Subject: Science Grade: Fifth

Standard: # 3 The Physical Setting

Key Concept: There are more stars in the sky than anyone can easily count, but they are not scattered evenly and they are not all the same in brightness or color.

Generalization: Stars exist in a variety of sizes and colors.

Background:

Students have been the solar system and other objects in space. They have covered the nightly and yearly movement of stars in the sky, scientists use of different tools to study a variety of objects in the sky, and Earth's place in the solar system and its relationship to the Sun, Moon, and other planets. They are ready to begin learning about the different types of stars. As a culmination to that portion of study, students will make a Star Museum.

Each group will contribute to the conception, design, and assembling of the museum. Other classes, parents, and/or community members may be invited to visit the museum. Each tier's task is based on a particular intelligence as identified by Howard Gardner; however, it will take cooperation from all three tiers to make the museum successful.

Materials: poster board (white and colored), markers (broad and fine tip), string (preferably transparent plastic thread), glue, tape, glue gun (needs adult supervision), Glitter, spray paint (use outside) or tempera paint, books on stars in general, supplemental material for research, access to the Internet for research, calculators, grid paper, compass, protractor, and other materials as needed.

Stars: depending on the sophistication of your class, you may stick with the various stars based on color - blue, blue-white, white, yellow, orange-red, and red- or you may choose to add the various designations of "dwarf" and "giant" with the appropriate colors to include more stars.

This lesson is tiered in ***product*** according to ***learning style***. .

Tier I: ***Verbal/Linguistic Learners***

Students in this tier will write the museum cards that identify the type of star, information about the star, and the name of the particular star that is representing the group, e.g. Regulus is the name of a blue star, Betelgeuse is a red star. Depending on the sophistication of your students, you may need to prepare a list of the categories of information they must address (color, size, temperature, etc). You may prefer to give the students a rubric that addresses the areas of assessment for this task (accuracy of information, neatness of lettering on placard (or use of word processor), readability, etc. They will plan the guide for the museum.

Tier II: ***Logical/Mathematical Learners***

Students working at this tier will need to research the size of the various stars and plan the appropriate scale for the museum. They will need to have calculators available for this task. You may need to brief this tier with a mini-lesson on scale if they have not covered this yet. Grid paper is also helpful. They will need to make a chart that includes the name of the star, actual size, and scale size. They will need to act as technical consultants to the Visual-Spatial tier during the construction of the models. A rubric that addresses mathematical skills, scale, and accuracy would be a good assessment tool for this tier.

Tier III: ***Visual/Spatial Learners***

Students working at this tier will construct three-dimensional models of the stars. They will consult with the Logical/Mathematical learners to plan for the size and type of material for each star. They will consult with the Verbal/Linguistics tier to determine any distinguishing characteristics for each star. They will design, color, cut, and hang models of each type of star. A rubric for this tier would include accuracy, appropriateness of design, neatness, aesthetic qualities, etc.

Assessment:

In addition to the rubric assessments mentioned within each tier, teacher

observation and student interview during groupwork may also be used for assessment. You may wish to use some means of gathering information from those who visit the museum, including suggestions for improvement.

Students should work together to prepare the museum and take turns acting as guides for the visitors. A whole class discussion about the project focusing on what was learned may be conducted prior to and again after visitors have been to the museum.