**Adrienne Deshaies**

**STARS Science**

**Monday, Aug 2, 2010**

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| **Getting Yourself Ready** | | | | |
| **Materials**:  Post test copies  Hw sheets  Lab materials (marbles, tubing…) | | **Your Preparation**:  Prepare hw  Have extra pencils on hand  Gather materials | | **Agenda (w/times)**: 55 mn  Do Now = 5 mn  Test = 20-25 mn  Project work time = 20-25 mn  Closing/explain hw = 5 mn |
| **Getting Your Students Ready** | | | | |
| \***Do Now**:  Whip-share: one thing you did over the weekend. Then, each students gets a different pop-question they should be able to answer (ex. distance = rate x \_\_\_\_\_\_, a good graph needs what 4 things, a good graph title includes \_\_\_\_\_\_\_\_, a result is different than a conclusion because \_\_\_\_\_, a good hypothesis takes the form of \_\_\_\_\_\_\_\_, a \_\_variable is one that we control and change, a \_\_\_\_\_\_\_ variable is the one that we measure in an experiment, the increments of a graph must increase by \_\_\_\_\_ amounts…” | | | | |
| **Objective**: *Today you will be able to…*  Prove how much you have learned this summer.  Write a proposal for your final project. | | | **Proving behavior**: *by…*  Taking the science post test and showing improved scores.  Submitting a design proposal which includes both variables identified and an action-plan for how/what you will measure. | |
| **Purpose**: *We are doing this because…*  I, as well as BKD, want to see how much you’ve improved over the course of the summer. It will not only give us an idea of what you have mastered in terms of this content, but also how effective my teaching has been for you guys as a class, and how I could plan this course better in the future. Please do your very best, don’t stress, and take as much time as you need. | | | | |
| **Teaching** | | | | |
| Step 1: | **Say:** You have until the end of class if you need it, but it shouldn’t take that long. If you finish early, please raise your hand, give me your test, and quietly begin working on tonight’s homework. If we all finish early, we will have planning time for our roller coasters, because tomorrow we will start constructing. I will be available for clarification questions, but I can’t help you answer the questions. Make sure your name is on it. A passing grade on this test is 85% (12/14). If you score 11 or lower, I will ask you to come meet with me at fishbowl some time this week, not as punishment, but to go over your mistakes and help clarify parts where you might be confused.  **See:**  **\*Do:** Take the test. | | | |
| **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:  Group Size: | **Example 1**  **N/a** | | | |
| \***Guided Practice** (the proving behavior of the objective monitored by the teacher) | | | | |
| **Assignment: (from proving behavior)**  Time permitting – if everyone finishes with 15 mn or more before end of class, I will present the lab materials and explain what the proposal needs to include. Get with your groups and answer these three questions on a piece of paper:  1. What will be your independent variable (i.e. what will you change between trials?)  2.What will be your dependent variable (i.e. what will you measure during each trial?)  3. How will you measure/calculate your dependent variable?  You must turn this sheet in to me before you can start construction tomorrow. If you don’t finish your proposal now, we will take some time tomorrow so you can do so. | | | **Criteria for Mastery:**  Students can identify the independent and dependent variables in their self-designed experiment, and can choose an appropriate method for taking and recording measurements. | |
| Independent Practice (Homework) | | | | |
| **Explain Homework:**  Your homework is to write out detailed instructions for how to construct a paper airplane or origami object. Tomorrow, one of your classmates will have to follow your directions without your guidance, so make sure they are as thorough and clear as you can make them. Diagrams are always a plus. | | | | |
| **Closure** | | | | |
| **Explain Closure:**  Fist of five – how do you feel you did on this test as compared to the one at the beginning of the year? | | | | |

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**Tuesday, Aug 3, 2010**

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| **Getting Yourself Ready** | | | | |
| **Materials**:  computer paper  Hw sheets  Lab materials  Note cards | | **Your Preparation**:  Have data table/hw prepared  Gather materials  Have post-tests graded, list of students I need to meet with | | **Agenda (w/times)**: 45 mn  Do Now – 7 mn  Purpose – 3 mn  Follow up/procedure talk – 10 mn  Work time – 20 mn  Closing/hw – 5 mn |
| **Getting Your Students Ready** | | | | |
| \***Do Now**:  Trade instructional sets from hw with one other person. You may not sit with this person or offer them any spoken guidance. Everyone receives a piece of blank paper, and must try to construct the plane/origami using only the instructions given to them. Take 5 mn. Afterward, discuss – how helpful were your classmate’s instructions? Were you able to complete the task using only these steps? What was missing? What was helpful? | | | | |
| **Objective**: *Today you will be able to…*  Have a better idea of what good procedures look like.  Begin construction of your final project! | | | **Proving behavior**: *by…*  Giving and receiving feedback from peers about quality of procedures.  Recording detailed procedures during construction time. | |
| **Purpose**: *We are doing this because…*  Writing good procedures is an important part of the scientific method, and an important way to help others learn to do what you have already done. Who here has ever had to read an instruction packet in order to build something, set something up, or do something? (a few examples). In science, we want other scientists to be able to repeat the experiments we have done, so they can compare their results with ours. | | | | |
| **Teaching** | | | | |
| Step 1: | **Say:** Now get back with the person you traded with. For two minutes, one person has the floor to talk about where they got confused or felt like a step/detail was left out, and suggest how the author might alter their instructions. Then for the next two minutes, the other partner does the same.  **See:**  **\*Do:** Afterward, have a few partners share the feeback they gave/got. This should give you an idea of how detailed your lab procedures need to be. Imagine you are writing directions for one of the 7th graders who has never built or tested a roller-coaster. | | | |
| Step 2: | **Say:** As we start the construction of our projects, in each group you need to designate one person as the procedure recorder. This person needs to be someone who is willing to write down the detailed steps of construction as you are doing them.  **See:** On board, example of steps: “curve tubing into a loop which rests on the floor. With duct tape, tape the starting end of coaster to the wall, 5 ft above the ground.”  **\*Do:** Take 30 sec to elect a procedure recorder and have her/him raise their hand. You may switch off each day, but the quality of the procedures needs to be consistent. | | | |
| **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:  Group Size: | **Example 1**  **n/a** | | | |
| \***Guided Practice** (the proving behavior of the objective monitored by the teacher) | | | | |
| **Assignment: (from proving behavior)**  Students get into groups, are given materials, and can begin construction of coasters. Recorder also helps, but has pen and paper with her/him at all times and is recording each step. I wander and give feedback about level of detail/what’s missing. | | | **Criteria for Mastery:**  Each group has started a detailed record of the steps they are taking during construction. | |
| Independent Practice (Homework) | | | | |
| **Explain Homework:**  I hand out a blank data table with instructions to fill in the LABELS so that it makes sense for your group’s lab. Some labels you will want to include: trial #, labels for independent variable (how is each phase different), what dependent variable you’re measuring and what are the units… | | | | |
| **Closure** | | | | |
| **Explain Closure:**  On a notecard – in no less than five steps, provide instructions for leaving the room.  Upon leaving, I speak with students who need to meet with me during fishbowl. | | | | |

**Adrienne Deshaies**

**STARS Science**

**Wednesday, Aug 4, 2010**

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| **Getting Yourself Ready** | | | | |
| **Materials**:  Lab materials  Timers  measuring tapes  Calculators  camera | | **Your Preparation**:  Gather materials  Request volunteer/s? | | **Agenda (w/times)**: 55 mn  Do now = 5mn  Finish construction = 20 mn  Tests = 30 mn |
| **Getting Your Students Ready** | | | | |
| \***Do Now**:  Pull out data tables from hw, compare with your group members to make sure everyone has a setup that will work. Make changes as necessary. | | | | |
| **Objective**: *Today you will be able to…*  Finish construction of your roller coasters,  Begin/finish testing them – you will have data you can use for your results. | | | **Proving behavior**: *by…*  Producing a roller coaster capable of being tested.  Completing at least the first 2 phases of your experiment (6 trials). | |
| **Purpose**: *We are doing this because…*  It is time for you to be more independent scientists – you have been entirely in charge of the design and construction of your projects, and now you will whip out all the skills you’ve learned in testing them out. You will most likely need to use your skills in measuring distance and time, your knowledge of variables, of how to calculate speed, and exercise good recording skills and accurate data-taking. This is your time to show me what self-directed scientists you can be. | | | | |
| **Teaching** | | | | |
| Step 1: | **Say:** You have 20 mns to complete construction, if needed. Do not forget that someone (can be same or different person) needs to be recording all the detailed steps of your construction – this goes for the testing process as well, you need to record all the steps you use in testing too. I will be available for support/trouble-shooting.  **See:**  **\*Do:** Students have 20 mn to work independently on their coasters. | | | |
| **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:  Group Size: | **Example 1**  **n/a** | | | |
| \***Guided Practice** (the proving behavior of the objective monitored by the teacher) | | | | |
| **Assignment: (from proving behavior)**  Once construction is complete, groups can begin testing their coasters using the design setup which I approved and the data tables which they created. Measuring devices will be provided and I/volunteers will be wandering if needed, but it is largely on your hands to do this carefully, accurately, and get good data. Try to get through at least the first two phases of your table today, and we can finish the last tomorrow if need be. | | | **Criteria for Mastery:**  Students exemplify knowledge of how to accurately measure distance and time, record data in a table, alter the independent variable between trials, trouble-shoot, and exercise controls throughout trials (in a basic sense). | |
| Independent Practice (Homework) | | | | |
| **Explain Homework:**  Using data from first 2 phases (3 if completed), find the averages for the measurements you took (separate average for each variable/each phase). | | | | |
| **Closure** | | | | |
| **Explain Closure:** | | | | |

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**STARS Science**

**Thursday, Aug 5, 2010**

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| **Getting Yourself Ready** | | | | |
| **Materials**:  Lab materials  Graph paper  Markers  Rulers  Calculators  extra lab-packets | | **Your Preparation**:  Gather materials  Request volunteer? | | **Agenda (w/times)**: 55 mn  Do Now – 5 mn  Complete tests – 15 mn  Graphing in groups – 25 mn  Conclusions/closing – 10 mn |
| **Getting Your Students Ready** | | | | |
| \***Do Now**: On a piece of graph paper, set up a set of X and Y axes, label your axes with the independent and dependent variables from your lab (use a pencil) and include units. Come up with a title for your graph that describes both variables and the relationship you are testing. | | | | |
| **Objective**: *Today you will be able to…*  Finish testing your coasters.  Make a graph (line or bar) of your results.  (time permitting) read your graph and draw a conclusion based on it. | | | **Proving behavior**: *by…*  Working in groups to create a graph based on the data from your data table. | |
| **Purpose**: *We are doing this because…*  Remember how a graph is worth 10,000 words? We are going to be showing off our results to parents at celebration, and which do you think would be more interesting/easier to quickly understand, our data tables, or a neatly color-coded graph with a good title? We want to make good graphs of our results so it is easier to explain to others what we did, and so they can easily see the significance of what we found out. | | | | |
| **Teaching** | | | | |
| Step 1: | **Say:** First, take up to 15 mns to get with your groups and finish the last phase of your testing. Make sure the procedures recorder is still taking notes. Once testing is done, each group hands me their procedures page, I make copies of them for everyone in group.  **See:**  **\*Do:** Afterward, take 2 mn to calculate the average measurement for each phase and record it. | | | |
| Step 2: | **Say:** Quick review of what a good graph needs (TAILs). Briefly, how to choose between a bar chart or a line graph: look at your independent variable. If it is something you can describe using a number scale, like height, distance, length… a line graph is probably best. If it is something that can only be described in words, like type of projectile, a bar graph is probably best.  **See:** I demo both types of graphs with labels on board.  **\*Do:** Take 5 mn to consult with your group. I will come around to discuss with you how best to set up your graph. | | | |
| **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:  Group Size: all | **Example 1**  If my independent variable were types of surface that a penguin jumped on, which graph would be best? (BAR!) If it were drop-height of an egg, which would be best? (line!) | | | |
| \***Guided Practice** (the proving behavior of the objective monitored by the teacher) | | | | |
| **Assignment: (from proving behavior)**  Take 25 mn to work in your groups and have each person create a graph of your data. Graphs must be accurate, neat, and color-coded. Keep in mind that we will be presenting these to parents. Your graph must be checked off by me. If you finish early, work on coming up with at least one conclusion based on your results (it can be that X and Y are not related, if that is what you found out in your lab) | | | **Criteria for Mastery:**  Students can work together to come up with an accurate graph of average data, complete with a good title and labels/units. Students can interpret their graph to draw a conclusion from it. | |
| Independent Practice (Homework) | | | | |
| **Explain Homework:**  I hand out copies of procedures page for all members of group. Your homework is to copy these procedures (add any details you think necessary) into the section of your lab packet. Also (if not completed in class), you must look carefully at your results and come up with at least one conclusion you could draw from them – record it in that section of your packet. | | | | |
| **Closure** | | | | |
| **Explain Closure:**  Tomorrow you will be evaluating me as a teacher and this science course as a whole. Spend some time thinking about what you enjoyed in this course and what you wish had been different, because tomorrow I will ask you to put it down on paper. | | | | |

**Adrienne Deshaies**

**STARS Science**

**Friday, Aug 6, 2010**

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| **Getting Yourself Ready** | | | | |
| **Materials**:  Copies of course evals  Print-outs of group pictures  Treats  computer/music | | **Your Preparation**:  Prepare and copy evals  Print pictures  Bake something?  Bring music | | **Agenda (w/times)**: 45 mn  Do now = 5 mn  Course evals = 15 mn  Closing comments = 10 mn  Fun activity = remainder of class |
| **Getting Your Students Ready** | | | | |
| \***Do Now**: Please get out your lab packets that are due today, I will come by and check off all sections of them, or advise you to make revisions if needed. Once you are checked off, I will give you your picture page, please staple it to your packet and turn it in. I will give it back to you at celebration. | | | | |
| **Objective**: *Today you will be able to…*  Give me feedback on how this course/my teaching could improve.  Close up this summer of science with a few final words.  Enjoy one last fun activity as a class. | | | **Proving behavior**: *by…*  Completing course evals and turning them in. | |
| **Purpose**: *We are doing this because…*  As you know, this was my first summer teaching with BKD, and just like you guys, I have been learning a lot all summer long. I need your help now to let me know what parts of the class/my teaching style worked well for you and that you think I should keep, and what parts didn’t work so well and which I need to change/improve. The feedback you give me will do a big service to the next group of BKD students I teach, so think of it as a gift to the generation behind you ☺ | | | | |
| **Teaching** | | | | |
| Step 1: | **Say: N/A**  **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:  Group Size: | **Example 1**  **N/A** | | | |
| \***Guided Practice** (the proving behavior of the objective monitored by the teacher) | | | | |
| **Assignment: (from proving behavior)**  I hand out evaluation sheets. Please be completely honest on these, don’t worry about hurting my feelings. You can choose to put your name on or leave it anonymous, as long as you give me your honest opinion.  Take as long as you need to complete this. | | | **Criteria for Mastery:** | |
| Independent Practice (Homework) | | | | |
| **Explain Homework:**  no hw. | | | | |
| **Closure** | | | | |
| **Explain Closure:**  After students are done, we go outside to circle up. I say a few closing comments (I am so proud, how much I’ve seen you grow and improve, what a pleasure it has been getting to know all of you, feel free to keep in touch, call me for any reason, I hope you remember to stay curious – that is the basic ingredient to science, important to life as well).  Remaining time = dance/music/chill or water-fight/outside/hang-out | | | | |