

**Math-ese 2D  
Lesson Plan**

**NAME:** Nancy Lines

**GRADE LEVEL:** 4<sup>th</sup>

**TOPIC:** Line Graphs

**PASS OBJECTIVES:**

- Math Standard 5: The student will demonstrate an understanding of data collection, display and interpretation
- Math Standard 5:1.b. Collect, organize and record data in tables and graphs.

**OBJECTIVES:**

- The students will identify the parts of a line graph.
- The students will draw and label a line graph.
- The students will correctly graph their addition facts scores onto a line graph.
- The students will summarize the trend of their line graph.

**MATERIALS NEEDED:**

- Pre - Post Test
- Addition mad minutes
- Chart for recording data.
- Blank graph to graph data.

**TECHNOLOGY USED:**

- Click and Learn
- The Graph Club 2.0

## **INSTRUCTION**

### **Introduction**

- **The students will be given a pre-test.**

### **Instructional Process**

- **Each day the teacher will time the students for one minute as they complete an addition fact page. They will record their number correct and the date in the margin of the paper.**
- **After 5 to 10 days, the teacher will ask the students to transfer their scores and the date onto a chart. This is a great time to talk about the word data and what it means.**
- **Once the "data" has been recorded onto the chart, the students will be given an empty grid paper. Explain the following parts of the graph: origin, x-axis, y-axis, and title.**
- **The students will then label the graph and plot their scores onto the graph.**
- **Each day, as the students do another mad minute, review the parts of the graph as they record their scores onto their chart and graph. Use the following terms during each class discussion: y-axis, x-axis, origin, trend, data, and line graph.**
- **Look at their line graphs and discuss what it means if the lines go up; stay level; or go down.**
- **During this time, the students will get on our Internet based learning program called, Click and Learn. There are several lessons that teach the parts of the graph and specifically about line graphs.**

- After the students have recorded and graphed 10 to 12 scores, pull each student to the computer one at a time. Using The Graph Club 2.0 computer program, lead the students through the steps in creating a chart like their Mad Minute chart. You will need to go to the Create a Graph section of the program. The left side will be their table, the right their line graph. This process will require the students to name their chart, label the columns, add the needed lines, and record their new data.
- As the student puts the information on their chart, the computer program will automatically construct a line graph to match their data. As each date is being added, they will tell me if the line will go up, down, or stay the same. The scale of the graph will automatically change when their scores go above 10 and 20.
- After all the data is recorded onto their chart, the students will then compare the graph they made by hand to the graph on the computer. Discuss why it is or is not the same. Find the mistakes that were made.
- On the notebook section of the page. Ask the students to make a statement about the "trend" of their line graph. You may have to help them verbalize their findings.

### Closure

- The students will complete a vocabulary page for their math dictionary.
- Give the Posttest.

**Assessment**

- The students will be assessed by the accuracy of their chart and graph.
- The teacher will be able to assess the student during their one-on-one discussions as they create their graph using The Graph Club.
- The scores from the Click and Learn Program can also be used as an assessment tool.

**Modifications/Accommodations:**

- **ADVANCED STUDENTS:** Ask them to go on the Internet and research one city in the United States and record the average temperature for each month. They will have to create a table to record the data and then construct a line graph.
- **SPECIAL NEEDS:** You may have to stay close to these students to guide them through each step. You could also reduce the amount of data graphed.

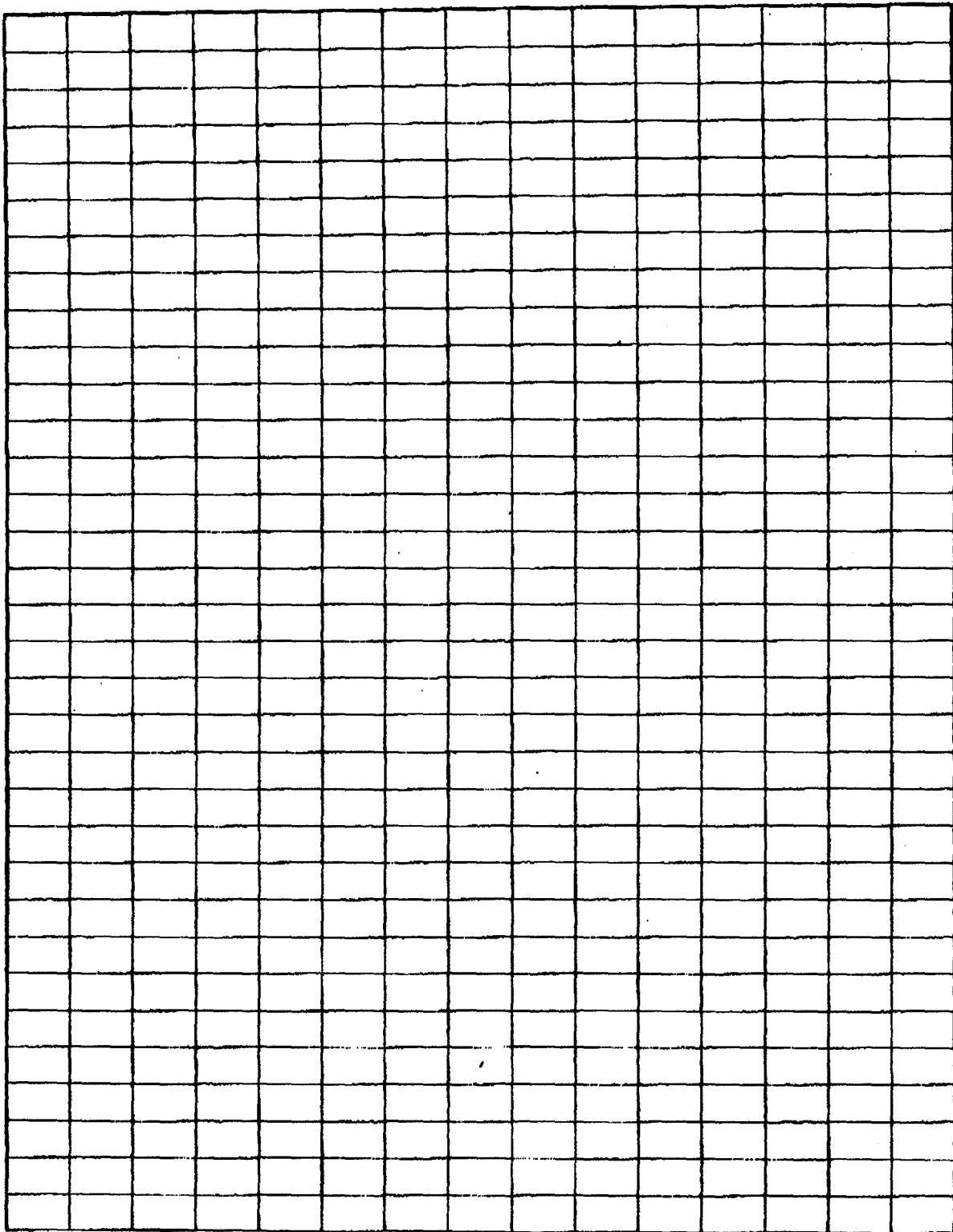
**Reflection:**

Many things went wrong with this lesson. First, I "lost" my lesson plan somewhere in my laptop. (Don't laugh.) At school I was moved to a new room and given 4 new computers. This was great news except they were not up and running until about a week ago. But these set backs turned out, for the most part, to be a blessing! In the years past, I have always asked my students to graph the results of their mad minutes, but I always started the graphing the first day. Because of the above setbacks, I just asked my students to record their scores in the margins and went on. I had never used a chart in relation to their graph. Since I waited about 8 days before using the chart and graph, I believe

that is was easier for the students to better understand what they were doing.

Using The Graph Club 2.0 as a one-on-one situation was invaluable. The student-teacher discussions and the assessments I could make were amazing. You could see the wheels turning in their heads when they had to figure out why their chart didn't match the computer chart. Each student experience was different. They had a great time using the new technology!! I will do this again.



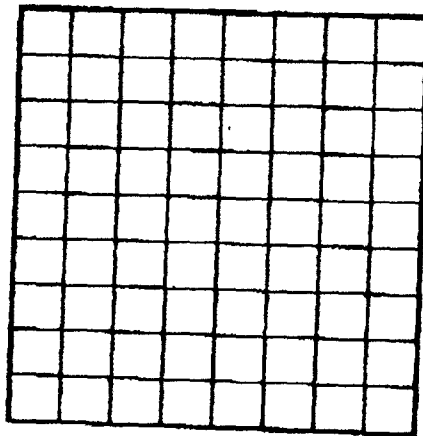


# Line Graphs

A line graph \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Another name for data is \_\_\_\_\_.

## Parts of a Line Graph



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P  
Q  
R  
S  
T  
U  
V  
W  
X  
Y  
Z