The students began Phase 2 by discussing ways to find answers to their questions. They decided that they needed to ask experts. During planning meetings the teachers discussed a variety of possibilities for guest speakers and field trips. The teachers and students found many different types of experts all over the twin cities. Some came to visit the classroom, and students met others during their field studies around the city. Students worked in both small and large groups to answer their questions that guided the direction of Phase 2.

1. What is the relationship between music and movement?
2. What instruments make up an orchestra?
3. How are musical videos and songs produced?
4. What is the relationship between sound and music?
5. What is rhythm?

**What is the relationship between music and movement?**

During the first few days, one group of students listened to music and drew what they felt. They used emotional words like happy and sad to describe the way they felt. They came back to report what they did during large group:

**DS:** We put on music and drew our feelings.
**RS:** We closed our eyes and drew.
**KE:** We drew how we felt when Patsy played the music.
Next, the students listened to *Carnival of the Animals* by Camille Saint-Säëns. The teacher asked the students to think about what the music was representing. They guessed what animal was depicted through the music. Then the students moved their bodies to represent the animals in the music.

The students wanted to move to their own music. They created their own sounds and taped them on a tape recorder. The teacher shared students’ compositions during a large group meeting for everyone to enjoy. Students made faces and body gestures to fit the music and further explored how different types of music made them feel.

The group studying movement visited a class at the Champaign-Urbana Ballet Academy. The students acted as various animals and moved across the room as they thought a rabbit or seal might do. The dance teacher asked them to be a snake on a path or a jumping bunny with their bodies. The students were butterflies, penguins, frogs, rams and turtles. They used all parts of their bodies to represent the animals. They reported back to the group by showing their various movements.

In the small group studying movement, the students reenacted a play of *Peter Pan* by using movement only. They mimed the actions, but used instruments in the background for special effects. This was an extension of an activity that they had done earlier in the year. After the local Junior Women’s Club sponsored the *Peter Pan* play many students wanted to recreate it in the classroom. Several students wrote their own version of the play. They solicited actors, practiced during project/activity choice time and performed it for the whole class. After studying movement and music, the students found it challenging to perform the final production of *Peter Pan* without speaking. They tried to find movements to represent sword fighting, flying, and being a crocodile. The students used drums, shakers and tambourines to create the sound effects.

As a finale for studying the relationship between music and movement, the whole class participated in a ribbon dance. For several days, teachers placed ribbons, chopsticks and tape on the art table. Students explored using several colors of the wide ribbon. Some shredded the
ribbon into fine strips. Others used several colors and left them as wide strips. They practiced by going outside and listening to the teacher play the book drum. A sharp hit of the drum meant to prepare the ribbon by placing it on the ground. As the rhythm began, the students were free to move and express themselves. The teacher suggested moving the ribbons like a helicopter, slithering like a snake, using wide arm circles and going up and down. The teacher played several different musical excerpts while students waved their ribbons. Students noticed that there was a strong relationship between the music and the way it made them want to move their ribbons.

**What instruments make up an orchestra?**

To answer the question about instruments that make up an orchestra, the students explored many different types of instruments. They were especially interested in all of the instruments that other students had at home. Several families volunteered to share their instruments with the class. In addition, the teachers invited several local music experts to come into the class to answer the students’ questions.

**Harmonium, tabla, and ocarina**

Parents of one student brought instruments from India. They were wedding gifts for the couple. The mother played the harmonium and the father beat on the tabla. Children enjoyed listening to the mother sing as she played her instrument that resembled a small organ mixed with an accordion. The father showed the children how to play in different areas of the drum top to create different sounds. He also blew into an ocarina.

**Hand Chimes**

The hand chime expert shared a set of hand chimes that he uses in his church choir. The chimes were laid out in order on a heavy cloth. He demonstrated how to play the chime and how to
dampen its sound. He played a song for the group in dedication to his wife. As he played, he quickly put down one chime and picked up another one. Students saw how easily the chimes could get mixed up. The teacher explained that when people usually play chimes, they play in a group setting where each player uses only a few chimes. Every student had a chance to play a chime. When they held it and struck the chord, they could choose to dampen the chime on their bodies or on the heavy cloth.

**Guitar**

A librarian from Urbana brought her guitar and shared stories and songs with both classrooms. The students moved, swayed and danced to her songs. They counted the strings on her guitar and observed how she played the instrument. She told stories as she sang a song. Students brought in guitars they had at home. Their guitars varied in size from a small toy guitar to a standard size wooden guitar. One parent showed off both his rock and his folk guitars.

**French Horn**

The French horn expert brought two French horns to the class. He played them and the students observed the differences in the two. He talked about sound and how one can vibrate and manipulate sound to replicate instruments with some strange objects. He pulled out his garden hose and funnel. It sounded very similar to a French horn. He told the children it had been nicknamed the “French hose.” He said, “The trick is to position the lip just right.” The students asked the French horn player questions and EA found an answer to her original question, “How do you play a French horn?”

Several older siblings from grade school visited to explain what they knew about instruments. One brother in second grade told the students “forte” meant loud sounds and “piano” meant soft sounds. One of the preschool students added that “mezzo” is a medium sound. The brother shared pictures from his piano practice book showing different pianos. A fourth grade brother of another student brought his cello back for a second concert. He had played once before for the
class during the fall. Now the students had questions about his cello and wanted answers. The teacher wrote their questions on chart paper before his visit. When he came to the class, he talked about the horsehair bow, cello strings, and the peg at the bottom of his cello, as well as his music stand and its purpose. After his explanations, he answered the students’ questions. Other students generated more questions during the visit.

<table>
<thead>
<tr>
<th>Students’ Questions</th>
<th>Cellist’s Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where did you get the book? (SS)</td>
<td>At the Music Shoppe</td>
</tr>
<tr>
<td>Where did you get the cello? (AW)</td>
<td>At the Music Shoppe</td>
</tr>
<tr>
<td>Where did you get that (music stand)? (WG)</td>
<td>With the cello</td>
</tr>
<tr>
<td>Where did you get the bow? (EC)</td>
<td>With the cello</td>
</tr>
<tr>
<td>Why is there a bend in the music stand? (DS)</td>
<td>To fold it up</td>
</tr>
<tr>
<td>Do you have sharps? (DS)</td>
<td>Yes, C# and F#</td>
</tr>
<tr>
<td>Why do you have color tape on your cello? (SS)</td>
<td>It shows me where to put my fingers down to play the notes.</td>
</tr>
<tr>
<td>How do you learn to play it? (KE)</td>
<td>My music teacher at school</td>
</tr>
<tr>
<td>What is that thing? (KM)</td>
<td>A rock stop. It keeps the cello from sliding on the floor.</td>
</tr>
</tbody>
</table>

Throughout Phase 2 students introduced their peers to various instruments that became available for students to explore during project/activity time. They made observational drawings, and compared their sizes, shapes and sounds. The instruments included the following:

- autoharp
- drum
- floor keyboard
- flute
- glockenspiel
- guitar
- hand bells
- homemade instruments
- maracas
- plastic trumpet
- recorder
- small keyboard
- tambourine
- toy saxophone
- train whistle
- triangle
- viola
- violin
- wooden flutes
- zither
Musical Groups – Percussion and String Quartet

Two ensembles of the Champaign-Urbana Symphony visited the school to play for both classrooms. The first was a percussion group. They were fantastic with the children. They not only played instruments made from common ordinary objects but they had a skit to intrigue the students. The instruments they used included balloons, spoons, garbage cans, egg shakers, wastebaskets, spoons, plus pots and pans. They involved the audience by allowing the students to have a part in one of four different rhythm sections.

The percussion ensemble divides the audience into four rhythm groups.

The second group that performed was a string quartet. Two violins, one viola and a cello made up the ensemble. As the group played a Vivaldi tune, the preschoolers recognized the song from The Four Seasons CD that DS shared with the class.

Korean Drums

A Korean Drum group highlighted the music visits. Four drummers played Jang-gu drums. The sound, uplifting and loud, filled the room. Workers from offices nearby came to see who was performing. The drummers used both hands to hold drumsticks. One is held with the stick pointing down. The other is held with the stick pointing out, as one would play a big bass drum. The students had an opportunity to play the drums. Later in the project, an assistant teacher borrowed a Jang-gu drum for the children to explore during activity/project choice time.
During the music project, students did not attend a live performance by a full orchestra. In the classroom, the teacher introduced a video series called *Notes Alive*. The video series integrates music with a story and uses an orchestra to illustrate the book. The students viewed *My Many Colorful Days* and *On The Day You Were Born*. As the story progressed, the narrator talked about the sounds, movement and which orchestral piece was playing. Students observed and took detailed notes of each video.

The students became very interested in conductors after watching the videos. They wanted to learn to conduct and ask a conductor some questions. The teacher invited her church choirmaster to demonstrate conducting for the class. He brought three batons for the students to try. He gave lessons on conducting music with three and four beats. His presentation included pictures of orchestra instruments and a video of him conducting a symphony, which illustrated his conducting technique. The students watched him in action. Then, he answered their questions.
about the size of an orchestra, what “musician music papers” look like, and the name of the baton (whether it is called a stick, bow, wand or baton). Before his visit, students predicted how many people would be in an orchestra:

- LB: 7 people
- KM: 28 people
- AW: 20 people
- NW: 26 people
- CB: 25 people

The conductor said that the number could vary depending on the music and what instruments were needed.

**How are musical videos and songs produced?**

The group of students who were interested in videos and cassette tapes toured a studio located in a private residence. The studio sound master and mixer talked to the group about creating a video. He guided the students through their own video production. He encouraged the group to explore his studio to find the right sound or action. The study group created sounds using items in the studio such as a door and various instruments. The sounds became a musical video showing each student performing some action. The studio sound master and mixer videotaped and edited the performance for the group. The students came back to school and explained the process to the large group. They watched their video and discussed in detail what they had created. The video was humorous and created lots of laughter and giggles. The students shared their musical video during the University Primary School Art Exhibition in April.

The videographer played examples of music to add to the students’ video.

IL composed the music for the background of the student video.

**What is the relationship between sound and music?**
A small group of students researched sound and music thoroughly. They looked and listened intently in the classroom and out on the playground to find sound. A small group explored water levels in plastic cups. They made predictions about the highest pitch and lowest pitch. Half thought that the full cup would have the high pitch. The other half felt that the low level water in the cup would have the highest pitch. By tapping each cup and listening carefully, they found that cups filled with different levels of water had different pitches. Students also noticed that when the glass was tapped, rings formed on the water. The class discussed the similarity in the way sound travels to the waves in the rings in the water.

The next day the group experimented with water levels in glass cups. This experiment stayed on display for several weeks. For some this was a morning choice and they tried to create songs by tapping on the glasses.

**Physicist Visit**

A parent who teaches physics brought demonstrations to explore sound and vibration. First he asked the students to hold a paper cup up to their mouths and talk into it. The students could feel the vibration on the end of the cup. Next, he stretched a slinky across the room. The movement of a slinky demonstrated how sound travels. Students raced from one end of the slinky to the other as a student began a wave down the slinky. Everyone tried to beat the slinky wave. No one could do it. Students discovered how quickly sound travels.

Next, the physicist created a telephone with two paper cups and a piece of string. Students explored using yarn and straws in place of the string. Heavy cotton string worked the best in the classroom. The teachers made this activity available during project/activity choice time for the rest of the week.

To follow up on sound waves, the teacher set up an adult controlled experiment. She asked students if they could blow out a candle by tapping a box. The teacher fashioned an oatmeal box into a candlesnuffer. By cutting a hole the size of a dime in the lid, students could tap on the bottom of the box and send sound waves through the air to blow out the candle flame. Some pounded on the oatmeal box without much success. The students found that a small tap could put out the flame.
SW played a pan flute she created.

KM gently tapped the bottom of the box to produce sound waves that snuffed out the flame of the candle.

**Piano and Organ**

Students studying the relationship between sound and music were curious about a number of instruments and how they worked. They wanted to know, “How do pianos work?” and “Where do you find pipe organs?” Everyone enjoyed the field trip to the Piano People in Champaign. The piano expert explained how the keys worked on a piano. He told the students that the key strikes a hammer, which hits the wire. It vibrates and one hears sound. Steve pulled out a whole keyboard from a grand piano, which was made in Korea. There was a player piano at the store, too. It was computerized. The students sat on the keyboard design tiled floor and listened as it played.

The piano expert programs the electrical player piano.

Observational sketch of the player piano.
Expanding Our Horizons: Investigating Music and Measurement

Students visited a church to find a pipe organ and to listen to a grand piano. The organist played the piano and pipe organ for them. By a stroke of luck, the pipe organ repairperson was there, too. He pulled a pipe out of the organ for them to observe. He blew in the different openings so that they could hear which would make the best sound. The pipes were connected to the organ by a series of tubes. Air is blown and stopped to create the sound.

The students created a pipe organ in the classroom using P.V.C. pipe, a box and a pair of thong sandals. The teacher cut the holes in the box ahead of time. She cut the pipe into varying lengths. The students added P.V.C. elbow connections and placed the pipes in the box. The pipes needed to be in size from smallest to longest. The students experimented and soon discovered that they did not have them in the right order. They took it apart and laid the pipes on the floor in the correct order first. Then they worked together to place them and join them together in the box. Students then numbered the pipes (1-6) from smallest to largest. Using the numbers on the box, DS, a student with advanced numeration and literacy skills, wrote a song to be played on the pipe organ and left it by the organ for other students to play. The pipe organ was an item on the choice board for several weeks for continued exploration.
What is rhythm?

During Phase 2, a small group of students became involved in rhythm patterns. Individuals played a pattern and others in the group echoed it. The teachers introduced rhythm sticks to create patterns. Students progressed to using rhythm instruments and playing a pattern of rhythms. Drums, thumb guitars, pan flutes, maracas, cymbals, tambourines and shakers were a few of the instruments available for rhythm patterning. Playing these instruments was a favorite morning choice during project/activity time.

Over the course of several weeks, students began conducting small peer groups playing various instruments. The student conductors wrote their music by drawing pictures of instruments on sentence strips and putting them in order. The teachers introduced beat and rhythm by suggesting that students add numbers to represent the counts in a measure. Students interpreted this by writing the number of times they wanted specific instruments played. During project/activity time, students practiced conducting and then shared their performance at large group time.

Representations of Instruments

During their investigation of music, instruments, and rhythm, students created numerous representations out of boxes and junk of new and familiar instruments. Using boxes, egg cartons, paper cones and paper cups, they experimented with different fillers such as rice, beans and
metal bottle caps to create rhythm instruments. Plastic eggs became shakers covered in papier-mache. Students made wind chimes out of shells, sticks and string.

Some students chose plasticine and play dough to create instruments. Students drew outlines of instruments using paraffin wax bars. They applied a watercolor wash to the paper. The wax would not allow the paint to penetrate and created a lovely outline of the instrument. They also used tempera to outline and paint 2-dimensional representations of instruments.

Students also listened to music and finger-painted. They expressed their feelings through movement of the fingers in the paint. Finger paint was not popular earlier in the school year but when music was added it piqued their interest and kept them involved as they listened. Some stayed with one color. Others tried mixing various colors to capture the mood of the music.

In the weekly newsletter to the parents, the teacher invited families to attend a public concert entitled, “Journeys, a Concert for the Young and Young at Heart.” The teaching assistant in the K-1 Classroom, played the viola in the orchestra. Three families from the class attended and reported back to the class the following Monday. EG liked the harp. CG and WG enjoyed the flute that became the birds in the story. MF watched the pictures of Babar on the screen as the music played.

The teachers invited students to bring in CDs or tapes of music. They wanted to explore various types of music. EA brought an organ CD just before the class trip to hear a pipe organ. RA had a Jurassic Park musical CD. His group listened through headphones during choice time. He accompanied the music on a plastic tub, which he used as a drum.

NW shared a musical mat with the class. It was a keyboard that emits sounds when one walks over the keys. During a rainy morning, this provided stimulation for the group to explore music. They had fun by walking across the mat and making each note sound.
When students brought instruments into the room, they first shared the instrument and entertained questions about their special instrument. WK shared his dad’s guitar:

NW: When did your dad learn to play the guitar?
WK: When he found the pick
DS: How can you just tell about the neck of the guitar?
NW: It’s the top.
DS: It connects the body with the tuning peg part.
    That’s a long neck.
KM: Like a giraffe
LB: Did your dad take lessons?
WK: I don’t know.
CB: Where did your dad get the guitar?
WK: Cincinnati.
SS: Where did you get the tuning pegs?
WG: It came with it
NW: They came on it.
WK: You can take a picture of me playing it.
ES: I already did. Could the guitar stay for two days?
WK: I might be sad if it did.

Several students liked to hide the instruments in bags or cases and have everyone make a guess as to what was hiding in the bag. This became so popular that the teachers began writing down all the answers documenting students’ vocabulary. Everyone had a chance to give an answer. The person sharing called on people in the group. Some made logical guesses. Others became silly and just wanted to give an answer. After everyone had an opportunity to guess, the teacher posted the predictions with the correct answer on the chart paper. For the teachers, this game provided an opportunity for vocabulary to develop and for students to become more secure in taking risks and making predictions.
4/24/02
What’s in Eric’s Box? It was a clarinet!
CW: flute
CC: harmonica
RS: cymbals
EA: tiny guitar
CB: rock
DS: food
AW: flute
NW: candy

This was not a quiet project, nor was the classroom quiet during choice time. Every day there were new sounds from instruments that the students brought to class and shared during large group meetings. The teachers requested the instruments stay for a few days so that students had opportunities to do observational drawings or sketches. A few students created multiple drawings over time of the same instrument. To enhance their observation abilities, a teacher prompted the child to examine the instrument closer for details.

Time 1 drawing
MP draws the hand bell.

Time 2 drawing
MP shows more detail and labels the chime as a G note.

The head teacher brought hand bells into the classroom after spring break. Students played the brightly colored bells. They made observational drawings. The teachers placed blank paper and a cup of colored pencils that coordinated with the colored bells next to the display. Students began writing music that looked like colored blobs. Student composers read their own music and played the bells during large group meetings. The teacher purchased music staff paper and placed it next to the blank paper. Soon notation looked liked eighth and quarter notes, and not just whole notes.
As the music project progressed, students’ musical compositions increased in complexity. They expanded from using hand bells to incorporating drums, rhythm sticks or other child created instruments. The class explored many possibilities for sharing their knowledge with the parents. What did they want their parents to know about the music project? Students and teachers focused on answering this question during Phase 3.