Kailah Brewer 6/13/10

Lesson Plan Template

# Breakthrough Denver

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Getting Yourself Ready** | | | | |
| **Materials**:  Communication through Graphing PowerPoint  Construction paper or Note Cards with all of the parts of a graph on it | | **Your Preparation**:  Communication through Graphing PowerPoint  Make the construction paper/note cards  Create good and bad examples of graphs  Create a worksheet with three graphs with each of them missing something | | **Agenda (w/times)**:  Do Now (5minutes)  Teaching(15mins)  Structured Practice(20mins)  Guided Practice(10mins)  Closure(5mins) |
| **Getting Your Students Ready** | | | | |
| \***Do Now**: Come in and make a line graph using the data that’s on Projector | | | | |
| **Objective**:  \*Students will learn the different parts of a graph  \*Students will learn/review how to create a line graph | | | **Proving behavior**:  Find the missing parts of a graph when given examples of experiments and their graphs  \*Create a line graph with given data | |
| **Purpose**: Graphing is one of the simplest ways to communicate your findings in an experiment so having graphs uniform and understandable is very important | | | | |
| **Teaching** | | | | |
| Step 1: Title | Say: The title on the graph should never just be the name of the experiment. If I was making a graph using the data I collected from a paper airplane lab the title of the graph should not be “Paper Air-Plane Lab.” The title of a graph should describe what the graph is measuring so an appropriate title would be “Distance of Paper Planes vs. Time” of simply “Distance vs Time”  See: The example of the two different named graphs on the PowerPoint  \*Do: Have them do a choral response to the question “What should a graph describe?” The answer being “What is being measured!” | | | |
| Step 2: What goes on the X-axis | Say: When making a line graph, which we are going to be doing, the independent variable always goes on the x-axis. (*Ask students if they have any way to remember this then try sharing it with class. Keep thinking about it and try to come up with a way to help the students remember this)*  See: See the example of the well titled graph that has the independent variable on the x-axis and the bad graph that has just the opposite  \*Do: Notice the trend in the graph; as time goes by the paper-plane goes further  If we put the independent variable on the y-axis then the graph would not be showing the correct trend  Do a choral response of what goes on the x-axis🡪 “the Independent Variable!” | | | |
| Step 3: What goes on the Y-axis | Say: Since independent variable always goes on the x-axis, then that means that the dependent variable always goes on the… “What?”… “Y-axis!” (Repeat until everyone says it) (*Ask students if they have any way to remember this as well then try sharing it with class. Keep thinking about it and try to come up with a way to help the students remember this)*  See: See the bad example and the good example of the graph on the PowerPoint.  \*Do: Do a choral response of what goes on the y-axis🡪 The Dependent Variable!” | | | |
| Step 4: Spacing out the data that your graphing | Say: Almost just as important as having the right data on the right axis is spacing out the numbers and using the entire graph. This is important because it makes the graph easier to read and helps the person reading it understand what happened in your experiment better.  See: Example of the bad graph with the line bunched up in the corner. Show the good graph where the data is spread throughout the graph space  \*Do: So what should you always do when making a graph? 🡪 “Space it out!” | | | |
| Step 5: The importance of clearly labeled and correct units | Say: One of the first things that people use to understand what the graph that they are looking at is trying to communicate is the units. Not having units is like having directions to somewhere without having any street names. Just like it would be a bunch of left and right turns, the graph would be just a bunch of numbers  See: Show them the Bad graph without any units and the good graph that has units as I’m explaining both  \*Do: Show one graph that has no units and ask them to tell me what the graph is measuring (no title either) Then show a graph that has units and ask them to tell me what is being measured which will be easy. | | | |
| Step 6: | Say:  See:  \*Do: | | | |
| **Practice** | | | | |
| \***Structured Practice** (3-4 additional examples led by teacher with gradually quickening pace, helping students approach automaticity by manipulating time, materials, and group size) | | | | |
| Time:  Materials: Construction Paper with all of the parts of a graph on it and have them “construct” a graph on the floor using the parts of a graph  Group Size: groups of 2 or 3 | Cards that say; Units, Title, Data spaced out, Data, Independent on X, Independent on Y, Dependent on X, Dependent on Y; purposely don’t make enough of them so they will have to identify what’s missing or wrong on each other’s graphs | | | |
| Time:  Materials:  Group Size: | Example 2 | | | |
| Time:  Materials:  Group Size: | Example 3 | | | |
| Time:  Materials:  Group Size: | Example 4 | | | |
| \***Guided Practice** (the proving behavior of the objective monitored by the teacher) | | | | |
| Assignment: Find the missing parts of a graph when given examples of experiments and their graphs, worksheet with three different examples | | | Criteria for Mastery:  Find all of the things missing in each different graph/scenario | |
| Independent Practice (Homework) | | | | |
| Explain Homework:  Given two sets of data I want them to create two perfect line graphs with all of the parts of graph | | | | |
| **Closure** | | | | |
| Explain Closure: | | | | |

|  |  |  |
| --- | --- | --- |
| **VIP** | | |
|  |  |  |
|  |  |  |