

1. Lesson Plan Information	
<b>Subject/Course:</b> Math	<b>Name:</b> Laura Richardson, Darren Vaughan – P/J Section 2
<b>Grade Level:</b> Grade 2	<b>Date:</b> Tuesday, October 28, 2008
<b>Topic:</b> Data Management	<b>Time and Length of Period:</b> 11:30-12:40 (70 minutes)

2. Expectation(s) and Learning Skills
<p><b>The students will:</b></p> <ul style="list-style-type: none"> <li>-collect and organize primary data (collected by the class) that is categorical and discrete (counting favourite animal) and display the data using one-to-one correspondence in graphic organizers (tally charts), with appropriate titles and labels.</li> <li>-pose and answer questions about class-generated data in concrete tally charts.</li> </ul> <p><b>Today, students will:</b></p> <ul style="list-style-type: none"> <li>-learn how to collect data and represent this data in a tally chart</li> <li>-communicate with others in order to collect their data</li> <li>-show their knowledge of the data by answering posed questions about their data</li> </ul>

3. Pre-assessment
<p><b>A. (i) Students</b></p> <ul style="list-style-type: none"> <li>-Are able to collect data from their peers</li> <li>-Are capable of communicating with students to collect information</li> <li>-Have previous knowledge of what tally checkmarks look like</li> <li>-Are able to skip count by five</li> </ul> <p><b>(ii) Differentiation of content, process, and/or product (may be accommodations and/or modifications)</b></p> <ul style="list-style-type: none"> <li>-Students N &amp; T will need encouragement and teacher/partner support to keep them on task</li> <li>-Have pictures of the animal next to the name so T is able to participate and work independently on the survey</li> </ul>
<p><b>B. Learning Environment</b></p> <ul style="list-style-type: none"> <li>-During the story and instructions, students will gather at the carpet</li> <li>-Teacher will instruct students at the front of the carpet, next to the chart paper</li> <li>-Coloured construction paper will be placed at the front of the carpet</li> <li>-Paper pigs will be scattered around the classroom (Taped to the wall)</li> <li>-Students will circulate the class for data collection</li> <li>-During applications time students work independently at their desks for task completion</li> </ul>
<p><b>C. Resources/Materials</b></p> <ul style="list-style-type: none"> <li>-Book (The Wonderful Pigs of Jillian Jiggs)</li> <li>-Chart paper (with an empty tally chart pre-drawn)</li> </ul>

- Markers
- Construction paper pigs (brown, green, pink, yellow)
- Construction paper mats (brown, green, pink, yellow)
- Tape
- Math worksheet
- Worksheets/Jillian Jiggs colouring sheet

4. Content (The What)	Teaching/Learning Strategies (The How)
-----------------------	--

<p><b>A. Introduction (motivational steps/hook/activation of students' prior knowledge) (5 minutes)</b></p> <ul style="list-style-type: none"> <li>-Students will gather at carpet, they will listen to the story of The Wonderful Pigs of Jillian Jiggs</li> <li>-Once the story is over there will be a discussion about the variety of pigs Jillian made</li> <li>-The students will be informed that there are a variety of different coloured pigs scattered around the classroom</li> <li>-Riddle: "Jillian Jiggs has lost her pigs and just can't seem to find them, she's let them be but as you can see, she needs your help to find them"</li> <li>-Explain that each student is to only collect one pig, moving slowly and carefully around the room without argument</li> <li>-"You will each find ONE pig. If there is any fighting over pigs you will not participate in the activity. There are enough pigs for everyone. When you find your pig make sure you bring the tape to throw out in the garbage. If you look at the front of the carpet you will see four different coloured mats. Place your pig on the matching mat. You may now move carefully without running to find your pig."</li> <li>-When they have found one pig they must bring it back to the carpet with the tape that was holding it on the wall</li> <li>-There will be a garbage bin by the carpet, where they can throw out the tape</li> <li>-They will then place their pig on the matching coloured construction paper</li> <li>-This will help them learn how to sort by colour</li> </ul>	<p><b>Teaching/Learning Strategies (The How)</b></p>
---	--

<p><b>B. Content for New Learning</b> (20 minutes – lesson) (30 minutes – activity)</p> <p>Cooperative learning</p> <ul style="list-style-type: none"> <li>-sharing</li> <li>-being friendly and helpful</li> </ul> <p>Sorting/categorizing</p> <ul style="list-style-type: none"> <li>-collecting</li> </ul>	<p><b>B. Teaching/Learning Strategies for New Learning</b></p> <ul style="list-style-type: none"> <li>-Students will collect one pig each. They will find their own pig and also help their friends look for a pig in the classroom</li> <li>-Students will bring all the pigs to the carpet and place them on the corresponding coloured mat</li> <li>-There will be no fighting over pigs and the students will follow the classroom rules during this activity</li> <li>-Teacher will discuss the data collecting technique the class just discussed</li> <li>-"Data collection is simply gathering information. Can you guess what information we just collected? That's right, what we just did was collect different pigs and we sorted them by colour. When you collect data you can sort them into many different categories. For example size, shape, animals, colour etc."</li> </ul>
---	---

Tallying  
 -counting  
 -organizing data  
 -tally marks

-discuss data collection techniques  
 “You collected the data by going around the classroom and finding a pig. Then, you came back to the carpet and put your pig on the matching coloured mat”  
 -What happens next (counting the information and putting it into a chart form)  
 -“After your data is collected you must organized the information. We have already sorted the coloured pigs on the mats, so now we are going to count (as a group) how many pigs are on each coloured mat.”

-Teacher will explain that as they are counting the pigs, she will be keeping track of the pigs by category using a special tally marking technique  
 “This is a tally chart where we will be keeping all of our information. At the top I will write colours and next to that I will write tally with pigs in brackets. What will I write under the title colours? Excellent job! I will write all of the colours under the title colours.”  
 -The teacher will be demonstrating this on the chart paper during the class discussion

Ex.

Colours	Tally (pigs)
Brown	
Green	
Pink	
Yellow	

-At this point we will ask for student volunteers to help count the pigs.  
 “Wow! I love the way V was sitting quietly on the carpet. Would you like to come up and help count the pigs?”  
 -Four students will hold up the pigs (at separate times) as we count and tally the coloured pigs  
 “One! One tally mark. Two! Two tally marks etc...”  
 -The teacher will show the students how to group the tally marks in five.  
 “Five! Now for five we need to put a line through the four tally marks to make them a group of five.”  
 -Visually show them on the chart paper what 15 would look like in tally marks and have them count by fives.

Data Analysis  
 -simple/basic understanding of information collected

-Once all the data has been collected, the teacher will then explain the activity. The students will put what they have learned into practice  
 “Here is a survey for you to fill out. Which animal do you like best? How do you think you will collect your

	<p>information? That’s right! You will ask your classmates what animal on this sheet they like the best. Don’t forget to use tally marks to collect your information.”</p> <ul style="list-style-type: none"> <li>-They will be given a pre-made tallying sheet where they will then be responsible for going around the class and asking their classmates what their favourite animal is (out of the five pre-selected animals – pig, tiger, horse, cow, monkey)</li> <li>-explain to students that after data has been collected and tallied, you always read the chart to see what the data (tally) is telling you</li> <li>-“You will need to count the tally marks for each animal to answer the questions.”</li> <li>-on the worksheet there are posed questions for them to answer after they have collected their own data.</li> </ul>
--	--

<p><b>5. Consolidation/Recapitulation Questions (Check for understanding/scaffolded practice)</b></p>	
<p>(5 min)</p> <ul style="list-style-type: none"> <li>-Explain to students that there is lots of time to complete the activity and no need to rush</li> <li>-“You will have enough time to talk to your classmates. Do not rush through this activity and I will let you know when you have five minutes left.”</li> <li>-Before leaving the carpet, teacher will ask students to retell what they are expected to do</li> <li>-“How are you going to collect information?”</li> <li>-“How will you record the information?”</li> <li>-“What are you going to do on this activity sheet?”</li> <li>-Everyone should have the tally chart and the questions answered by the end of the period</li> <li>-Remind the students to put their name and the date on their worksheet</li> <li>-Hand their worksheet in when completed</li> </ul> <p>“You will need to first put your name at the top of your worksheet before beginning. Hand in your worksheet when you are finished.”</p> <p>(There is a Jillian Jiggs colouring activity sheet ready for them when they are finished their work)</p> <ul style="list-style-type: none"> <li>-ALWAYS ask if the students have any question about what they are expected to do</li> </ul>	
<p><b>6. Application (Moving from guided, scaffolded practice to increasingly independent practice and understanding / gradual release of responsibility)</b></p>	
<p>(Lesson – 20) (Activity – 30)</p> <ul style="list-style-type: none"> <li>- Students will participate in a class data collection (Finding one coloured pig each and putting it on the matching coloured mat)</li> <li>-Together as a class we will sort and count the pigs that will be marked in the tally chart by the teacher</li> <li>-Students will be handed the survey worksheets at their desk, where they will write their names at the top of the page before starting the survey</li> <li>- Then students will collect data from the class individually (favourite animal)</li> <li>- Students will tally their information upon collection using the premade tally chart</li> </ul>	

- Students will analyze their data by answering the posed questions at the bottom of their worksheet
- When they have completed their task the students will be given a Jillian Jiggs colouring sheet

### 7. Lesson Conclusion

(10 minutes)

- Have the students show me their completed work sheets for corrections and to ask them questions about the information they collected
- Students will hand in completed worksheet (with finished tally charts and answered questions)
- Students will put colouring sheets (if they have started) in their desks to work on later in the week
- When students are done cleaning their work area, they will stand in front of their pushed in chair and wait to be called to line up for the bathroom

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

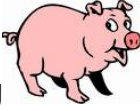




- Students' understanding and knowledge of concepts will be assessed with the use of a checklist of their completed worksheet.
- Students will be assessed and evaluated at the end of the unit through a final assessment which will be given and marked by the teacher.
- Teacher will be looking for understanding of data collection methods (i.e. tally marks and chart)

#### Example of the Checklist

<p>Tally Marks</p> <ul style="list-style-type: none"> <li>-Able to make tally marks (four in a row and the fifth crosses through them)</li> <li>-Able to count their tally marks</li> <li>-Able to organize data</li> <li>-Able to understand the information collected</li> </ul>	Has an understanding	Limited understanding	Beginning to have an understanding
Students Names			

# Survey

Ask students in your class which animal they like the best.

Animal	Tally
pig 	
tiger 	
horse 	
cow 	
monkey 	

1. What animal was liked the best? \_\_\_\_\_
2. What animal was liked the least? \_\_\_\_\_
3. How many students like cows and tigers? \_\_\_\_\_
4. Write the animals that had the same amount. \_\_\_\_\_
5. What is your favourite animal? \_\_\_\_\_

## Selecting Children's Trade Books for Mathematics Instruction

### **Accuracy**

We feel that this children's book does not possess specific mathematic instructions, it does however provide an excellent hook for organizing and sorting. The book clearly depicts a variety of pigs and their different colours. We incorporated this into our data management lesson using the physical attributes of the pigs (colour). Our accuracy was in the delivery of our discussion following reading of the book. Having the children identify, gather and sort the various coloured pigs.

### **Visual and verbal Appeal**

The book *The Wonderful Pigs* of Jillian Jiggs is very well illustrated, with basic full color pictures. Guaranteed to stimulate and retain the imagination of the young readers. Through these illustrations, the students can identify expressions, pace, actions and emotions. The verbal appeal speaks for itself with the poetic simplicity. Children become engaged and can relate to the rhythmic format of the book. The rhyming word connections allow the children to predict and get involved in the reading. The visual and verbal appeal of this book has proven in our classes to be a valuable hook in gaining and holding the students attention.

### **Connections**

By reading this book and implementing it for our data management lesson, it bridges the gap between "mathematics" and the "real world". This lesson incorporates language arts, mathematics, visual aids, concrete objects and critical thinking provides the cross curricular content we as educators strive for. As proven in many studies, a balanced and integrated lesson meets the needs of all learners.

### **Audience**

The target audience of this book is by no means homogenized. In this book there are a number of ethnic backgrounds displayed in the characters as well as the pigs. Another great feature of this book is that it interests both genders. This book does not cater to one gender or the other; it is very neutral in terms of its readers.

### **The "Wow" Factor**

The book and our lesson plan provide an excellent opportunity for the students to connect mathematics to a story they can relate to. At the conclusion of the story the students can share their thoughts and ideas among peers through class discussion. By making these connections the students can examine some interesting mathematical concepts in a group learning environment, this will prove engaging and stimulating...WOW!