Lesson #1: Introduction to Clouds (Science 1)

Objectives:
The student will:
1. identify various types of clouds by creating a mobile with at least 95% accuracy. [comprehension]
2. be able to distinguish in writing between different characteristics of clouds with at least 95% accuracy. [comprehension]

This lesson is an introduction to the topic of clouds. In this lesson the students will create a graphic organizer and a mobile to identify five different types of clouds including fog, stratus, cirrus, cumulus, and cumulonimbus. To begin the lesson, the students will free write in their response journals what they know about clouds. [Stephens & Brown, p 35] The class will share their ideas and the discussion will develop into a teacher led note-taking session involving a teacher provided graphic organizer detailing the actual characteristics of the five types of clouds. After the graphic organizer is complete, the students will identify various characteristics of the clouds orally. They will then use the information they have accumulated about clouds to create a mobile. This mobile will consist of the five cloud types identified by picture (provided by teacher), name, height and two to three characteristics of that cloud that the student feels are important. The wrap up for the lesson will be a preview of tomorrow’s lesson on how clouds form and a homework assignment to identify at least one type of cloud that they see in the sky today or tomorrow, but before we meet for class again.
Lesson #2: How Do Clouds Form? (Science 2)

Objectives:
The students will:
   1. make predictions about a science experiment in writing with 85% accuracy. [application]
   2. be able to identify orally the steps in cloud formation with 95% accuracy. [knowledge]
   3. be able to perform a science experiment with 95% accuracy. [application]

This lesson is a basic introduction to the steps in cloud formation. The students will begin by reviewing the water cycle and recalling their knowledge about terms and concepts such as evaporation and condensation. The students will then begin an experiment to create a cloud in a bottle. This experiment requires some wait time in the middle, so the students will conduct the first few steps until the wait time begins. During the wait time the students will fill in a step graphic organizer to identify the steps in cloud formation. Once the graphic organizers are completed, the students will create a large class step model to hang on the wall. Different students will be called on to fill in different steps in the cloud formation process. Once this is complete, the students will return to the experiment. The students will finish the experiment, record their observations in their observation notebook [Stephens & Brown, p 158] and clean up their areas. The lesson will be concluded by a preview of tomorrow’s topic of what weather goes with what clouds. The homework assignment for this lesson will be to create a pictorial representation of the cloud formation process using the information from their notes and by recalling what they saw during their experiment.
Lesson #3: What Weather Goes With What Clouds? (Science 3)

Objectives:
The student will:
1. identify, in writing, at least three types of weather associated with each of the five clouds with 95% accuracy. [knowledge]
2. predict, in writing, the outcome of an experiment with 90% accuracy. [application]
3. be able to perform a science experiment with 95% accuracy. [application]

This lesson will be about the various types of weather associated with the five different types of clouds that the class has already learned about. (Lesson #1) The students will begin the lesson with independent note taking. [Stephens & Brown, p 118] The teacher will conduct a direct teaching lesson to build on the students’ skills as independent note takers. The students will be provided with an outline for the notes and will be required to listen to the information the teacher presents and write down the three facts that they consider the most important. After the direct teaching session has ended the teacher will call on the students to repeat back the facts that they wrote down to check and see what the students thought were the most important. The teacher can then let the students know if they missed a fact that they should know. After all of the notes have been taken the students will get to observe an experiment about thunder. First they students will write down a prediction about the experiment. The students will then be split into three groups to observe either a teacher or a classroom aide perform the thunderstorm in a bottle experiment. The students will write down their observations and conclusions regarding the experiment including connections between the experiment and an actual thunderstorm. The homework for this lesson will be to respond to two sentence prompts about today’s science lesson.
Lesson #4: New York State’s Rainfall (Math 1)

Objectives:
The students will:
1. when given data of NYS rainfall put it on a graph with 95% accuracy. [knowledge]
2. use the graph to calculate average rainfall with 95% accuracy. [comprehension & application]

This math lesson will be connected to the third science lesson. In this lesson the students will be presented with a sheet of facts about the rainfall in New York State. The sheet will contain information such as rainfall in the years 1985-2000. The students will also be presented with about 10 questions that they do not already know the answers to but will be able to solve with the data sheet. [Stephens & Brown, p 178] The students will be required to perform average calculation to obtain average rainfall statistics for New York State. The students will then practice their line graphing skill and create multiple graphs displaying various data. They will make conclusions based on their graphs and identify any errors that they could encounter. For a homework assignment the students will create a line graph of rainfall for one state other than New York State by obtaining the rainfall information from the Internet. The students will be provided with an Internet site address that can be used to obtain this information. If students do not have access to a computer they will be given time in class to obtain the information.
Lesson #5: Historical Storms Comparison (Math 2)

Objectives:
The students will:
1. compare and contrast historical storms both orally and in writing with 90% accuracy. [evaluation]
2. create a histogram comparing historical storms with 95% accuracy. [synthesis]

This lesson is another math lesson focused on graphing and interpretation of graphs. This lesson will be focused on histogram graphing where as the previous lesson was focused on line graphing. The students will use the notes they have taken from the presentations their peers have given (ELA 4) to create a histogram displaying the data. This data (precipitation from historical storms) will be plotted on a histogram chronologically. The students will use their histograms to create a large master histogram for the classroom. The students will then use their histograms to answer a variety of questions. For example the students will have to identify the storm with the most/least precipitation. The students will also have to calculate the average rainfall of all of the storms, some of the storms, the storms from one year, etc. [Stephens & Brown, p137] Once the students have finished this they will be assigned a homework assignment to choose five of the storms they know about from the presentations, create a graph with their information and create 3 questions they would ask the class about the graph.
Lesson #6: Effects of Storms on History (Social Studies 1)

Objectives:
The students will:
1. complete the last column of a KWL chart at the end of the lesson with at least three facts that the have learned with 95% accuracy. [knowledge]
2. be able to identify in writing at least two different storms that have effected history with 95% accuracy. [analysis]

This lesson is intended as an introduction to the effects of severe weather storms on history. The teacher will create a KWL Chart with the class to get a basis for what the students already know about the topic. [Stephens & Brown, p47] the students will have likely lived through or heard about a storm of some type such as an ice storm, a sever rainstorm or possibly even a tornado or hurricane. The teacher will record this data along with what the student would like to learn about the topic. This will complete the first two columns of the KWL chart. The students will then take notes on some of the major historical storms throughout the history of the United States. [Stephens & Brown, p118] The teacher will take notes on the overhead along with the students. Once the students have completed the notes they will fill in the remaining column on the KWL chart. (The teacher will downsize the KWL chart and create a photocopy for each student.) The teacher will conclude the lesson with a preview of tomorrow’s lesson in which the students will be going to the computer lab and researching a historical storm of their own and creating a project about it. The homework for this lesson will be to find two to three historical storms that they may be interested in looking at in their mini-report and project.
Lesson #7: Computer Research about Storms (Social Studies 2)

Objectives:
The student will:
1. in pairs compile at least 30 pieces of information about one particular storm that has effected history with 100% accuracy. [synthesis]
2. utilize the correct technology programs on the computer to search the internet, using at least three searches, for information on their historical storm with 90% accuracy. [application]

This lesson will consist mostly of computer research. The students will begin class in the classroom. The teacher will assign historical storms to pairs of students based on their homework from yesterday. The students will be given directions for the mini-report and poster/presentation along with a list of sites that they should look at when they get on the Internet. The students will be instructed to take notes on their note taking sheets (class format ~ used throughout the year), as opposed to printing out everything they find. [Stephens & Brown, p118] The students will now move to the computer lab to conduct the research. The teacher along with the classroom teacher aides will be circulating to assist in the search. The students will have about 40 minutes to complete their research, including at least 30 facts using at least 3 different searches. Once they are done, the students will be given information from the teacher about their particular storm from a textbook. The students will have to divide this information up among the two in their group and read and summarize this information for tomorrow. [Become and Expert technique, EDU 372] If the students finish their Internet research early they will be able to work on their summaries in class. What ever they do not finish in class will be their homework.
Lesson #8: Become an Expert . . . (English/Language Arts 1)

Objectives:
The students will:
1. construct an outline of the information they found online with 95% accuracy. [synthesis]
2. identify at least 20 pieces of important information on their storm with 95% accuracy. [knowledge]

The students will be creating an outline in class. They will divide up the information that they complied earlier today in their Internet search and pull out the most important parts or pieces of information. [Become and Expert technique, EDU 372]

Then the pairs will share what they have learned with each other. Together the two students will create an outline describing their historical storm. They will have a model outline for what types of information should be included. In the end, the students should have an outline with at least twenty pieces of information included. To wrap up the lesson the teacher will explain that this outline will be used tomorrow to create a rough draft of a report about a historical storm. There is no homework for this section other than to read and summarize the information from social studies class.
Lesson #9: On to the Mini-Report!! (English Language Arts 2)

Objectives:
The students will:
1. summarize in writing the 20 important facts on their storm with 95% accuracy. [comprehension]
2. reorganize their 20 important facts into a rough draft format of their paper. [synthesis]

Today the students will be constructing a rough draft of their papers. The students will use the outline that they created yesterday along with the information they summarized for homework to construct a 2 to 3 page paper about their storm. The students will be working independently on this task. They will only be writing the body of the paper including their facts. The teacher and classroom teacher aides will be circulating to assist in the writing process. The students will be given a checklist to check off the parts of a paper as they complete them. [Stephens & Brown, p 88] Once the students have finished their paper they can begin to work on the editing process. For the editing process, they will have an additional checklist to use. [Stephens & Brown, p 88] For homework the students will decide within their groups who will complete each task, and one person will write an introduction for their paper and one person will write a conclusion for their paper.
Lesson # 10: Editing, Editing, We All Love Editing!!! (English/Language Arts 3)

Objectives:
The students will:
1. edit their rough draft by making at least one change with 95% accuracy. [analysis]
2. develop a final copy of their paper on a computer with 95% accuracy. [synthesis]

The students will be completing their mini-report today. They will begin in the classroom by finishing the editing process as well as adding their introduction and conclusion. Once the students are finished, they will be able to move to the computer lab. There will be one classroom aide in the classroom and one in the computer lab while the teacher moves back and forth between the two rooms. The students will type a final copy of their report on the computer. They will have some freedom to choose their papers format (ex. text), but will have to use some set guidelines (ex. margins, text size). The students must finish their papers today. If they do not finish their papers in the class period, they must complete it during flextime in the afternoon. To wrap up the lesson, the teacher will explain that tomorrow the groups will present their projects to the class and must include 5 pieces of information, three most important facts and two most interesting facts. The teacher will recommend that the students call each other tonight and discuss who will present what tomorrow in class. This will be their homework for today.
Lesson #11: And On To The Presentations! (English/Language Arts 4)

Objectives:
The students will:
1. determine in writing their opinion of the five facts about their storm they will present to the class including the three most important and the two most interesting. [evaluation]
2. orally retell five important facts to the rest of the class with 95% accuracy. [comprehension]

Today the students will be presenting their historical storms to the class. The students will be presenting in pairs. Their presentations must include the name of the storm, when it occurred, the amount of precipitation that fell, what type of precipitation along with the three most important and two most interesting facts that they picked out for their homework. The groups will have five minutes in class to go over their presentations. The teacher will direct the student in the audience that when the groups are presenting they will be taking notes on a teacher created note-taking sheet. [Stephens & Brown, p 118] Also the teacher will instruct the class that at the end of each presentation they will have an “Ask the expert” question session where the students will be able to ask the presenters questions about their storms. [Stephens & Brown, p 150] All groups will present today for about 5 minutes each. The teacher will monitor the presentations and make sure that all information that is required for other assignments is included in the presentations. To finish this lesson, the students will be directed to staple their note sheets together to make a packet of information. The teacher will let them know that they need to keep these sheets available because they will be using them later in math class. There is no homework for this lesson.
Lesson #12: What Do We See With Our Ears? (Special 1)

Objectives:
The students will:
1. create a pictorial story of what they hear with at least six pictures with 90% accuracy. [synthesis]
2. match orally sounds of nature and storms to a picture of what is going on with 95% accuracy. [knowledge]

This is a lesson designed to incorporate art and music into the unit. This lesson could be completed in the main classroom or in a special classroom. The students will begin the class by recalling different types of storms that they know about. The teacher will suggest some along with the students. After the suggestions the teacher will instruct the students that they will be looking at some picture and creating their own pictures that have something to do with weather and storms. First the students will listen to some sound clips and look at various pictures. The teacher will explain that the pictures were created from the artists’ feelings about what they heard. Some are actual pictures while some are just designs. However, all are related to the artists’ interpretation of what they heard. The students will have the opportunity to guess what picture goes with each sound clips. Once the students have guessed each picture they will then have an opportunity to create their own pictures. The teacher will play a longer piece of music that is an interpretation of weather and storms. The students will create a time line with a picture representing their interpretation of what happened in each of the six sections of the music. The students will end up with a time line of pictures in six sections. There will be a variety of material to use (crayons, markers, chalk, etc.) The teacher will emphasize that there are no right or wrong answers, just each person’s interpretation. This lesson will end with cleanup of material. There is no homework for this lesson.