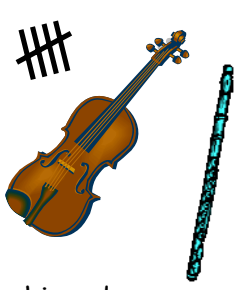
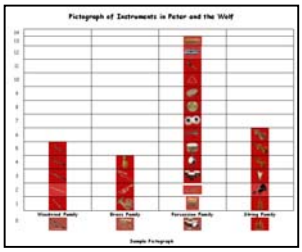
Math and Music Lesson Plan

Grade Level(s): Kindergarten, First, and Second

Lesson Title: Every Instrument Has a Place





Focus: (Concept or skills to be emphasized)
Identifying instruments and classifying objects

Objectives: See end of lesson for objectives and standards achieved.

Background Information: Symphony orchestras vary in size according to the needs of specific pieces of music. The composer determines the instrumentation, although the conductor may alter the number of musicians used, depending upon the performance hall. In the Young People's Concert you attend, under the direction of Maestro Grant Cooper, the orchestra will include many, but not necessarily all of the instruments mentioned in the Orchestral Instruments section of the Student Guide. Some of the instruments that will be used in the WVSO's Young People's Concerts are:

String Family
- Violin
- Viola
- Cello
- Double Bass
- Harp
- Piano

Woodwind Family
- Piccolo
- Flute
- Oboe
- Clarinet
- Bassoon

Brass Family
- French horn
- Trumpet
- Trombone
- Tuba

Percussion Family
- Timpani
- Bass Drum
- Snare Drum
- Xylophone
- Cymbal
- Gong
- Tambourine
- Triangle
- Castanets
- Temple Blocks
- Woodblock
- Whip
- Celesta*

*Although played on a keyboard, a Celesta has no strings

PLEASE NOTE: For the purposes of this lesson, the numbers of instruments are within the usual range of each family. Please tell your students that the actual number of musicians playing each instrument in the concert will probably differ slightly from the examples provided in this lesson.

Activities (Procedures):

1. Read about the instruments of the orchestra with your students in the StudentStudy Guide. Allow students to listen to each of the instruments on the

On the Audio Companion CD so that they become familiar with how they sounds. List the families (string, woodwind, brass, and percussion) played by symphonies on a flip-chart, chalkboard or overhead, and give examples of the instruments that fall within each family (see sample chart format).

String Family	Woodwind Family	Brass Family	Percussion Family

Sample Chart Format

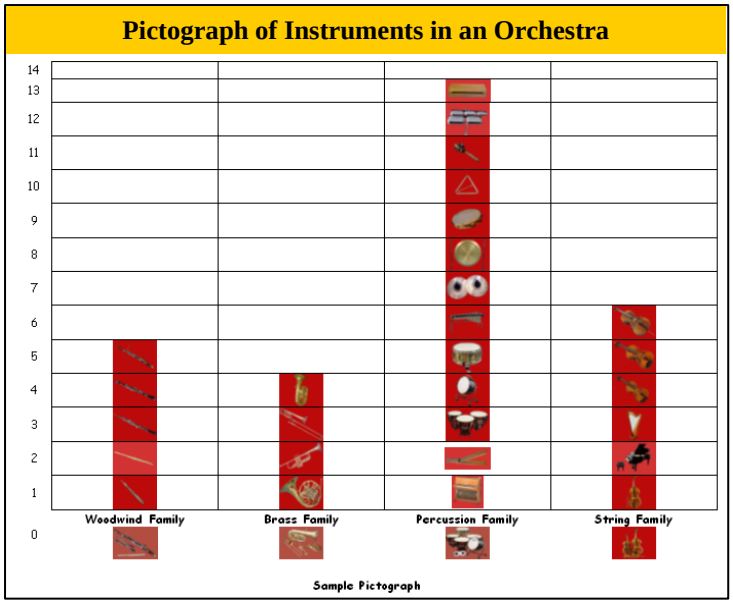
2. Ask each student to name the instrument in the orchestra they would most like to play if they performed in a symphony orchestra. If any students are currently learning to play instruments found in the orchestra, be sure to include those in the list.

   Help each student to identify in which instrument family his or her choice belongs. Tally the choices on the chart by instrument families. Once all of the students have made their choices, ask students to add the total number of tally marks for each family. Construct a bar graph showing each of the families and the number of marks each family received. Ask students to come up with a suitable title for the graph (e.g., Instrument Families We Like Best), and to help you properly label the graph. From this bar graph, ask students questions such as:
   - How many people would most like to play an instrument from the _____ instrument family?
   - Which instrument family received the most/least votes?
   - Did more/fewer people like instruments from the _____ *(e.g., string)* instrument family than the _____ *(e.g., brass)* instrument family?
   - How many more/fewer people chose instruments from the _____ *(e.g., woodwind)* instrument family than from the _____ *(e.g., percussion)* instrument family? How did you find your answer?
   - Was there another type of graph we could use to show this information? (e.g., pictograph)

3. Using pictures of instruments on the Every Instrument Has a Place Cutout Sheet, have students cut out and sort instruments into instrument families. Ask students to paste the pictures of the instrument families on a piece of art paper (approximately 30" long) or flip-chart paper, aligned so that they create a pictograph of their own. Tell students to place the pictures of their instruments into the proper instrument families (see sample pictograph). Upon completion of the pictograph, ask students questions about the graph, such as:

   - How many instruments are in the _____ *(e.g., woodwind)* instrument family?
   - Which instrument family has the most/least number of instruments?
   - How many more/less instruments are in the _____ *(e.g., percussion)* instrument family than the _____ *(e.g., brass)* instrument family? How did you find your answer?

Conclude this lesson by reviewing the location of the instruments on the Structure of the Orchestra chart in the Student Study Guide and play the audio examples for each instrument. Play audio examples on the Audio Companion CD at random and ask students to identify which instrument was used to create the sound.



Modifications (Special Needs):

1. Visual and auditory impaired students will need special consideration during this lesson with seating and materials adaptations.
2. Learning disabled students may benefit by abbreviating this lesson's content and length.
3. Varying learning styles will be addressed with the variety of activities in this lesson – tactile, visual and sensory learning styles are utilized.
4. Gifted student needs are provided through the instrument identification activity.

Assessment/Evaluation*:

1. Identify your Formative Evaluation Plan: The teacher will observe student participation and facilitate questioning to assess understanding of the lesson concepts. The teacher will observe student classification of correct placement of instruments into families.
2. Identify your Summative Evaluation Plan: Teacher observation notes and evaluation of the completed class tally chart, bar graph, and completed pictograph, will show the teacher if the concepts introduced were processed by the students.

Supplemental Materials and Equipment Needed: Every Instrument Has a Place Instrument Cutout Sheet (see Student Study Guide); Art paper or flip chart paper; Scissors and Glue

References:

Van de Walle, John. Elementary School Mathematics, 5th ed. Allyn and Bacon. Boston, MA. 2004.

National Standards:

Music

Standard 6: Listening tom analyzing, and describing music.

Mathematics

Standard: Number and Operations
Standard: Data Analysis and Probability
Standard: Problem Solving
Standard: Communication
Standard: Connections

WV Content Standard Objectives:

Kindergarten

MA.K.1.1	count forward to 20 and backward from 10 with and without objects.
MA.K.1.2	read, write, order, and compare numbers to 20.
MA.K.1.3	count and group concrete items by ones, fives, and tens.
MA.K.1.10	solve grade level appropriate problems using a variety of strategies.
MA.K.2.1	sort and classify objects by one attribute.
MA.K.5.1	collect, sort and organize data as a group project.
MA.K.5.2	construct graphs using objects and pictures.
MA.K.5.3	analyze data represented on a graph using grade level appropriate questions.

First Grade

GM.1.2.4	recognize the four families of the symphony orchestra.
MA.1.5.1	identify and investigate various forms of data collection.
MA.1.5.2	read and interpret a pictograph with each picture representing a single unit.
MA.1.5.5	tally by ones, organize the data in a chart/table, and construct a bar graph; read and interpret tally charts and tables.
MA.1.5.5	analyze data represented on a graph using grade level appropriate questions.

Second Grade

GM.2.2.6	identify instrumental families by hearing and seeing a representative instrument from each family.
MA.2.5.1	create, read, and interpret a pictograph with each picture representing greater than or equal to a single unit.
MA.2.5.3	analyze data represented on a graph using grade level appropriate questions.
MA.2.5.4	formulate questions, collect data, organize and display as a chart/graph.