that is empty. Have students use the language to describe the sets: *Look at this set. What would you call it? It is a set of girls with black socks. What about the other set? That set is empty.* Provide students with other ‘active’ scenarios where they will be able to identify an empty set. | **Matching members of a set-same /fewer /more** ***ICT Infusion**** Provide students with online games so they can compare sets.

<https://www.sheppardsoftware.com/mathgames/earlymath/BalloonPopComparison.htm> **Identify parts of a set*** Sharon has six stars. How many ways can she split the stars among the blue and the red box?

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  *(See resource document page 8 for a sample reporting sheet)* **Partition 2 – 10 members in two or more sets*** Use a Mat and counters (base ten blocks, interlocking cubes) to share a set into 2 or more sets. After creating their first sets (8 in one, 4 in the other) they will be challenged to find other ways of breaking up their set so that each result is different.

*(See resource document page 9 for a sample reporting sheet)* **Compare sets*** Teacher will watch the following video and create the Bean Bag game for students to use to compare numbers. <https://learnzillion.com/lesson_plans/2146-8-comparing-numerals-using-a-number-path-c>
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| Identify geometric shapes in natural and man-made objects (eg. natural objects: tree, man, hill, sun manmade shapes: 1. roof
2. window
3. ruler
4. ball
5. book
 | * shapes
* line
* curve
* tall
* big
* small
 | **Identify geometric shapes in natural and man-made objects*** Have students observe geometric shapes in natural and man-made objects while on a nature walk.
* Have students record their findings which they will later discus in the classroom. In the classroom have them identify shapes that are man-made and those that are natural and have them share their reasoning.
* Use multiple cutouts to form shapes identified in the environment.
* Classify and sort various natural shapes based on their characteristics (triangular, circular and so on).
* Take your students on a Geometry Walk around your building. Take a digital camera along on your walk and take pictures of select children standing in front of, behind, next to, to the right of or to the left of each item they see. Students, with the aid of their teacher can make a ‘labeled’ class album with the pictures. Each student will be assisted in writing a sentence about the shape below the picture.

**ICT Infusion*** Purpy's Shapes: Students should go to <http://www.sheppardsoftware.com/preschool/ngames/shapes.htm> and match shapes with illustrations of objects they would see in their environment
* PBS Dinosaur Hunt for 2D Shapes: Students should go to <http://pbskids.org/dinosaurtrain/games/buddysgemhunt.html>

This activity is a narrative for students to identify circles, rectangles, and triangles in a game. * Story Time- Students will be read a short story by the teacher. The students will then be asked to choose from the story a scene/natural shape which they will draw and colour. (These could be added to their Geome “tree”)
* **“Concentration” Card Game**

 (2 or more players) Pairs of students will be dealt 5 cards each and the other 10 cards placed face down on the table. The students taking turns must match the name on the card to its corresponding shape. If a face down card is selected and does not match a card in hand then it must be put back in its previous position. The number of cards may be increased if so desired (*See page 13 of the Resource Document*) | **Identify geometric shapes in natural and man-made objects*** Give each student straws, model clay and fudge sticks to make natural or manmade shapes. Students will make a Shape Journal of shapes they see in their natural environment.
* Play Geometry Matching cards (See page 10**).** This has names of natural shapes in the environment and their matching pictures.
* Have students create a "Geome "tree." Each student will contribute to the tree by attaching drawings of natural shapes that they would have done at home.
* **ICT Infusion**

2-D Shapes in the Environment. <https://www.studyladder.com/games/activity/two-dimensional-shapes-in-the-environment-activity-1-22169> Here students would identify shapes from objects typically found in their environment. * **Shape Sort**

Have students identify manmade and natural shapes in various locations: Home, school, Store and so on. In these environs have students group objects according to their shape. For example, under the heading circle, students may have sun, hoop, plate and so on.

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| **Circle** | **Triangle**  | **Rectangle** |
| Plate |  |  |
| Sun |  |  |
| Hoop |  |  |

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