

**Title of Session:** Nuts About Nature (N+C1)X(T+C2)=C3EE

**Moderator:** Bill Hilton Jr.

**Title of File:** 2005festNAN

**Date:** July 20, 2005

Room: Tree House Conference Room

**DianneA:** Welcome to the Festival. Welcome to Nuts about Nature with Bill Hilton Jr.

**BillHi:** Intros please?

**DianneA:** Would you like us to start with intros Bill, or do you have another fancy way to get us underway?

**BillHi:** You start Dianne.

**DianneA:** Dianne Allen, teacher of pre-service teachers, Australia

**DianneA:** and old science 7-12 teacher

**EunKyungB:** I'm Rachel Bai, master's student in TESOL at Indiana University

**DeborahCP:** I teach in multiage classroom (age 9-12) in Stockton, CA.

**SusanSi:** math, science, TX History 4th grade nuts about lots of things teacher

**EunKyungB:** Nice to meet you, all:)

**DianneA:** welcome Rachel

**BethL:** education major , middle level-math and science, Ohio

**EunKyungB:** Thanks:)

**TamikaE:** Oh, hello. I am a special education major at University of Houston

**BillHi:** Izzat everyone?

**DianneA:** just about

**BillHi:** BJ?

**DianneA:** Georgina might want to intro herself

**BJB2** waves. I'm an art teacher in Pennsylvania

**DianneA:** ooo - forgot BJ, she waas sooo quiet there

**BillHi:** That's a first!

**DianneA** lol

**EunKyungB:** Nice to meet you BJ:)

**BJB2:** Likewise, Eun

**BillHi:** I'm Bill Hilton Jr., executive director of Hilton Pond Center for Piedmont Natural History in York, South Carolina.

**BillHi:** I taught high school and college biology for about 20 years and also travel the country giving talks about natural history topics and doing inservice and preservice teacher training.

**BillHi:** "Nuts About Nature" is a discussion aimed at helping teachers (and future teachers) use the out-of-doors--either for real or virtually--to excite students about learning science and other disciplines.

**BillHi:** Each month I select a topic for discussion that is intended to make you think and, in the end, to give you some ideas for implementing activities with your current (or future) students.

**BillHi:** Since the theme for this year's TI Festival is "Creating Connections Through Collaboration," and since I'm a scientist, I thought I'd express my thinking about such matters with an equation:

**BillHi:**  $(N + C1) \times (T + C2) = C3EE$

**BillHi:** There's nothing complicated about our formula:

**BillHi:** N stands for Nature

**BillHi:** C1 is Connections

**BillHi:** C2 is Collaboration

**BillHi:** C3 stands for Creative

**BillHi:** T is Teachers

**BillHi:** and

**BillHi:** EE is Environmental Education

**BJB2** smiles and cheers...love it, Bill!

**BillHi:** Thus, the equation simply means: (Nature + Connections) X (Teachers + Collaboration) = Creative Environmental Education.

**EunKyungB:** Sounds wonderful.

**BillHi:** Or, to paraphrase: "Teachers working together can use natural connections to teach creatively about the environment.

**TamikaE:** I like that equation!

**BillHi:** During our session this evening, we'll talk about some connections in nature--and within environmental education--that lend themselves to collaborative teaching and learning.

**DianneA:** just like a good scientist, all the essentials, briefly

**BillHi:** Try to stay on-topic during the discussion so we can get to a meaningful end-point during our hour together.

**BillHi:** Okay, here goes my leading question:

**BillHi:** My lead question: When you think of "nature" and "connections," what do you think of?

**SusanSi:** life cycles

**BJB2:** food chain

**BillHi:** Keep it coming.

**MariannaA:** Students understanding why our environment is important to lives

**DeborahCP:** The best way to connect with nature is to be in it. Even if it's just the backyard.

**EunKyungB:** not artificial...

**DianneA:** balance

**BJB2:** migration

**BJB2:** seasons

**BillHi:** Mariann's kind of ahead of the game here. We're talking about nature first, not education. (That's later.)

**BillHi:** Any more?

**DeborahCP:** How we effect nature by our actions.

**SusanSi:** interdependence

**BillHi:** Deborah is also leaping a little.

**BillHi:** Any more?

**DianneA:** symbiosis

**BillHi:** Good.

**BillHi:** Okay, let' stop with those. No one was wrong, and everyone was right, and all in different ways.

**BillHi:** My all-time favorite phrase about nature is indeed "Everything is connected to everything else."

**BillHi:** We should have a federal license tag with that as the motto.

**DianneA:** the interconnection with the interdependence

**BillHi:** Actually, you don't even have to talk about interdependence if everything is interconnected.

**BillHi:** So that's a pretty tall order.

**DianneA** nods

**BillHi:** Trying to teach that "Everything is connected to everything else."

**BillHi:** What's the best way to get that point across?

**MariannA:** show them

**BillHi:** You'll have to be more explicit.

**BethL:** model it

**DianneA:** ask them to suggest how one thing might be connected to another

**BillHi:** How do you do that?

**SusanSi:** a study of food webs

**BillHi:** Model, that is?

**EunKyungB:** one country's pollution affects the other country's environment?

**TamikaE:** If possible, a fieldtrip or virtual fieldtrip on subject being studied.

**BillHi:** Let's leave the human factors out for now.

**MariannA:** how plants/animals in our environment are dependent on each other

**DianneA:** I think I'd try to work from some obvious examples to the less direct examples of connections

**BillHi:** Delete "virtual." (-:

**DianneA:** the food chain would be one such start

**TamikaE:** ok, fieldtrips would be good.

**BillHi:** Yes, yes, but how do you TEACH it!

**SusanSi:** dissect an owl pellet

**MariannA:** take them outside to see what is in their backyard

**DianneA:** how dependent am I on carrots, and potatoes, and apples

**BillHi:** Excellent, Mariann.

**DJWGst4** considers dissecting an owl pellet

**BillHi:** Maybe.

**MariannA:** show how the birds and insects are dependent on the plants

**BillHi:** Okay, I think Mariann has the concept. let's run with it.

**EunKyungB:** make them grow a plant..

**BillHi:** Indoors?

**MariannaA:** possibly explore how some plants are dependent on the insects in the ground

**EunKyungB:** I'm not sure...

**TamikaE:** They can plant seeds and watch them grow, take down information as it changes.

**MariannaA:** on the field trip, discuss what certain wildlife would eat if there were something missing

**MariannaA:** from the environment

**TamikaE:** types of habitats that wildlife live in.

**MariannaA:** and why they live there

**BillHi:** Other thoughts? (Don't be shy?)

**EunKyungB:** show them videos about nature connections..

**SusanSi:** grow sprouts out of wheat berries, and bake bread

**BillHi:** Delete the videos.

**BillHi:** Too human-oriented, Susan

**DianneA:** I am thinking that so far we are relying on doing a fair bit of telling to get the basic information over to them, rather than being able to see clear and direct, and quick connections and dependence

**BillHi:** Okay, everybody stop.

**BillHi:** We ain't gonna use no stinking videos or DVDs or overhead transparencies.

**MariannaA:** YEA!!!

**SusanSi:** plant-oriented basically, baking bread a final step

**BillHi:** We ain't gonna teach environmental education indoors.

**MariannaA:** go outside where the environment really is

**BillHi:** Stop.

**BillHi:** We ain't gonna TELL kids about connections in the environment.

**BillHi:** We're going to take students outdoors and help them discover connections in nature.

**BillHi:** Now how we gonna do THAT!

**BillHi:** Go.

**SusanSi:** plant something

**BillHi:** The operative word is DISCOVER.

**DianneA:** observe what eats what?

**SusanSi:** observe first

**DianneA:** in my garden I have lizards and sparrows

**BillHi:** Susan has it!

**DianneA:** I can watch what they eat as a start

**EunKyungB:** Give them some time to look at some plants and insects..then ask them to find out how they help each other..

**BillHi:** OBSERVE first. (-:

**BillHi:** EunKyung, don't go too far.

**BillHi:** Give them some time to look.

**SusanSi:** a nature journal

**BillHi:** The biggest mistake that most folks make when looking at nature is that they are not observant.

**BillHi:** So how do you help students be more observant?

**BillHi:** Susan has one idea.

**BillHi:** But she's a 19th century naturalist.

**SusanSi:** lol

**DianneA:** video record garden animal activity

**BillHi:** Too complicated. make it simpler.

**SusanSi:** digital camera-pick out a tree watch and record

**BillHi:** Digital camera. But of course.

**BillHi:** In any given classroom this fall, how many of your students probably have a digital camera?

**EunKyungB:** Group the students and give different roles for each student for observation

**SusanSi:** maybe half

**BillHi:** EunKyung, don't worry about logistics yet.

**SusanSi:** we have some at school to use

**BillHi:** Most schools do.

**BillHi:** I would guess that any teacher these days could beg, borrow, or . . . no, don't steal . . .

**BillHi:** enough digital cameras for an exercise in the field.

**BillHi:** Any many of those cameras would have a macro mode for close-ups.

**MariannA:** what are you going to have them take pictures of AND Why

**BillHi:** Wait. that's MY question.

**MariannA:** sorry

**BillHi:** A=Answer it.

**BillHi:** (-:

**MariannA:** animals

**MariannA:** plants they find

**EunKyungB:** plants

**BillHi:** That's a word, not an answer.

**MariannA:** how they are interacting with the plants

**MariannA:** they= animals/insects



**MariannaA:** eating them, living in them, etc

**BillHi:** Some of you out there are being very quiet.

**EunKyungB:** What about asking them to look at the connections between the sun, soil and plants?

**BillHi:** I think that's being too directive again.

**DianneA:** so every shot would need to have an animal and an plant, or two animals, or two connected plants

**BillHi:** No, I disagree.

**DianneA** listens to Bill's reason

**BillHi:** There's more to the environment than plants and animals.

**BillHi:** Why couldn't a student take a photo of a buttercup flower with a drop of dew on it?

**BillHi:** That would illustrate a connection.

**EunKyungB:** river, wind, rain...?

**BillHi:** Sure.

**DianneA:** point taken ... you did say everything was connected to everything

**BillHi:** EVERYthing is connected to everything else.

**DianneA:** but many of the connections are very subtle

**BillHi:** And kids are very good at "subtle."

**DianneA:** and have taken a lot of time and observations and experiments to prove

**BillHi:** Don't undersell your students' abilities when you finally awaken them to the joys of "discovery learning."

**BillHi:** And it's not easy.

**BillHi:** They've grown up being given the answers rather than the questions.

**SusanSi:** truth

**EunKyungB:** I agree

**BillHi:** So what I think would work is to give them an intro lesson in which you explain to them a few examples of natural connections, and then unleash them to go out there and find some.

**BillHi:** Documenting what they see with the digital camera.

**DianneA:** ahh, scaffolding .. and then liberating ... always my downfall: I don't do the scaffolding bit well

**DianneA:** and liberation without direction only invites a rabble

**BillHi:** A wonderful confession. (-:

**BillHi:** So let me give you a concrete example.

**DianneA:** I used to think it was 'prejudicial'

**DianneA** listens to Bill's example

**BillHi:** I want to take you to my Web site for Hilton Pond Center for Piedmont Natural History.

**BillHi:** Click on the following URL

**BillHi:** <http://www.hiltonpond.org>

**BillHi:** Bookmark it and don't go anywhere else.

**BillHi:** Not even on the page.

**BillHi:** Everybody there?

**DeborahCP:** There

**DianneA:** there

**BethL:** there

**TamikaE:** there

**EunKyungB:** Could you give me the URL again..?

**BillHi:** Okay. <http://www.hiltonpond.org> Partway down the page on the right there is a bright blue box with a Search Engine.

**BillHi:** In the search engine type the words "carrion beetle" without the quotes.

**EunKyungB:** I'm there

**BillHi:** Click the search engine and you'll get a page with four listings.

**BillHi:** Click on the first one about Carrion beetles and Phoretic Mites

**BillHi:** If you got lost we're now at <http://www.hiltonpond.org/ThisWeek040508.html>

**BillHi:** Does this page describe an example of how "Everything is connected to everything else"?

**BillHi:** Do the photos tell the story?

**BillHi:** Is this something, with guidance, a third grade science student could document with a digital camera?

**EunKyungB:** Yes

**BillHi:** You are correct for all three questions. (-:

**DianneA:** Bill, thanks for this challenging suggestion

**BillHi:** If you can--or need to--COLLABORATE with other teachers. The place to teach environmental concepts is OUTSIDE. And be CREATIVE. (Maybe even use a digital camera.)

**BillHi:** I'm done.

**DianneA:** it looks like we are just about out of time again

**BillHi:** Any questions?

**BillHi:** Don't forget to bookmark <http://www.hiltonpond.org>

**DeborahCP:** Thanks.

**EunKyungB:** OK, that's a great web site.

**DianneA:** I'll be back to check that site out some more

**TamikaE:** thank you. Your site is wonderful.

**BJB2:** Bill leads a monthly Nuts About Nature session on the third Tuesday of the month. Check your calendars!

**SusanSi:** I have enjoyed the hummingbirds this summer in NE Texas

**EunKyungB:** Thank you very much, Bill

**BethL:** thanks Bill

**BillHi:** Thanks to all. Have a great summer.

**DianneA:** thanks BJ that's very important info for the future