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| **Lesson Plan – Two-Dimensional Shapes**  **Developed by:** Jana Nicol **School:** Island View School  **Date:** February 2014 **Grade level:** 2  **Subject:** Mathematics **Unit:** Shape & Space  **Duration:** 60-75 minutes |

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| **Outcomes**  **SS6-** Sort 2-D shapes using 2 attributes, and explain the sorting rule. [C,CN,R,V]  **SS8-** Describe, compare and construct 2-D shapes, including: triangles, squares, rectangles, circles. [C,CN,R,V]  **I Can Statements**  I can tell about the differences between two pre-sorted sets and explain the sorting rule.  I can sort a set of 2-D shapes and explain the sorting rule.  I can create a picture and a model to represent a given 2-D shape. | **Materials**   * *2-D Shape Centres Directions.doc* * *MI Matrix – 2-D Shapes.doc* * *2-D Shapes.nbk* * *Student Progress Record –2-D Shapes.doc*   Centre Materials:   * *Stopwatch.nbk* * *Shape Riddle Centre.doc* * *2-D Shape Sorting Mats.doc* * *Shape Game Directions.doc* * Two-dimensional shapes (cut out of card stock*)* * *2-D Body Shapes Directions.doc* * Playdoh * Pencils, erasers | |
| **Technology**  *Check all that apply*  X Teacher laptop  X SMART Board  X LCD projector   * SMART Senteos (class set)   X Computers/netbooks   * iPad or tablet * iPod or mp3 player(s)   X Speakers | * Webcam * Digital camera * Document camera * Digital microscope * Video camera * Scanner * Colour printer * Calculators   X FM system |

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| **Prior Learning Connections**  Students have prior exposure to two-dimensional shapes in kindergarten and grade one. Pre-assessment determined that prior to this unit, most students could already identify the following shapes: circles, ovals, triangles, squares, and rectangles. They can also sort these shapes by one attribute. |

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| **Differentiation/Accommodations**  Reduced number of assigned questions, read questions aloud, FM system. |

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| **Special Concerns**  (Classroom management items, medication information, etc). |
| **Assessment**  **Formative Assessments** – observe students as they work at centres, and track their progress using *Student Progress Record – 2-D Shapes.doc,* record anecdotal notes as needed. |

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| **Procedure** | | |
| **Before the lesson** | **Prepare Centres (10-15 minutes):**  Place students into five groups, mixed ability. Record.  Centre #1 – Turn on netbooks, and post *Shape Game Directions.doc* nearby.  Centre #2 – Print class set of *Shape Riddles.doc* and put on one table with some pencils and erasers.  Centre #3 – Put Playdoh on one table.  Centre #4 – Print one copy of *2-D Shape Sorting Mats.doc,* place bag of an assortment of 2-D shapes cut out of card stock (shapes can be found in the file *2-D Shape Sorting Mats.doc)* – put all materials on one table.  Centre #5 – Tape a copy of *2-D Body Shapes Directions.doc* on the wall, where there is plenty of floor space for students to make shapes out of their bodies. | |
| **During the lesson** | **Warm-up (10-15 minutes)**   * Have class sit by the SMART Board. Open *2-D Shapes.nbk* and play the shape song (link found on page 11 of this file). * Review video by asking class to respond to a couple of shape riddles: * I have six vertices. What am I? (hexagon). * I have four sides. Two of my sides are longer than the other two sides. What am I? (rectangle). * I have four sides. All of my sides are the same length. What am I? (square or rhombus). * Review irregular and regular shapes. Begin by drawing an octagon and an 8-sided polygon. Ask ‘are both shapes called octagons?’ 🡪 No. All sides of an octagon are equal and it is shaped like a stop sign. Other 8-sided shapes are called 8-sided polygons. * Draw a hexagon and a 6-sided polygon. Ask ‘are both shapes called hexagons?’ 🡪 No. All sides of a hexagon are equal. Other 6-sided shapes are called 6-sided polygons.   **Centres (50-60 minutes)**   * Tell the class they will be working in centres in groups. Briefly describe what students will be doing at each centre.   Centre #1 – Netbooks 🡪 students will play shape games, linked on class website: <http://ivsgrade2.weebly.com>).  Centre #2 – Students will write shape riddles, following the directions provided on the sheet.  Centre #3 – Students will use Playdoh to make as many 2-D shapes as they can.  Centre #4 – Students will sort shapes based on the attributes provided on the sorting mats.  Centre #5 – Students will make shapes out of their bodies on the floor.   * Call out names of students in each group. Use a auditory cue (e.g. rainstick) to cue the transition between centres. Review centre norms: * Work cooperatively and quietly. * If you need help, ask your classmates from your group before asking the teacher. * Hearing the rainstick is the cue to tidy up your centre. You must tidy up before moving onto the next centre. * Get earbuds quickly at the beginning of the netbook centre, and put them back quickly before transitioning to the next centre. * Put Playdoh back into containers and seal the lid tightly before leaving the centre. * Write your name on the shape riddles and pass them in before leaving the centre. * At the shape sorting centre, clear shapes off of the mats and put them back into the bag before leaving the centre. * Students will have 8 minutes to work at each centre, with 2 minutes for tidying up and transitioning between centres. Open *Stopwatch.nbk* and set the timer for 8 minutes once all students have settled into the first centre. Display this on the SMART Board to help students manage their time effectively. * Circulate and observe students as they are working, and provide assistance as needed. Record anecdotal notes and record progress on *Student Progress Record – 2-D Shapes.doc*.   **Share/Reflect (5 minutes)**   * After students have had a chance to complete all of the centres, whole class will meet on the floor. * Ask students who are willing to tell the teacher what they have learned today. * Have students show their understanding through a quick ‘thumb survey’. Students will close their eyes and participate in the thumb survey. Thumbs up means they really get it, thumbs to the side means they kind of get it, and thumbs down means they don’t quite get it yet. | **UDL Guidelines**  2.5 Illustrate through multiple media  3.1 Activate or supply background knowledge  2.1 Clarify vocabulary & symbols  8.2 Vary demands & resources to optimize challenge  5.2 Use multiple tools for construction & composition  4.1 Vary methods for response & navigation  1.2 Offer alternatives for auditory information  4 Provide options for physical action  8.3 Foster collaboration & community  6.2 Support planning & strategy development  6.3 Facilitate managing information & resources  9.1 Promote expectations & beliefs that optimize motivation  3.3 Guide information processing, visualization, & manipulation  9.3 Develop self-assessment and reflection  8.4 Increase mastery-oriented feedback |
| **After the lesson** | **10-15 minutes –** Students will choose one of the following prompts and respond to it in their Math journals, and use words numbers and pictures to explain their ideas:   * What is a quadrilateral? Draw and label some examples of quadrilaterals. * How are circles and ovals different from other 2-D shapes? * Are all four-sided shapes called squares? Explain. | |

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| **Notes/Reflections**  Review shape riddles, anecdotal notes, and *Student Progress Record – 2-D Shapes.doc.* Confer with students who appear to be experiencing difficulty with any of the following: names of shapes, locating sides and/or vertices of shapes, sorting shapes by attributes. Plan enrichment activities for students who exhibit a superior understanding of the concepts. |