Kailah Brewer 6/12/10

Lesson Plan Template

# Breakthrough Denver

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| **Getting Yourself Ready** | | | | |
| **Materials**:   * Scientific Method teaching PowerPoint * Printed out LP for the day * Printed out example lab write-ups for them to mark up * Printed out Question of the Week to put near the door | | **Your Preparation**:  Prepare Scientific Method PowerPoint  Prepare sample lab write ups  Find a question of the week  Make copies of all of the handouts for kids | | **Agenda (w/times)**:  Do Now(5mins)  Teaching(  Structured Practice(  Guided Practice(  Closure( |
| **Getting Your Students Ready** | | | | |
| \***Do Now**:  Present the “Question of the Week” and give the students 5mins to read it and work on it. | | | | |
| **Objective**:  \*Students will review the scientific method and create their own scientific method VIP’s  \*Students will be shown how to use the independent and dependent variables to create procedures and data tables | | | **Proving behavior**: Identifying all of the steps of the scientific method given several example labs | |
| **Purpose**: Understanding the scientific method is the first step in being able to design your own lab experiments. | | | | |
| **Teaching** | | | | |
| Step 1: Review Question and Hypothesis | Say: We’ve learned what a testable question is and how to write a hypothesis using the “If…Then…” method. Look at the example of a testable question and a hypothesis that might go with it. As a bonus question see if they can identify the independent and dependent variables  See: Have an example of a testable question and hypothesis on the board for them to read  \*Do: Have students read the example and figure out what makes it a testable experiment and what kind of experiment you could do with the question. | | | |
| Step 2: Briefly review all of the other parts of the scientific method and what their purpose is and what they need to include | Say: Between having a question and a Hypothesis it is important that you do some background research so that you can really make an educated hypothesis based off of knowledge of the subjects rather than speculation.  Then you have the Experiment itself where you gather data in order to try to prove or disprove your hypothesis.  Next is the Analysis/Conclusion where you look at all of the data collected in the experiment portion and you determine whether or not the hypothesis was right or not.  See: The VIP created for the Scientific Method on PowerPoint  \*Do: Have students create their own VIP’s for the scientific method | | | |
| Step 3: Go back to Experiment and explain the importance and difficult nature of this step | Say: Creating a good experiment can be fun but it’s also challenging. There are a lot of things you have to take into account; what your trying to prove, the independent vs. dependent variable, materials available, time restraints, controls all of those play a part in creating an experiment  See:  \*Do: | | | |
| Step 4: Show how Independent variables can be used to structure lab procedures | Say: A place to start is to think about what your independent variable is and how it will affect the dependent variable. If the independent variable is location that you put moldy bread and the dependent variable is growth of mold, then you have to design an experiment that puts the bread in different locations so that you can see how the independent variable(location) affects the dependent variable(mold growth)  See: Example of the experiment I’m talking about on the projector  \*Do: Have another example and have them write on white boards what | | | |
| 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: 10mins  Materials:  Group Size: Whole Class | Gummy Bear juice comes in three different colors; red, green and blue. I want to figure out which Gummy Bear Juice makes me jump the highest. How would I make an experiment in order to figure this out? | | | |
| 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: Show them on the projector and with handouts lab write-ups and have them identify the different parts of the labs and if they have all the parts or not | | | Criteria for Mastery: Identify all of the missing parts of the lab write-up | |
| Independent Practice (Homework) | | | | |
| Explain Homework:  Finish your VIP for the scientific method | | | | |
| **Closure** | | | | |
| Explain Closure: Write down homework in Rap sheet and | | | | |

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| **VIP** | | |
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