

Make Use of Chrome Music Lab
Nicole Ross

Video Transcript:

All right. Welcome to "Make Use of Chrome Music Lab". I'm Nicole Ross and I'll be taking you through this 19 minutes of learning about

Chrome Music Lab.

And I have a few housekeeping

things to go through before

we really dive in.

All right, first I want to make sure that all participants are muted and the video is turned off.

Because we are currently recording this for future viewing.

So unless you want to be recorded,

do turn off your video and mute yourselves.

if not automatically done.

Also, in order to correspond throughout please do type your questions in the chatbot.

And these will be answered either following the presentation

or during the presentation I have my chatbox up so I can see

what anybody is typing. So please do converse as we go through

to be as interactive as possible.

The webinar is, of course, being recorded, like I said, and the broadcast will be made available at the site before you.

So, if you would like to go back and share it,

or rview what was shown, please do go to the [IMSA.edu](https://www.imsa.edu)

[/events](#) site.

So I work for the Center for Teaching and Learning at the Illinois Mathematics and Science Academy and some of the things we do is that we offer professional development sessions for

STEM

and for various pedagogies.

We base a lot of what we do at the Academy as well as in the Center for Teaching and Learning on inquiry-based

learning techniques, problem-centered, competency-driven techniques and we are very very into being integrative.

We provide PD or professional development on or off site and now online.

And these are customizable.

If you would like to learn more please do again go to the website before you IMSA.edu

/Centers.

The goals for today in 19 minutes or less is

to introduce you to Chrome Music Lab offering and highlight some of the potential uses for STEM, for science, mathematics, education, as well as ELA.

And music, of course.

And so I'd like to really begin by introducing you to the music

labs in the first place.

And the website is up here...

musiclab.chromeexperiments.com, but if you just Google search it,

search "Chrome experiments" or "music lab" it should also take you to the site quickly.

[video clip] Hi welcome to Chrome Music Lab and as you can see the address is up here musiclab.chromeexperiments

.com

/experiments

And all of these on this page are the experiments.

If you click the "about", you learn a little bit about what Chrome Music Lab does, how its developed,

So you can always click on that and find a little more information. But these squares all represent different types of experiments or things that you or your students can explore.

I'm just going to hover over each of these and briefly take you through a tour.

This is "Song Maker", you can make songs. There's actually quite a bit you can do especially with patterns or if you wanted to learn about octaves with the Song Maker, but you can also do things with tempo and with different types of beats.

"Rhythm", definitely has to do with the beats as well and patterns.

"Spectrogram" you can play with your voice there. Different instruments and you can see the level the sound. "Chords" this is really good to explore with the differences between minor chords or major chords.

We will be exploring sound waves later on.

"Arpeggios" arpeggios I never know how to say that.

"Kandinsky" this is probably my favorite particular experiment and we will be exploring that as well later on.

"Melody Maker" is a more simple version of the "Song Maker".

and...

"Voice Spinner". You can record your voice and then spin it like a record. You can spin it backwards. You can spin it forward. You can change the speed and hear what it does to the sound.

"Harmonic".

"Piano Roll".

"Oscillators" will be looking at this later on.

and "Strings".

This is a very brief tour of what.

Chrome Music Lab really focuses in on and they're constantly in development.

So, maybe a year from now you'll see a few other choices as well.

We, in 19 minutes, don't have the time to look through all that you can do. So I'm really just going to focus on a few key experiments or the ones that I have found most useful thus far.

Like I said in the video we really are only going to look at three of these.

We have very little time to explore and there's so much there on the Chrome Experiments and Music

Lab

to explore so I'm very highly suggest that you go and explore it

after this.

You will find something that piques your interest

without a doubt.

As we go through this I want you to consider how what we explore might relate to some of the standards that you might see

in the Next Generation Science
Standards.

and Common Core Standards.

Both mathematics and ELA.

And music standards if you are a music teacher.

Also consider how these might be

inquiry-based or how do you make create inquiry-based lessons using

Chrome Music Lab.

Think about how it applies to STEM. What technology can you imagine using in this? How about engineering?

And also consider that this is a very accessible website. You have nothing to download, you just go to the website and you begin.

You can do this if you have a great

computer lab in your school or your one-to-one school.

Your students can work on this individually. It's great for remote that way as long as you have access to

the Internet,.

they have access to Chrome Music Lab.

They can do group work on this or you can project this and do this as

a class. So, its very versatile.

I'm going to show you the first site that I talked about. Kandinsky.

It is my favorite.

Listen to the directions in the video and then after the video is done, I just want you to kind of type in

some of the things you notice and some of the things that you wonder. Type it into the chat.

[video clip] All right, the first site that I want to take you to is called Kandinsky. And let me click on it. You can see that Kandinsky is written at the top and they start showing a

person drawing on it.

What I want you to do this...

is just watch...

Take note of what you notice.

And what you wonder about what you're seeing. And then I'll ask you to write in the chatbox some of the things you notice and some of the things that you wonder about when you're watching this.

[musical notes]

Alright.

Some of the things you may have noticed

are that as you changed... yeah, this question... does the color matter in relation to the sound?

That's a good question. Yes. Yes it does.

And that's the thing that you might have noticed as we changed as you change the color, the sounds change, which is kind of interesting.

You may have noticed that...

as you do some shapes, they actually turn into faces and they actually sound like

they're singing.

Some of the things you might wonder is does the placement

of

each of these pictures change

how the notes sound?

And you can go back and explore these questions.

Oh, good question. Is there a limit to how many objects you can draw? Yes there actually is. And that's one of the things that

students can go back and

experiment with just to find out

what that limit is.

Really very fun. There's so much you can do with it.

One question you might have is, "Kandinsky"... what is that?

and...

relating back to some of these questions.

The sound and the color having some sort of relation there.

It really does play into the name Kandinsky. Kandinsky is an

artist who was known

for painting,

but ...

really hearing different sounds as he painted and so it's a mixture of senses or

senses.

Which is really interesting that you're kind of crossing your senses there and there is a scientific term for that. It is called synesthesia.

Some people are famous musicians and artists

have

and esthesia, where different senses are crossed Some people

can see a number

and a particular smell or

a particular color.

A lot of people hear sounds and have particular colors associated with it.

Its really kind of interesting.

Is there a way to have it actually write musical notes as a part of an actual score?

For this particular experiment on Chrome Music Lab, I haven't seen that yet.

Which would be really interesting if they could

do that on this particular site.

There is another experiment on Chrome Music Lab which will record your

the sounds that you make.

You can sing into the computer mic and it'll record that.

And sort of show you...

on a graph-type

display

what note you're singing which is really cool.

But Kandinsky doesn't do that.

These are really good questions.

But there's so much to explore there and so many questions to develop.

We really focused ours on sensation

and...

perception which is an interesting thing to explore.

You can really develop just scientific experimentation and

quantifying

how many, you know, going back to the limit how many objects you can really develop.

A great

quant...

ification experiment right there.

All right... moving right along, we have "Sound Waves" and I might show

through this a little bit faster...

just because I want to make sure I get through this and the next one, which focuses on oscillations, but they are

very very similar.

This one might hurt your ears a little bit so I'm just doing a warning and if I jump around it's okay you're still going to get the experience.

Sorry...going back.

[video clip] The next one I want to show you

After that I will show you something [inaudible] very well.

What happens to these blue dots? What do you think these blue dots are? I'll be playing the piano but pay attention to the blue dots.

Also pay attention to what happens when I press the magnifying glass and what you're going to be then.

[musical notes and tones]

[musical notes and tones]

[musical notes and tones]

[musical notes and tones]

What do the blue dots represent? They are air molecules are air particles and the movement in waves. Sound is produced and waves moving through and how particles are interacting.

That's really cool when you turn on the magnifying glass [musical notes and tones] and then see the type of wave you're dealing with. And you can see a sine wave. And see that changes. With each different note and students without ever being told. And it's all experimentation. So, they are making observations.

Cool.

Alright the next one I said was very similar.

And it's "Oscillators". [video clip] And I last one we're going to have time to look at the sound waves vary weather a little bit later types to look at and we're really only going to look at two for the sake of time.

We'll start with this I want you to make sure to notice what's happening here and these words.

Also notice what's happening with the characters.

alright.

[musical notes and tones]

Hope you notice the oscillator frequency value [inaudible]

And, you've also got...

a quantity that changes with the sounds. [musical notes and tones] You also can look at the waves. They have names.

[musical notes and tones]

When we get to this frequency I can't hear the sound but other people have been able to hear.

Which is really interesting and another experiment that your students could run with this one.

So...

some of the things that we've looked at could really relate to senses. We've looked at the waves. We've looked at frequency and we looked at those sound changes which are pitch.

We've looked at those air molecules or particles...

which are microscopic. You don't normally see them in there. And we've looked at the interactions with that and sound.

We looked at how you can do experimentation with this.

There's lots of identifying patterns which is very important in NGSS,

in mathematics.

We've also seen that there was a lot with sine waves which gets you into the upper grade levels as well.

You can develop a lot of different activities

that involves staking a claim for what you see,

gathering evidence

and using reasoning to bolster your claim.

And so you can do a lot of CREs with that.

which is really cool. You can do a lot and we've only just explored three very briefly.

If you want any additional resources for what we do. Again,

there's our website.

There is a calendar for our 19 minute webinar series.

We have weekly snack boxes available. STEM activities

from Pre-K through grades

twelve.

And you can also make one-to-one appointments with a curriculum specialist if you like.

I'd like to thank you for joining me for these 19 minutes. My name again is Nicole Ross and my contact information is there.

I hope you have a lovely night and a great rest of the week. Thank you so much for joining me.