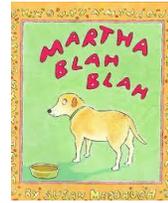


Math Lesson

Line Graphs (developing and applying criteria)

Book: Martha Blah Blah by Susan Meddaugh

Grade levels: 6 and 7



Lesson created by: Christine VanderRee

Learning Outcomes:

Grade 6

D1 Create, label and interpret line graphs to draw conclusions

D3 Graph collected data and analyze the graph to solve problems

Grade 7

D3 construct, label and interpret circle graphs to solve problems

Context of Lesson within the unit:

The lesson acts as a launch to the data analysis work. The developed criteria is applied on other types of graphs in the remaining portion of the unit

Materials:

- Picture book Martha Blah Blah by Susan Meddaugh
- Grid paper with lines for summaries
- Sample graphs
- Blank criteria

Lesson Ideas:

1. Discussion: base discussion on when and where students see graphs, purpose of graphs, touch on misuse of graphs. Children are most familiar with bar graphs and need clarification that a line graph is one that is used when there is some data collection that involves measurement over time.
2. Distribute the four sample graphs to small groups of students. Have them figure out which is the 'best' graph and what makes it the best. Then ask them to record descriptive feedback on each graph to determine what was missing.
3. As a class generate the criteria for an effective line graph. An empty criteria sheet is used which I project and add to as the children are offering their input.
4. I then launch into using the book Martha Blah Blah to collect and graph data. At this age level (depending on the mix of kids) I often just skim the book with the highlights explaining that the letters in the soup are cut back until Martha can no longer talk. I challenge them to think about what would happen to their full names if they lost a letter a day.
5. Children set up a t-table to record number of letters in their name, then removal of a, b etc. Students attempt to graph this on a line graph, using the criteria they discussed previously as a guide.

6. The next day, I distribute copies of the now filled in criteria sheet for them to peer and self evaluate their name graphs. Children need to be encouraged to use the language on the criteria sheet for their evaluations – otherwise they just state ‘too messy’ or good use of ruler!!!
7. After a discussion about what was easy and what was hard about their name graphs (the scale is always the hardest) and some tips to make it easier, I challenged the students to do a ‘Knees Up’ over time activity. With a partner, one counting and recording and one running on the spot – to the height of their partners hand children recorded the number of knees up every 30 seconds for 3 minutes. I called the 30 second intervals. They then switched and repeated the count.
8. Children then graphed their knees up – some nice graphs with ups and downs were produced which gave them some good information to discuss in the summaries.
9. Graphs were self and peer evaluated prior to handing in.



Variation on lesson:

- Have the children come up with an exercise that they could measure with a time component.
- Could tie in with science and ecology unit – growth of plants

Ticket out the door:

- Children describe two things that must be on a line graph

Follow-up:

- Have grade 6's repeat with another ‘time’ data collection and grade 7's branch into circle graphs, building and/changing the criteria as it fits for this.