NIPISSING UNIVERSITY

Direct Instruction Planning Format
2008-2009

1. Lesson Plan Information	
Subject/Course: Mathematics	**Name:** Kim Oxley & Crystal Archambault
Grade Level: 1	**Date:** TBA
Topic: Measurement	**Time and Length of Period:** 60 minutes

2. Expectation(s) and Learning Skills
The students will:

- Compare two or three objects using measurable attributes (e.g., length, height, width, area, temperature, mass, capacity), and describe the objects using relative terms (e.g., taller, heavier, faster, bigger, warmer; "If I put an eraser, a pencil, and a metre stick beside each other, I can see that the eraser is shortest and the metre stick is longest.");

Today, students will:

- Explore the concept of size by identifying and classifying objects as either larger or smaller.

3. Pre-assessment

A. (i) Students

- Will require some abilities in printing

(ii) Differentiation of content, process, and/or product (may be accommodations and/or modifications)

- Students who are unable to print the words on their own will be provided with a sheet that has the words ready to be cut out and pasted in the proper location on the worksheet (see attached sheet).

B. Learning Environment

- Group learning will take place on the carpet
- Students will work in small groups (4-5 students per group) at their desks

C. Resources/Materials

- Book “I’m the Biggest Thing in the Ocean” by Kevin Sherry
- A mixture of large and small objects
- Two containers each large enough to hold the objects to be sorted
- 20 copies of the “I am the biggest thing in the classroom!” sheet
- Copies of the accommodation sheet
- Copies of the marking checklist
- Chart Paper

4. Content (The What)	Teaching/Learning Strategies (The How)
(Time: 5 minutes) **A. Introduction (motivational steps/hook/activation of students' prior knowledge)** • Start lesson with the 'guess my rule' sorting game. o Teacher will hold up objects one at a time and place them in a container based on their size. E.g., large objects are placed in one container and small objects are placed in another. o As the teacher is placing the objects into the containers, students are asked to determine what sorting rule is being used. o Students are to raise their hand if they feel they have determined the rule. o The teacher will call on students who are sitting appropriately to share their guess. o Once the students have determined the correct rule, have the class assist in sorting the remaining objects.	
(Time: 10 minutes) **B. Content for New Learning**	**B. Teaching/Learning Strategies for New Learning**
1. Brainstorm alternate vocabulary for the adjectives large and small a. Big b. Huge c. Giant d. Enormous e. Little f. Small g. Tiny h. Miniature	1. <u>Key Question</u> – What are some other adjectives (describing words) that we could use instead of large or small? Inform the students that there are many ways to describe objects that are big and small. As a class we have come up with a list of different words that we can use instead of big and small.
2. Introduce story <u>Title</u>: I'm the Biggest Thing in the Ocean" <u>Author</u>: Kevin Sherry	2. Have the students make predictions based on the cover <u>Key Question</u> – What do you think this story is about? <u>Key Question</u> – What sea creature do you think will be the biggest in the ocean? <u>Key Question</u> – What sea creature do you think will be the smallest thing in the ocean? Read the book. As the book is being read the teacher will ask the following; Page 3: Ask the students if they agree that the squid is bigger than the shrimp. Page 5: Ask the students if they agree that the squid is bigger than the mussels. Page 8: Before reading this page, ask the students; which sea creature is bigger, the squid or the crab? Page 16: Ask the students; do you think that the squid is a lot bigger than the shark or just a little bit bigger? Page 19: Ask the students, is the squid really the biggest thing in the ocean? Or can you think of

	something larger? Page 21: Was he the biggest thing in the ocean?

5. Consolidation/Recapitulation Questions (Check for understanding/scaffolded practice)

(Time: 10 minutes)

- With the objects that were used in the introductory sorting activity, call one student at a time and ask them to choose two objects, have them describe the objects using the new adjectives we brainstormed together.
- As a class, brainstorm a list of objects that can be found in the classroom that are large and small. (The teacher will make a list on chart paper or board)

6. Application (Moving from guided, scaffolded practice to increasingly independent practice and understanding / gradual release of responsibility)

(Time: 25 minutes)

Complete worksheet

- Show the students the worksheet and explain the following:
    - Instruct the students to choose two of the brainstormed objects or other objects in the class that they would like to use.
    - The paper will be divided in half; the students will draw a picture of a large object of their choice on one side and a small object of their choice on the other.
    - The student is to then to complete the sentence found under each picture. (i.e., The _____ is _____.). Students will refer to the list of adjectives and objects found on the board to complete their sentences.

7. Lesson Conclusion

(Time: 10 minutes)

- Have students return to the carpet with their work.
- Ask the following question to the students:
    - Who thinks they have drawn the smallest object in our classroom?
      - select a student and have them come up to the front to share what they have drawn.
    - Who feels that they have drawn a smaller object?
      - have them come up and share what they have drawn.
    - Who thinks they have drawn the largest object in our classroom?
      - select a student and have them share what they have drawn
    - Who feels that they have drawn a larger object?
      - have them come up and share what they have drawn.
- Continue this process until the group has found the smallest and largest objects drawn from the classroom

8. Assessment (collection of data) / Evaluation (interpretation of data)

- The teacher will walk around the room during the application to observe the students and ensure that they stay on task.
- A checklist with brief anecdotal notes will be used to assess the students' work (see attached checklist)

Note to teacher: Use this aid to write down the brainstormed words for the student is experiencing difficulties printing on their own

Checklist and Anecdotal Comments for Measurement Lesson

Date:_____

Student Name	Filled in sentence correctly using appropriate words from the brainstormed list or created their own	Chose appropriate objects to compare (either used objects from brainstormed list or created their own)	Completed drawings appropriately to illustrate the objects chosen	Anecdotal Notes

Children's Literature and Mathematics

Assignment #3

Students: Kim Oxley & Crystal Archambault

Course: Mathematics Education EDUC 4274

Professor: Dr. Daniel Jarvis

Date Due: January 21st, 2009

“I’m the Biggest Thing in the Ocean”

1. Summary of the book
   - Title: I’m the Biggest Thing in The Ocean” By Kevin Sherry
   - ISBN: 978-0803731929
   - Summary: A fun educational story about a giant blue squid who swims through the ocean proclaiming that he is ‘the biggest thing in the ocean.” Along the way he meets many different sea creatures of various shapes and continues to believe and say that he is ‘the biggest thing in the ocean.” At one point in the story the giant blue squid encounters a large whale by which he is eaten. Once inside he finds out that he is not the biggest thing in the ocean but exclaims “I’m the biggest thing in this whale!”

2. Critique of the book
   - **Accuracy**
     Score: 4.5
     Justification: The mathematical concepts in this book are not overly apparent, however, the relationship between big and small objects is presented in a clear and accurate way. The comparison between the squid and all other sea creatures are visually presented in an accurate way. For example, the squid is drawn larger than the crab. The text in the book also reflects the meaning of the word. For example, the words ‘giant’ and ‘biggest’ are capitalized and made larger than the other words in the text. We did not award this category a score of six due to the fact that it only focused on sea creatures that were smaller than the squid, with the exception of the whale. Our point being, the words small, little, etc. are not used in the book.

   - **Visual and Verbal Appeal**
     Score: 6
     Justification: The pictures are bright and fun. The pictures are also tied very closely to the text. The pictures are engaging and motivate the reader to continue reading the story. The pages are not cluttered with unnecessary detail and the text flows nicely with the pictures. The pictures are shown in a way that helps the story to flow but at the same time keeps the reader in suspense.

   - **Connections**
     Score: 5.5
     Justification: This book has strong connections between children and the real world. The deep sea theme is very relatable to children and easily gains their interest. It also demonstrates that the mathematical concept can be applied to anything in a child’s world. i.e., they can compare the concept of big and small to objects found in the classroom.

- **Audience**
  Score: 3
  Justification: Although this book can be entertaining for all ages, the concept presented is more directed at a younger audience. This book strictly presents only one concept and does not allow for further discussion for older grades. However, this book could also be used to discuss the opposite of big, small.

- **"Wow" factor**
  Score: 4
  Justification: Although this book does not necessarily present students with the "Wow" factor, there are points in the story which may produce aspects of it. For example, there is a flip-out page in the story which grabs the students' attention. The students are also left in wonderment for three sets of pages as the giant squid is being eaten by the whale.

3. Overall Impression and rating of the book
   Score: 4.5
   Justification: Overall we feel that this is a fun and educational book to use when teaching young students the measurement concept of big and small. The theme of deep sea creatures is enjoyable to both children and adults alike. The bright and colorful pictures are appealing and tied in closely with the text. It is of our opinion that this book is an excellent resource to any teacher who uses it.

4. Self-Assessment
   Mark: 19
   Justification: We feel that our Children's Literature and Mathematics assignment was thoroughly completed. Our questions included a variety of levels to give every student an opportunity to express their thoughts and feelings. The questions also related back to the mathematical concept. The writing in our report and lesson plan is clear and concise. The lesson plan is easy for teachers to follow and incorporate in the classroom. Our book critique was closely tied into Hellwig's five categories. Each category was discussed individually and in-depth.