Music Technology Lessons

Students will begin a study of WebQuests related to music. This lesson can be divded over several weeks (sessions) as needed, depending on the time and resources available for each class. Scroll down the page to take a look at the pictures and rubrics. (As of August, 2006, we have moved our lab to a slightly larger room than the one pictured in this WebQuest.)

Lesson 015
DATES_____
The 2nd through 5th Grade students receive one 40 minute lesson per week.

Lessons © www.musictechteacher.com

Music Technology Lessons - WebQuest 1
Design and Build a Music Technology Lab for Our School

Objective:

*To complete a WebQuest about the design and preparation of buliding a music technology lab. Topics can be divided into groups for a group WebQuest or an individual WebQuest, based on age and level of music ability.

TI:ME Teacher Strategies that would be applied to Students for this WebQuest (CS - Computer Systems, LM - Lab Management)
CS02 - Identify computer components and prepare proposal for purchase or upgrade of equipment.
CS03 - Installs equipment
CS10 - Describe issues related to connecting electronic instruments.
LM01 - Designs physical setup of a computer and electronic instrument lab.
LM02 - Choose appropriate hardware and software.
LM05 - Develop and maintain a budget for equipment purchase and upgrade.
Other standards:

WebQuest - Student	MENC Standard / TI:ME Strategy	MENC Achievement Standard	ISTE Standard
Students complete a WebQuest that invloves researching and building a music technology lab.	8.07 CAI / Tools - Students complete a WebQuest in which they research issues from the field of music and other disciplines.	8 - Understand relationships between music, the other arts, and disciplines outside the arts.	NETS-S 1, 3
Students complete a WebQuest that invloves researching and building a music technology lab with music and non-music related aspects.	8.15 Multimedia / Tools - The teacher designs a WebQuest for students in which they research musical, arts-related, and non-musical topics.	8 - Understand relationships between music, the other arts, and disciplines outside the arts.	NETS-T 1,2,3

Materials:
WebQuest lesson plans and topics for study, Internet access if possible. If the Internet is not available, try to have the websites available for viewing offline for the students.
WebQuest Topic - Design a Music Technology Lab for Our School

Introduction:
We have the exciting task of building a music technology lab for our elementary school. The lab will be used to enhance music teaching through technology. How will we build a lab? What materials are needed? Where will we find funding and consultants to help us build the lab? We will work together as a team and groups will be formed to find the information to help us build the lab.

Task:
Group 1 - Research schools already using music technology labs.
Group 2 - Determine spacing / facility / hardware / furniture needs.
Group 3 - Determine software / books / networking / licensing needs.
Group 4 - Determine budget / funding / grants / donations resources and future funding for accessories.

All Groups Contribute - Formulate a website or web pages that will show the progress of building the lab and promote the activities as a result of the completed lab.

Process:
- Research various web sites that have information about schools that already have a music technology lab in place. Students need to compile their information in graphic form and compare the facilities to determine which type of school has a similar lab to what we need.

- Examine the current space that will be used for the lab. One group of students will need to carefully measure the room and determine the space needed for the furniture or units to house the lab materials. How much room will we need for each station?

- Once we receive the equipment, how will we put the lab together? Diagrams / Graphics need to be formulated so that one group of students can build the lab according to the diagrams. Will we do all of this ourselves?

- Research the types of equipment we will need for the lab. Possibilities include electronic keyboards, other MIDI instruments, computers, software, electrical cords, cables and headphones, along with furniture. Are there companies that offer all the products needed in one setup? Is it more economical to make the lab through one company?Lessons copyright www.musictechteacher.com.

- Find out information about networks and software, copyright licenses and books or materials needed for the lab (other than hardware and furniture).

- Research various web sites related to fund-raising and grants to determine the best way to raise money or fund the lab. We need to establish a budget. How will we pay for the lab…..or is it possible to receive equipment donations?

- What amount of money would be needed to continue the lab for the future? (i.e. additional software licensing, books, headphones and cables, updating computer systems.)

- We need to develop web pages that demonstrate our planning and building of the lab, as well as posting student work done after the lab is built.

Lessons © www.musictechteacher.com

Music Tech Teacher
www.musictechteacher.com

Resources :
Links to Explore Related to Purchasing and Building a lab:

Music Tech Teacher Web Site	SoundTree
	SoundTree - Anatomy of a Lab
Hilltop High School - Lab Information and Resource Links	SoundTree - Educational Store (Look at Omnirax and Quik Lok furniture prices, also)
	Yamaha Music In Education Program
Lentine's Music - How to Start / Build a Lab	Sibelius Music Software
	Roland - Funding a Lab (PDF)
Technology Institute for Music Educators	Music Technology Learning Center
	Harmonic Vision - Music Ace Software
Books: Finding Funds for Music Technology (T. Rudolph)	Berklee College Music Labs
	TI:ME - Building Lab Guidelines
	Musician's Friend

Music Tech Teacher Lab
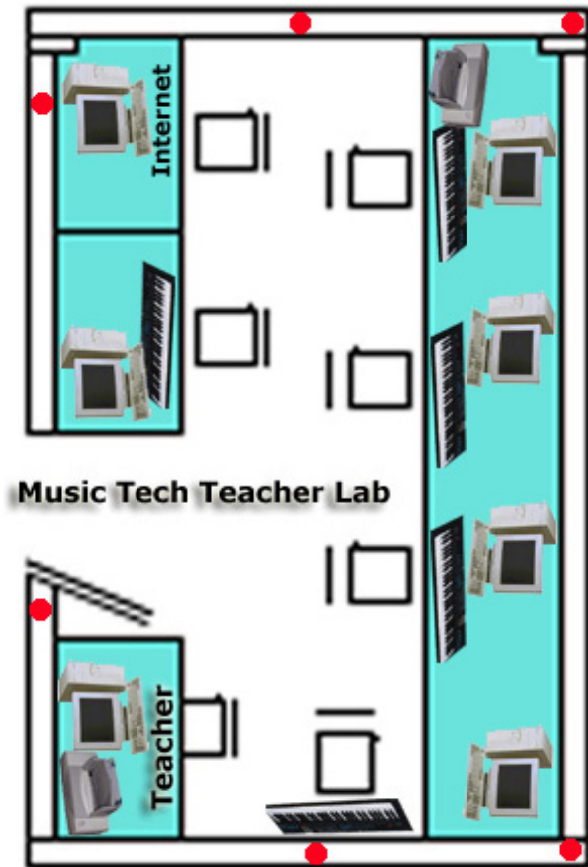
(Left) A sketch of an idea of what the lab could look like. This is a sketch that I made of our current lab. The red dots indicate the location of outlets in the room. Consideration should be given to placement of extra electrical outlets and networking.

(Below- next page) Finished 5 station music technology lab with one computer connected to the Internet. We are not currently able to connect a music keyboard to the Erate Internet computer. A synthesizer is pictured next to the Erate computer. Our space for the real lab is a small storage room, approximately 16' x 8', with 2 feet of the space the length of the room being taken by built-in cabinets. We had to purchase drafting chairs to get the young students high enough to reach the keyboards on the cabinets. Our computers consist of Win 98 PC's that were sent from the technology center when they were no longer needed. I had to do some repair and upgrades on my own. I even purchased low-cost new items from Ebay, such as PCI-USB ports for the computers that did not have USB ports. Headphones, extra cables and piano books / software are the only things that we have had to replace from time to time. We had to have the Board of Education install extra outlets in the room to accomodate the 5 keyboards and 6 - 7 computers in the room. There is enough room in the lab for 5 students, one teacher, and possibly a visitor to fit in at one time. We hope to get a larger space some day to house a larger lab.

Lessons copyright www.musictechteacher.com.
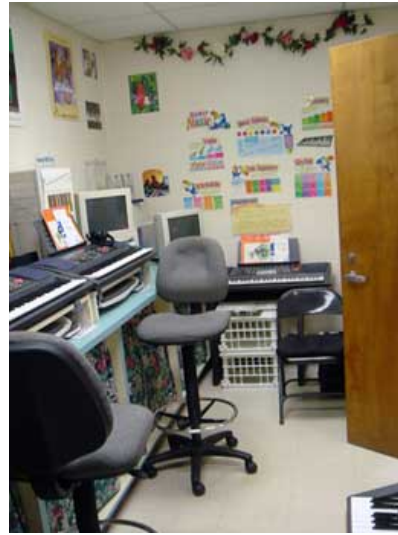
Pictures of Music Labs

Music Lab Station

Headphones

Audio Adapters / Splitters

MIDI Interfaces

Surge Protectors

MIDI Interfaces

Pictures of Music Labs

Samples of items needed for a Music Technology Lab

Software

Evaluation / Rubrics:

In progress .... may be revised as needed.

Rubric for Designing and Building a Music Technology Lab www.musictechteacher.com Lessons copyright www.musictechteacher.com.				
Teacher Name: Ms. K. Garrett Student Name: _____				
CATEGORY	4 - Above Standards	3 - Meets Standards	2 - Approaches Standards	1 - Below Standards
Information Gathering	Accurate information was taken from several sources in a systematic manner.	Accurate information was taken from a couple of sources in a systematic manner.	Accurate information was taken from a couple of sources, but not in a systematic manner.	Information taken from 1 or fewer sources AND/OR information was not accurate.
Written Plan	Steps and materials were outlined in a fashion that could be followed by anyone without additional explanations. No teacher help was needed to accomplish this.	Steps and materials were outlined in a fashion that could be followed by anyone without additional explanations. Some teacher help was needed to accomplish this.	Steps and materials were outlined in a fashion but had 1-2 gaps that require explanation even after teacher feedback was given.	Plan was seriously incomplete or not sequential even after teacher feedback.
Construction Materials for Lab	Appropriate materials were selected and creatively modified in ways that made them even better for the purpose.	Appropriate materials were selected.	Most of the construction materials were appropriate, but 1-2 were not.	Construction materials were not appropriate for the purpose.
Design / Quality of Building	The Lab is implemented according to design, building plan and budget.	The Lab is implemented according to plans, within fair range of building, planning and budget. Some help was provided	1-2 items from the building, design, planning and budget were not as designed, or the quality of materials and	The building, design, planning and budget were not as designed, quality of materials was not acceptable and

		by the teacher.	planning had to be changed.	Lab was not able to be implemented as written.
Quality / Ease / Appropriate Use of Instruments, Software, Hardware and Books	Items chosen offer a wide dynamic of use of electronics and materials that work well with the computers and will benefit all students.	Items chosen offer some dynamic of use and are compatible with computers through some work with teacher helping with connections.	Items chosen are not as easy to connect to and work with computers, and are difficult for some students to understand or operate.	Items chosen do not work well with computers and have connection issues as well as being difficult for most students to learn to use.
Demonstration	Group or Presenter communicates clearly to demonstrate concept from research and design of the lab to finished product. The product (Lab) is accessible to all.	Group or Presenter communicates clearly to demonstrate concept from research and design of the lab to finished product. Most of the students could follow the presentation.	Group or Presenter is able to demonstrate some of the features of the Lab and how it could be built, but has a few areas in the design that need work or clarifying.	Group or Presenter is not able to demonstrate the research or process of building a lab and does not have enough work done to present the information.
Time And Effort	Class time was used wisely. Much time and effort went into planning, design, and construction. The student clearly worked at home as well as at school.	Class time was used wisely. Time and effort went into planning, design, and construction. Student could have put in more time and effort at home.	Class time was not always used wisely, but student clearly did some additional work at home.	Class time was not used wisely and the student put in no additional effort.
Journal / Log / Website	Journal provides a complete record of planning, construction, testing, modifications, reasons for modifications, and some reflection about the strategies used and the results which can be posted on the website.	Journal provides a complete record of planning, construction, testing, modifications and reasons for modifications. Materials can be posted on the website with some modifications by teacher.	Journal provides some information about planning, construction and modifications.	Journal provides little or no information about planning and construction.
Knowledge Gained	Student can accurately answer 5 questions posed by teacher or peer related to the	Student can accurately answer 3-4 questions posed by teacher or peer related to	Student can accurately answer 1-2 questions posed by teacher or peer related to	Student cannot accurately answer questions.

	research, budget and process of building the lab.	the research, budget and process of building the lab.	the research, budget and process of building the lab.	
Testing / Modification / Will this Lab be Useful to Other Schools as a Model?	Clear evidence of testing and refinements based on data, musical principles or scientific principles. Other schools could use our Lab as a model.	Clear evidence of testing and refinements.	Some evidence of testing.	No testing or refinements.

Documentation:

See the links to other sites listed in Resources above for credits. I have researched various web sites and visited facilities in other states to see what other teachers have been doing with music technology. I attend conferences such as the Technology Institute for Music Educators (TI:ME) to learn more about the labs and implementing features as I am able to add to our lab.
Our music technology lab was created in 1997 when I received 5 Casio keyboards from the Music Department at the Birmingham Board of Education. I began by using the space that was formerly my band instrument storage room. I had to do my own 'building' of the lab and repaired old computers to add to the keyboards. I eventually received donations from the PTA for a few drafting chairs and drawers for the computer keyboard drawers to fit under the keyboards. The computer programs were purchased by the Music Department, the school, and myself. I also made or purchased all of the decorations myself to make the room brighter and ready for eager third and fourth grade students. The entire lab is housed in a room that is about 16' by 8 '…..not much room to move, but plenty of room for learning about music technology. The lab is very popular with our students, and I hope someday to be able to expand to a larger space. Our students' work and videos, along with quizzes and other interactive activities are on this website.

Website:
This is our own website, with the music technology lab that I created out of a storage room in 1997. (www.musictechteacher.com) Eventually, the students' projects will be posted on this site after they complete the WebQuest.

Notes: _

Lessons © www.musictechteacher.com