

AUGUST 2013

A newsletter for members of the
Carbon TIME environmental
literacy project

The

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Andy's Message

Hi Folks –

We're excited to be rolling out the new versions of our macroscopic-scale units (*Systems and Scale*, *Animals*, *Plants*, and *Decomposers*) on the National Geographic website! We plan to have the large-scale units (*Ecosystems* and *Human Energy Systems*) available on the MSU website by September 1 and on the National Geographic website later in the fall. We hope you enjoy exploring them through the online PD, and we're looking forward to hearing about your experiences teaching them. These units have lots of new features that we are excited about. Be sure to check out the videos that accompany the investigations and the PowerPoint animations that accompany the modeling activities!

--Andy

Important Upcoming dates

Summer II
Aug 1 – Aug 31

Looking forward to our 3rd Carbon TIME workshop!

Large Scale Units Ready (MSU)

Sept 1, 2013
Keep an eye out for these units on the MSU website.

Large Scale Units Ready (NGS)

Dec 1, 2013
Keep an eye out for these units on the NGS website.

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Poem from a Plant

What you think may be contraire:
I'm not made from dirt, but air!
It's air that makes my leaves and roots

And gives me mass for little shoots.

"Pshaw!" you say. "*It isn't so!*
Plants do not use air to grow."
You say dirt helps me grow?
That's true.

But mass? That comes from CO₂.



Fablevision Videos

Adding humor and accessibility to the Carbon TIME investigations

The Carbon TIME team has been working with a video production company called Fablevision and NGS to produce a series of videos to accompany our investigations. We hope these videos will make the investigations more fun and accessible to your students. You may recognize some friendly faces in the photo of the production team above, like Jenny (MSU) and Elizabeth (NGS).

The videos show pictures of students setting up the investigations, and provide opportunities to pause the video to allow your students to make predictions and share ideas. The Three Questions for each investigation are also included as a way to reinforce these as organizing features of the investigations. The videos also include

time lapse images of things growing (like plants and mold), moving (like mealworms), and changing (like BTB changing color in the presence of CO₂).

We hope that the videos help your students think about the data they are collecting in the investigations in a meaningful and fun way. Something fun about the videos is that the narrators (Darrel and Nina) crack jokes throughout the script to make the investigations more... punny. We'll let you be the judge of how well these go over with your students! We included questions about the videos in the teacher feedback forms this year—we're looking forward to hearing what you and your students think of them.

A Note about IRB: Why is it Important?

Here's a good way to think about why IRB (Internal Review Board) protocol is important. Carbon TIME interviews are taking place during school time, which take away from student learning and classroom procedures. Parents must be notified that their child will be using class time for our research--and they must show that they approve. Parents might become upset if they find out this took place without their permission. It is important for us to respect the parents' choices. Parents also might not like their child being given cash/gift cards without their knowledge.

Student assent functions in a way so that the student understands their own rights as a research participant, risks, and benefits. However, if a student is over 18, it is his/her own consent: S/he makes the choice as a legal adult.

Human subject research is complicated, confusing, and interesting all at the same time. It is the job of the IRB to protect the participants, so it is important to us to err on the side of safety. This is why we are sticklers about having the correct forms signed before we do interviews. Thank you for your help in making this go smoothly, teachers!

Finding Updates on Unit Materials

This fall, you will be accessing the unit materials for *Systems & Scale*, *Animals, Plants, and Decomposers* on the National Geographic Society (NGS) website, and you will be accessing the unit materials for *Ecosystems* and *Human Energy Systems* on the MSU materials website (Note: the large-scale units will be up and running on the NGS website around December 1, 2013).

Occasionally during the year, the Carbon TIME research team will make small changes to the unit materials that are not reflected on the NGS website. This happens because the NGS website takes a long time to update, and so we save all of our changes to upload at one time (which will happen later in the year). However, we want you

to have access to the latest versions of the materials, so we update the MSU site regularly.

This means that when you are planning to start teaching a unit, you should always check the MSU website for any recent changes (at most this will be a few files or worksheets that have updates). You can find announcements about changes at the MSU materials website (see the link on the last page of the newsletter). Using the most recent version of the materials is important to us (for research purposes), so we thank for your attention to detail in this area!

If you have any questions about where to find the latest versions of the materials, please email Hannah at hkm@msu.edu anytime.

Farewell to Jenny Dauer: She's off to Nebraska!

We want to take this opportunity to share exciting news: Jenny Dauer, our Carbon TIME project director, has accepted a full time faculty position at the University of Nebraska in Lincoln! Jenny and her husband Joe (who also accepted a faculty position there) will be moving to Lincoln on August 8th to start new careers as professors of biology and researchers of science education. Many of you have had the opportunity to work with Jenny, so you can imagine that it will take some scrambling to keep everything running after she leaves. She has contributed to the project through her work in curriculum development, research on student learning and inquiry, preparing our units to go on the NGS website, professional development workshops, and more. Jenny has been an invaluable part of the Carbon TIME team and she will be dearly missed! Fortunately Jenny will continue to work with Carbon TIME in the next year to a lesser degree, but she will certainly have her hands full adjusting to a new job in a new university in a new state! If you have the opportunity, please send Jenny an email with a pun about "corn" in it and wish her good luck—goodbye Spartans, hello Huskers! (Aw, *shucks*). Good luck with everything, Dauers-- We will miss you!



Note: Many of you also knew Jenny as the go-to person for many questions about the project. Any emails that you used to send to Jenny you can now direct to Hannah Miller (hkm@msu.edu) who will serve as the new project director after Jenny leaves.

Spotlight on Cohort 3!



Lisa Winger is a new teacher in our third Carbon TIME cohort. Lisa teaches at Plainwell Middle School, in southwest Michigan, about 30 miles from Lake Michigan. She has been teaching 6th grade General Science and 8th grade Earth Science for two years. She's been involved in the GK-12 program at Kellogg Biological Station for nine years.

Lisa says: *"I've been interested in environmental literacy for a long time. I studied Environmental Planning as an undergraduate in California, and worked as an urban planner for 20 years before entering the teaching profession. I've always brought my interest in environmental science into my classrooms, and tried to find ways to inspire my students to know and appreciate the natural world."*

On a personal note, I'm an avid traveller, camper, gardener and reader, and my husband and I foster (and often adopt) Newfoundland dogs- the big, hairy, drooly ones! I've been lucky enough to participate in some other national science programs including an RET at Florida State's Marine Lab in Marine Ecology, an Engineering RET at Michigan State in Nano-Scale Biosensors for Food Safety, and The Maury Project at the US Naval Academy. In these programs, I learned a lot and met some incredible people. I'm looking forward to being involved in Carbon TIME as well."

Welcome, Lisa!

We're glad to have a teacher so committed to environmental literacy on the Carbon TIME team.

Links You Need

Testing Website and Dashboard:

[http://ibis-](http://ibis-live.nrel.colostate.edu/MSP/home.php)

[live.nrel.colostate.edu/MSP/home.php](http://ibis-live.nrel.colostate.edu/MSP/home.php)

- Give feedback
- Order Materials
- Shipping information

Group Spaces Workshops:

www.groupspaces.com/CarbonTIME



Find us on Facebook: Email Staci (sharpst5@msu.edu) to request to join our group.



Follow us on Twitter: @CarbonTIME

Carbon Comics



The Carbon TIME research team appreciates this science teacher's creative labeling (and also support cutting down on energy consumption).

Newsletters:

http://edr1.educ.msu.edu/environmentallit/publicsite/html/CarbonTIME_newsletter.html

Teaching Materials: <http://edr1.educ.msu.edu/environmentallit/publicsite/html/CarbonTIME.html>