

“A Symphony in Space”



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Introduction

Janet Duguay Kirsten is a Nationally Board Certified Teacher. She has been teaching for 15 years. She holds a master's degree from the University of Miami, School of Music and is presently a doctoral candidate. Ms. Duguay Kirsten has been using this project for one year.

Program Outline/Overview

Symphony in Space is a cross curriculum project between the classroom teacher and the music teacher aimed at exposing students to both science and music. The intention is to create a fun and creative activity which will enrich students' school experience while introducing the subject of space exploration. *Symphony in Space* includes exciting class discussion of several popular planets. Typical factual information regarding the planets' unique qualities is presented, along with interesting nick names, myths and legends. This portion of the lesson can be conducted by the classroom teacher if a joint venture.

The class listens to the music and takes note of the variances in tempo (speed), dynamics (loudness) and instruments that are featured through out the movement. Handbells (or similar instruments) are distributed to all students. The teacher guides the students in playing the instruments in a way that compliments the music heard. Students take turns serving as conductor. The class watches the student conductor for the appropriate cue to play. The conductor's goal is to direct the instrumentalists to play at certain times that will match the volume and intensity heard on the recording.

The unit culminates with the creation of a live musical performance. The project includes a visual slideshow or PowerPoint presentation displaying photos of planets. Simultaneously, a movement from Holtz's *The Planets* such as "*Mars*" is heard during the slide show.

The project was written for a single 4th grade class but would be successful across upper elementary levels. The activities appeal to all achievement levels.

Benefits

Involving classroom teachers in this cross-curricular lesson is not difficult. With a little creativity, topics presentations can be enhanced making for fun, exciting and interactive lessons. The teachers will be able to work together with a music specialist and share their thoughts regarding this imaginative project. Children love music. Space exploration is very inviting. Both attention and creativity of the students will be improved.

A Symphony in Space has proven to serve as a major incentive in improving my students' academic achievement. Because students will only be issued a bell if they demonstrate responsibility, they try hard to show that they are excited about the project through their attendance and excellent attitude. They are eager to participate in group projects with their peers. Since the implementation of this program, student contribution to class discussion has increased. Students are retaining the facts related to the subject of space exploration. In general they are more interested in and take on a personal ownership of the subject of science.

Ideas

Teachers who choose to adapt this project can easily find free resources in school and community libraries. Likewise, there are many space related ideas and teaching guides available through on-line approved websites.

While I used children's handbells to make up the musical portion of this project, other teachers can seek out available instruments at their school site. The music specialist at the school site should be consulted as to how to properly handle the selected instruments.

Lastly, I strongly encourage teachers to practice with their selected instruments in order to become comfortable with making music themselves before directing the class.

Costs

Combination handbells – 13 note set \$57.50
CD \$5 - \$15

Curriculum Areas

Music, Science

Goals & Objectives

National Standards for Music Education

1. Performing on instruments, alone and with others, a varied repertoire of music.
3. Improvising melodies, variations, and accompaniments
6. Listening to, analyzing, and describing music.

M-DCPS Competency Based Curriculum (Music - Grade 4)

III. Expressive and Stylistic Characteristics:

4. Discuss the appropriateness of tempo and dynamic choices made in music performed by self and others.
5. Sing, play and listen to a variety of music which include folk, patriotic, holiday and composed (representing many cultures styles and time periods).
7. Adjust the tempo *lento*, *andante*, *allegro*, *accelerando*, *retard* and dynamics *forte*, *mezzo*, *piano*, of a performance to reflect the expressive and stylistic characteristics of the piece of music.

Sunshine State Standards for Music (Grade 4)

(MU.A.2.2.1) (MU.A.2.2.3), (MU.B.2.2.2), (MU.D.1.2.2)

Sunshine State Standards for Science (Grade 4)

(SC.E.1.2.4) (SC.E.1.2.5)

Sample Lesson Plan

Topic: The Planet, Mars

I. Materials:

- Overhead or LCD projector and screen
- Books on space with photos of planets
- CD: Gustav Holtz, “The Planets”
- CD player
- Set of Hand Bells

II. Instructional Objectives:

Students will be able to (SWBAT)

- explain the basics of the solar system
- describe specific characteristics of the different planets
- create a pleasing accompaniment on tonal percussion instruments, specifically desk/hand bells.
- perform an accompaniment to a recorded song with desk/hand bells by striking the root of each chord in progression.
- express their feelings about making a voyage through space.

III. NBPTS Music content Standards:

#1, 3, 6

IV. Procedures:

Teacher presents the “Mars” PowerPoint slideshow.

Teacher facilitates a discussion on the unique characteristics of the planet, Mars.

Guided Practice:

Teacher distributes selected handbells to students based on tonality of piece.

Teacher directs particular bells to play while listening to “Mars” by Holtz.

Independent Practice:

Student conductor follows Teacher example & leads class in bell accompaniment.

V. Assessment/Evaluation:

- Students pick one scientific fact about the planet, Mars and explain it to the class.
- Students discuss how the created music compliments the idea of space travel.
- Students consider if their music complimented the recorded music and properly described the factual information.

Resource Space/Planet Websites

Education Planet <http://www.educationplanet.com/search/science/space>

University of California, San Diego – Center for Astrophysics and Space Sciences
<http://cassfos02.ucsd.edu/public/astroed2.html#HYPER>

Amazing Space <http://amazing-space.stsci.edu/>

Students for the Exploration and Development of Space <http://www.seds.org/>

Space Explorers <http://www.space-explorers.com/>

Exploring Planets in the Classroom http://www.spacegrant.hawaii.edu/class_acts/

Student Science Education <http://www.kidscosmos.org/kid-stuff.html>

Space http://www.space.com/searchforlife/seti_savetheplanet_051110.html

Space <http://www.tooter4kids.com/Space/Spaceindex.htm>

Space Explorers <http://bnc.gov.uk/learningzone.aspz?nid=3261>

National Optical Astronomy Observatories
<http://www.noao.edu/education/peppercorn/pcmain.html>

Smithsonian National Air and Space Museum
<http://www.nasm.si.edu/education/onlinelearning.com>

The Universe in the Classroom
<http://www.astrosociety.org/education/publications/tnl/19/19.html>

Student Work Samples/Photos



