Title of Session: Math Resources K-20+
Moderator: Jeff Cooper and David Weksler
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Room: Math Resources Group

JeffC: If people would introduce themselves, that'd be great. I facilitate this group, and am on Helpdesk here... from Forest Grove Oregon.

BJB2: I'm an art teacher in Pennsylvania

DavidWe: I'm David Weksler, Jeff's alter-ego and I'm in New Jersey

RandyZ: Randy Ziegenfuss....from Pennsylvania

DanielleAB: Danielle from McMurray Pennsylvania, graduate student at Waynesburg College, substituting hoping for an elementary teaching job

JeffC: OK... let's get started.

DavidWe smiles

DavidWe looks around for his missing guest

JeffC: I picked out two sites this month to take a look at "Math World" and "Funbrain: Baseball Math"... one for older and one for younger students.

JeffC: I've started a discussion thread entitled Math Resources Session Links 10.04.05.

JeffC: If everyone could click on Discussion (scroll down the top frame a bit... it's on the left).

JeffC: After the folders, the first link is to today's session links.

JeffC: Click that

KristiG joined the room.

DavidWe waves to Kristi

DavidWe: Welcome, Kristi

KristiG: thanks

JeffC: I forgot to mention... when you click on a hyperlink in the discussion thread... you might want to hold down the Ctrl key. I thought popups were handled by this, since there won't be any popups in the top frame.

PatriciaCh joined the room.

JeffC: Kristi, welcome... if you could (and Patricia) give a quick intro... we're getting started.

DavidWe: Hi, Patricia. Welcome

JeffC hands the gavel over to David.

PatriciaCh: My name is Pat

DavidWe . o O (which gavel?)

PatriciaCh: I am a middle school math teacher

JeffC: The one to run the meeting with.

JeffC: I'll be back in a few.

DavidWe: Oh, I'm just cooking meat

DavidWe smiles

KristiG: I teach 5th graders

DavidWe: Okay, then...

DavidWe: Where do you teach, Kristi?

KristiG: Milwaukee Public Schools

DavidWe: Welcome to the K-20 Math Resources discussion, in any event

KristiG: Wisconsin Conservatory of Lifelong Learning

DavidWe nods

DavidWe: I believe Jeff had a goal of discussing the Wolfram mathematics site, this evening/afternoon

PatriciaCh: I am exploring this site....I will be leaving soon....thank you for the welcome

DavidWe: So, Jeff, just ran out briefly and he will be back, but his plan was to talk about the Wolfram mathematics site

DavidWe: Take a look at: http://mathworld.wolfram.com/

DavidWe: Has anyone come across this site before?

DanielleAB: nope

DavidWe nods

IhorC: Everything you ever wanted to know about math and MORE is at this site.

BJB2: a reminder that if you are new to Tapped In you may want to go to the ACTIONS menu in the top right of this chat window and click on DETACH

DavidWe: Steven Wolfram is a very smart guy who invented some very powerful, high-level (university, but some high schools use it) software called MATHEMATICA

DavidWe thanks BJ for that clue

BJB2 . o O (and hold down the ctrl key when you click on a url)

IhorC: Im a middle school guy so I avoid sites like this one. Its just too overwhelming.

DavidWe: Right

DavidWe: I'm not really sure what Jeff wanted to discuss...he sent out the email to me earlier

DavidWe: But since he just bolted away...I'm stalling

DanielleAB: yah this is too advanced for me, I'm better with funbrain

IhorC: maybe we can work backwards...

DavidWe: Randy, Danielle, would you say a bit about what you are interested in, who you teach, etc?

RandyZ: so this is a giant math encyclopedia.

IhorC: Let's take a look at math baseball!

DavidWe needs to learn about funbrain

AndrewCo joined the room.

IhorC: One thing that's good about is that it still is mostly free.

BJB2 waves to Andrew

DanielleAB: I'm on the elementary side of things, special education background but mostly reading, math, science

DavidWe nods to Danielle

RandyZ: I am an instructional technology specialist here in PA. I work with teachers. I would not consider myself a math expert. I do work with math teachers though and find it probably one of the most challenging area to integrate technology.

DavidWe: Do you all know about the Math Forum - more K-12 stuff - www.mathforum.org

DavidWe: Why is it challenging with math teachers, Randy?

DavidWe: Hi, Andrew. Glad that you could join us

DavidWe waves

AndrewCo: Hey David

RandyZ: So I wanted to stop by and see what this forum could offer.

DavidWe: Thanks, Randy...sorry this is a bit scattered. I didn't expect Jeff Cooper to step out for coffee at the beginning

IhorC: I got teachers at the 6th grade level that complain that their students don't know how their multiplication tables.

DavidWe: Andrew, would you quickly introduce yourself to the group, here?

DavidWe smiles at Ihor

AndrewCo: Sure, Andrew Coulson with the non-profit MIND Institute which has developed a math program for K-5

DavidWe: Andrew, Ihor and I met at NECC in Philadelphia (educational technology meeting) and we talked about our respective takes on math and technology and education

IhorC: I'm trying to maintain a coherent theme

AndrewCo: using computer animated visualization to get across all math concepts without language

DavidWe: Go ahead and throw in your web site, Andrew, it will be in the transcript of the session, so everyone will have it in their "notes"

DavidWe smiles

AndrewCo: www.mindinstitute.net we're re-launching Nov 1!

RandyZ: I think many math teachers (at least those I am work with) don't do a great job of relating what their teaching to anything concrete kids can latch onto. It's all very abstract. I think of all the disciplines, math teachers seem to be the least resistant to changing their ways. Please don't take this as a criticism...just the reality of what I am working with.

DavidWe: Thanks for that Randy. I would have to agree with you, though.

DanielleAB: it seems to come off as abstract

IhorC: Andrew shared some interesting animated activities at NECC with us.

DavidWe . o O (very interesting!)

DavidWe: While we are all touting our respective projects, Ihor, do you want to share the CIESE web site or a particular project?

AndrewCo: We say that the kids are thinking that math is all about the LANGUAGE (symbols, words, equations) and aren't getting the underlying concepts which can all be visualized in pictures

RandyZ: yes...!

DavidWe smiles

DanielleAB: very well said

AndrewCo: As a bunch of science and engineering geeks who founded this place, we know that memorizing the language only gets one so far, of course...

IhorC: Why don't we stay with Andrew for a while? Can share some of your activities with us?

AndrewCo: Hmmm activities

AndrewCo: Basically we're putting our 30 years of research into how the brain works into the classroom

AndrewCo: We are small but committed, and have just launched our 3rd generation of math sw

IhorC: I thinking of the ones you shared at NECC - if that's possible.

AndrewCo: you mean describe our game approach Ihor?

IhorC: that sounds good!

DavidWe smiles

DavidWe . o O (not to put you on the spot)

AndrewCo: We take a math standard, figure out how to visualize it, and then figure out how to make that into what we call a virtual apparatus...

AndrewCo: which in an intuitive and physically reasonable way requires the student to

AndrewCo: visualize the animation of some shapes over several steps

DanielleAB: how old are the students?

AndrewCo: which in fact is the mathematical principle in action

AndrewCo: K-5 Danielle.

AndrewCo: then the computer animates the solution to show why it's right or wrong.

IhorC: I'm trying to recall the examples you shared at NECC. I think they were elementary/early middle level. Is that right?

AndrewCo: Well I showed some of our Kindergarten and 1st grade stuff

JeffC is back

AndrewCo: which is about functions and translation/rotation operators

IhorC: Ahah!

DavidWe: Jeff, we're augmenting things a bit

AndrewCo: What's cool is our research suggests that all brains are hard-wired to do an amazingly high level of this visualization

AndrewCo: So, to sum up, we take the complexity of the language out of the way of the learning (then we put it back in.)

RandyZ: very interesting

DanielleAB: so how do we get it out of the students then?

JeffC . o O (augmenting is very good!)

AndrewCo: ? what out

DanielleAB: this high level of visualization

DavidWe: It is very cool stuff, Randy. I met Andrew for the first time in Philly and both Ihor and I wanted to know more about his curriculum than we had time for

RandyZ: I am sure.

AndrewCo: oh...they start VERY VERY simple, and then just get trained in it a couple of times every week as they play what to them are fun "video" games.

DanielleAB: very awesome

DavidWe . o O (there's an affirmation for you)

AndrewCo: Starting next month we'll have an on-line demo on the site; you have to play it to get the approach...sometimes I think it's like TiVo

DavidWe grins

DavidWe: We would be happy to devote a future math discussion in Tapped In to a further explanation of the MindInstitute curriculum and ideas for math education

DavidWe looks at Jeff

RandyZ: I think that would be very interesting.

DavidWe nods

DanielleAB: I agree

DavidWe: Thanks for the feedback

JeffC: absolutely

AndrewCo: Sure would love to continue to get in front of you experts

DavidWe is glad that Andrew was able to join us this evening

DavidWe smiles

DavidWe: Jeff, I showed folks the Wolfram site, but it is fairly high-level

JeffC: yup

JeffC: but there's some really cool stuff there too...

DavidWe hands the gavel back to Jeff

JeffC doesn't want it

DavidWe wants to eat dinner

DavidWe: Someone needs to take the lead here...

EmilyW joined the room.

DavidWe: Hi, Emily. Welcome

JeffC: OK... mathworld *is* high level... it's above most people's heads... I know it's above mine.

EmilyW: Hi

StevenLC joined the room.

DavidWe waves to Steven

DavidWe: Hi, Steven

IhorC: Jeff did have funbrain math on the agenda. Lets take a look at that.

StevenLC: hi there, sorry I'm late, was tutoring students for a Math Analysis test

JeffC: But there are some things there... graphic depictions of things... things that kids will *never* be exposed to in K-12... that I think are worth exploring.

JeffC: Because we can't understand it... does that mean it shouldn't be taught?

DavidWe appreciates Steven's dedication to his students

JeffC has to run out the door in 10 minutes to pick up his son from swimming lessons... then... same thing for Science Resources... daughter has swimming lessons at 5:15!

DavidWe: Go for it, Jeff

StevenLC: should this site be used mainly for teaching concepts in class and less for tutoring kids outside of class?

IhorC: no, but in these days of testing pressure it should look something like what's in the curriculum.

DavidWe keeps an eye on his watch for Jeff

DavidWe nods

JeffC: See... that's what I'm wondering... with all the emphasis on standards... how can we let the kids have some fun with math... seeing stuff like what is at mathworld... stuff the *teacher* won't understand...

DavidWe: Ihor, did you want to mention some of the CIESE projects or anything in particular?

JeffC: Doesn't that have some value?

DavidWe believes it has value, but it's the unusual teacher that will take it up

AndrewCo: Jeff what's the label of that math stuff that teachers won't understand?

JeffC: Pretty much everything at MathWorld.

DavidWe smiles

AndrewCo: lol

DavidWe: Well, then

StevenLC: I've looked at this site before and something about it just seems COMPLICATED!

DanielleAB: too many words, that's the complicated part

EmilyW: what sites are you looking at?

DavidWe: Randy, are you aware of the Geometer's Sketchpad software and other products from Key Curriculum Press?

DavidWe: This one, Emily: http://mathworld.wolfram.com/

EmilyW: I have been there before

RandyZ: yes....a few of our teachers use it, but complain it takes up too much time...they say they fall behind in their curriculum...geesh.

DavidWe: The Geometer's Sketchpad is way cool software AND is not complicated, in fact, it is an blank piece of paper with tools

EmilyW: (a few years ago)

RandyZ: I like it though

JeffC: Right... but as math teachers... you're expected to know all the "stuff" and pass it along to students... for some students... what you're teaching them is equivalent to what teachers see at math world... complicated... immaterial... irrelevant... but they can look together at mathworld and still be amazed... understanding isn't everything... is it?

DavidWe: falling behind implies...?

JeffC: Or do we want to keep everybody inside the box?

EmilyW: lots of students don't understand why they need math

StevenLC: falling behind doesn't mean anything unless you decide to stay behind and fail or catch up and pass

RandyZ: there is too much in the curriculum...so "getting though it" becomes more important than the students actually understanding it.

DavidWe: The challenge for many of us who have tried to both use and promote the use of Tapped In is the dreaded four-letter word TIME

JeffC: Gotta love this sentence from the site: A continuum that is not decomposable is an indecomposable continuum

DavidWe smiles at Jeff

JeffC: Now... it's possible to see how obvious that statement is... without understanding a single word of it.

DavidWe: Teachers need to be INTERESTED in learning as well as teaching

RandyZ: absolutely

StevenLC: Hurray David!

RandyZ: model life-long learning

DanielleAB: no doubt there

DavidWe smiles

DavidWe: But that's a long haul effort as well

JeffC: OK... needs a pinch hitter... maybe time to shift gears over to FunBrain Baseball... at least there... we can solve the problems!

RandyZ: ok

DavidWe . o O (Go Yankees!)

DanielleAB: I love funbrain

JeffC: http://www.funbrain.com/math/

DanielleAB: students enjoy it too

JeffC: OK... batter up (as I run out the door again)... please pop in more links... or hey... I'm no dictator... talk amongst yourselves!

JeffC afks

AndrewCo: RE: understanding my two cents: It's one thing to think something's cool. Then another step to being amazed. Yet another to believe that people you know can actually do it. Then ... what if YOU could actually do it. Then you work at it until you do it. Then you work at it until you Understand it.

AndrewCo: That's when you get the big reward inside.

DavidWe smiles

IhorC: Interesting Andrew ...let's see if that applies in any way with a simple activity like math baseball.

StevenLC: This is an awesome site to review skills or show the difference (pardon the pun) between operations

IhorC: Anybody got the URL?

DavidWe: for what, Ihor?

IhorC: math baseball, what else?

DavidWe: http://www.funbrain.com/math/

IhorC: it's funbrain.com

StevenLC: check this site out as well. I use it all the time!
http://nlvm.usu.edu/en/nav/vlibrary.html

StevenLC: that site works best with internet explorer. It doesn't work with Safari

StevenLC: I just checked, it works with Safari

DavidWe smiles

DavidWe: I'm using a Mac

DavidWe . o O (and Safari)

RandyZ: Could you share how you use the manipulatives?

DavidWe: The National Library of Virtual Manipulatives at Utah State is a big NSF-funded site. It has some great tools

StevenLC: try some of the activities. They are all java's

RandyZ: I agree

DavidWe: In addition, the Math Forum has a big section of virtual tools at:
http://www.mathforum.org/mathtools

IhorC: This summer they started sharing lesson units as well.

StevenLC: I love the function machine and the algebra balance scale. I also play master mind with my class

EmilyW: do you all think games help with learning math?

StevenLC: YES... Games help build LOGIC

DavidWe . o O (chess)

DanielleAB: definitely

EmilyW: I have always enjoyed math computer games

IhorC: if you go to http://enlvm.usu.edu/ma/nav/index.jsp you can see some of them. Just log in as a student and guest.

DavidWe hopes Emily has ALSO learned some math

EmilyW: some people don't understand how games help, but I know they help with math (if they are math related)

EmilyW was Math student of the year in both 8th and 9th grade

EmilyW: (all because of my time on my computer was spent playing math games)

DavidWe: Way to go, Emily

EmilyW: (when I was younger)

DavidWe reminds people that there are about 5 minutes left in tonight's discussion

DavidWe: Let me point out a couple of things

DavidWe: Newcomers may be interested to know that they typically receive a transcript of each discussion in which they participate after they logout

DanielleAB: thank you, good to know

DavidWe: Transcripts are also archived at www.tappedin.org/transcripts - give it a week for the new ones to appear

DavidWe: Ask any other questions, quickly, but, first...

DavidWe: Consider what topics would bring you back to this discussion and also...

DavidWe: In two weeks (I think) I host a slightly different discussion focussing on math and technology - but we also end up sharing URLs and speaking about math education

DavidWe . o O (DONE!)

DavidWe wants to really thank Andrew for joining us and adding GREATLY to the conversation

AndrewCo: ty I'll learn how to use this interface better soon

DanielleAB left the room.

EmilyW: Also, is everyone a member of this group?

EmilyW: If you are a member, you can post messages

DavidWe nods