



The Nucleus

*Official Quarterly Newsletter of the
Texas Association of Biology Teachers*

Volume 19, Issue II

Summer, 2006

President's Message:

Looking forward to the start of new school year with a sincere desire to be more organized, I have purchased a new academic calendar. I took my time as I looked through calendar after calendar trying to find the one that was just the right size with the perfect page arrangement, and enough space for making a few notes. I finally settled on one that suites me and have begun marking some important upcoming events. I thought I would share a few of those dates with you.

September 15-17, 2006. Texas Association of Biology Teachers will hold a mini-conference at the University of Texas Marine Science Institute at Port Aransas. The cost of the conference is \$100. It's a real bargain in that it includes two nights lodging at the UTMSI dorms, four meals, one year membership in TABT and a TABT t-shirt. What a deal! On Saturday morning we will take a trip aboard the research vessel, *Katy*. Saturday afternoon will include a study of a local ecosystem and a presentation by a UTMSI staff member. Sunday morning we will have a general biology share-a-thon during which attendees will explain a favorite lab or activity. You can find the mini-conference registration form at our website: <http://www.texarkanacollege.edu/~mstorey/TABT/>.

October 11-14, 2006. The NABT convention will be held in Albuquerque, New Mexico. Visit the conference website (<http://www.nabt2006.org>) to register for this year's event.

November 9-11, 2006. CAST will be held in Wichita Falls. There will be a TABT strand running all day on Friday during which activities and labs dealing with topics such as biochemistry, cell energy, taxonomy, human systems and use of manipulatives will be

presented. We encourage you to sign up for the TABT luncheon when you register for CAST. The luncheon serves as our annual meeting during which we will conduct a little business, give away lots of door prizes and learn a bit of biology from our guest speaker.

Our organization is celebrating our 20th anniversary and would like to invite you to stop by our anniversary celebration that will be held at CAST at the conclusion of the last session on Friday, November 10 in the TABT Strand session room. Also, plan to stop by the TABT booth in the exhibit hall where we will have our 20th anniversary pins available.

As you fill in your calendar for the 2006-2007 school year, I hope you will set aside some time for yourself to spend time with friends and family, to enjoy the seasons and to celebrate your freedoms! Hope to see you at CAST.

*Debbie Richards,
TABT President*

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NABT's Newsletter... Sent electronically every week, News & Views will keep you updated on all NABT activities, professional development opportunities, and news of what's going on in the profession.

The NABT Annual Conference... As a member, you'll enjoy substantial discounts on registration fees. Don't miss NABT's Annual Professional Development Conference in Albuquerque, New Mexico, October 11-14, 2006.

Information Services... NABT provides you with invaluable research assistance and information about curriculum, assessment, national standards, and academic freedom—when you need it.

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For more information, visit us on-line at www.nabt.org—then join NABT Today!

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- Full Member \$79/year
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- Student Member \$39/year (open to regularly matriculated students not in full-time employment)

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This is my home business address.

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If you are already an NABT member, please pass this on to a colleague.

Payment Information

SRNM 02/06

- Check is enclosed, payable to NABT.
- Purchase order enclosed.

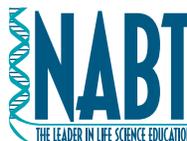
Charge my: VISA MasterCard

Card # _____ Exp. Date _____

Signature _____

Please make your check payable to NABT. For US Postal requirements, \$40 of your membership dues are allocated for your subscription to *The American Biology Teacher*, and \$5 for *News & Views*.

- Do not provide my name & address to other companies. **Recruited by Alton Biggs**



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Baltimore, MD 21279-1048
703/264-9696 703/264-7778(fax)

The Editor's Opinion – Using The Outdoors to Teach Biology

Have you ever found yourself literally in the middle of nowhere? It was just you and the vultures circling high above waiting for you to collapse so they could feed upon your bloated carcass. This summer I decided to take on a summer job, spraying weeds around oil wells and tank batteries in the desert of east New Mexico, of all things. The first day I was there, the thermometer read 110 F° and I began to wonder what I had gotten myself into. At times I would look over my shoulder just to make sure the devil himself was not around. No devil, but the vultures were still hanging about. I didn't go looking for nature. Honestly, I was there trying make ends meet as quickly as possible, but nature found me the minute I stepped into the blazing sunlight.

In the mornings, pronghorn (*Antilocapra americana*) would graze just a few hundred feet from me. What they could find to eat in such a desolate place is still a mystery to me. At times I would stop working and watch these nervous creatures, and not surprisingly the pronghorn would stop to observe my actions. On one occasion I startled a grazing pronghorn buck who was very displeased to see me. When I got out of my truck and approached to snap some photos he began to make a snorting noise. I can only assume he was telling me I was in marked territory and that I should be moving on. Up close you could see lean muscles rippling underneath his tan and white coat. This explained why such a creature can reach a speed of 60+ mph.

I watched black-tailed jack rabbits (*Lepus californicus*) kick up the morning dust as they chased each other competing for territory, or perhaps a mate. During the heat of the



Antilocapra americana

day, most of the rabbits lie in the shade of the tank batteries cooling themselves from the hellish sun looming high above. Even when I approached the rabbits to spray nearby weeds they were reluctant to give up their prime real estate in the cool shade.

I stumbled upon several different species of lizards while working in the desert heat. Several times I came across an infamous Texas Horned Lizard (*Phrynosoma cornutum*) basking in the morning sun. Once, a thriving population existed, but with introduced species such as the fire ant, the horned lizard population has been on the decline throughout much of Texas. I also discovered whip-tailed lizards scurrying beneath the prickly pear as hawks glided on thermals overhead waiting for their next victim to scamper into a clearing. About every three or four hours I'd find a New Mexico Whip-tail (*Cnemidophorus*



Lepus californicus

neomexicanus), an all-female species of whip-tail lizard. It reproduces by parthenogenesis – its eggs require no fertilization, and its offspring are genetic duplicates of the mother. I had to smile as the line from *Jurassic Park* came to me: “Nature always finds a way.”

All these things made me realize this is what teaching is about. Going outside, exploring and observing. So many times we teachers get set in our ways doing the same classroom routine over and over. It is up to us to make science challenging, exciting, and inventive. I invite you to take your classes outside and develop activities that relate to the local ecology and biology that is right before you! You'll be surprised at how much your students retain when actively participating in an exciting classroom setting.

As a new school year approaches I encourage you to create activities that allow your students to explore the world right outside their back door. Share your ideas with colleagues and friends, too. Colleagues can add new ideas to old activities. One way you can share these activities is through *The Nucleus*. Every quarter we hunt down teachers willing to share activities with us. If you have one you would like to submit, please do not hesitate to contact me. My email address is jstanaland@austin.rr.com. I welcome all submissions for our newsletter, and I promise to help put your insights in the best light possible for your peers. You'll be surprised how much you're appreciated for your contributions – no matter how slight you think they may be!

Joe Stanaland, Editor

The Nucleus



Texas Association of Biology Teachers

Mini-Conference

University of Texas Marine
Science Institute
Port Aransas, Texas

September 15-17, 2006



Texas Association of Biology Teachers is sponsoring a Mini-Conference at the University of Texas Marine Science Institute at Port Aransas.

Agenda

Friday, September 15, 2006

Arrive evening – dinner on your own

Saturday, September 16, 2006

Breakfast – included

Boat trip aboard the research vessel, *Katy*

Lunch – included

Study of local ecosystems

Dinner – included

UTMSI Speaker



Sunday, September 17, 2006

Breakfast – included

TABT Share-a-thon and updates

Noon – depart for home – lunch on your own

Cost of the conference is \$100 and includes two nights lodging in UTMSI dorms, all 3 meals on Saturday and breakfast Sunday, one year membership in TABT and a TABT T-shirt.

Space is limited to the first 50 individuals to submit payment



Texas Association of Biology Teachers

Mini-Conference, September 15-17, 2006, at UTMSI, Port Aransas
Registration Form
(please print)

Name _____ Gender Female Male

School Name _____ District _____

School Address _____

School phone (____) _____ School Fax (____) _____

Home address _____

Home phone (____) _____

E-mail _____

T-shirt size _____ Presently a TABT Member? Yes No

Dietary restrictions/considerations _____

Health concerns/allergies _____

Emergency contact _____ Relationship _____

Emergency contact phone (____) _____

Roommate preferences (if any). *Please remember this is dormitory style housing with multiple roommates and bunk beds.* _____

Sunday morning of the conference will involve a share-a-thon. What do you intend to bring to share? _____

Make check out to TABT for \$100 (sorry no Purchase Orders) and mail along with this completed form to:

**Jennifer Jordan (attn TABT)
1513 Cherokee Run
Pflugerville, TX, 78660**

For TABT Use Only:

Paid _____

Room _____

Boat group _____

Confirmation e-mail _____

Special consideration _____



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Trace the Flow of Energy

By Debbie Richards

Activity Description:

Working alone or in pairs, students should cut out the 12 cards. Each card contains a description related to the transfer of energy into and out of an antelope. The students' task is to arrange the cards in order of occurrence

a. ATP used by the sarcomere of the muscle cell.	b. Glucose delivered via bloodstream of antelope.	c. Sun rays strike leaves of prairie grass.
d. Energy is released as body heat.	e. Glucose stored as polysaccharide in leaves of prairie grass.	f. Palisade mesophyll cells convert solar energy to chemical energy.
g. Grazing antelope consumes prairie grass leaves.	h. Solar energy emitted by sun.	i. Energy-rich cellulose is broken down in the digestive tract of the antelope.
j. Bond energy from glucose is converted to ATP by oxidative phosphorylation.	k. Beginning	l. Ending

The Web And Me

by Alton L. Biggs

It was an interesting assignment that I received recently from a colleague in California. Her email simply read – “What are your five favorite Internet sites? Briefly tell us why.” I gave my answer a lot of consideration. My response was that if you check out my business site (<http://home.netcom.com/~altonb/biggseducationalconsulting/>), you’ll find more than 1,000 of my favorite Web sites that have to do with every area of biology, mathematics and other sciences, even art and finances! But I’ll give you the short list that I gave her – and I’ll even tell you why.

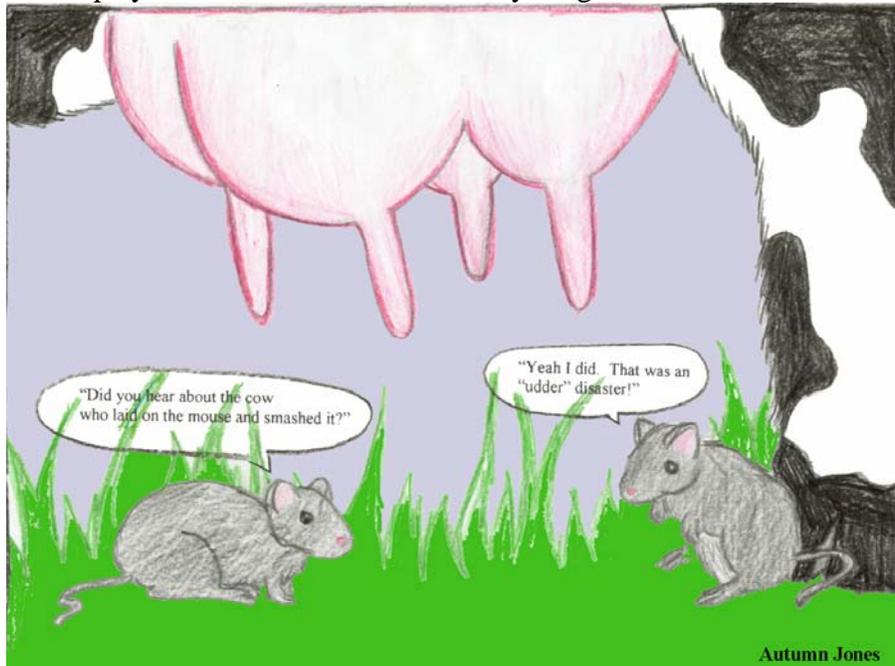
- **Access Excellence** (<http://www.accessexcellence.org/>) – This award-winning site from the National Health Museum has undergone many changes since its inception, but still has some excellent biology content.
- **Action BioScience** (<http://www.actionbioscience.org/>) – This site from the American Institute of Biological Sciences (AIBS) is a non-commercial, educational web site that promotes bioscience literacy by providing articles and lesson plans by scientists, science educators, and science students on biology-related issues.
- **Online Mendelian Inheritance in Man (OMIM)** (<http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=OMIM>) - With over 15,000 entries, this site represents a comprehensive and constantly updated catalog of inherited diseases.
- **The TalkOrigins Archive** (<http://www.talkorigins.org/>) – This site is a collection of articles and essays that seek to provide scientific responses to the questions that appear in the talk.origins newsgroup and soundly rebutted assertions of those advocating intelligent design or other creationist pseudosciences.
- **Tree of Life Web Project** – (<http://tolweb.org/tree/phylogeny.html>) – A collaborative effort of biologists from many countries, this site contains more than 4000 sub-pages that provide information about the diversity of organisms on Earth, their phylogeny, and characteristics.

How’s that for service? My top five sites are listed alphabetical order, and not by what I consider the most important to least important. I wouldn’t know how to do so.

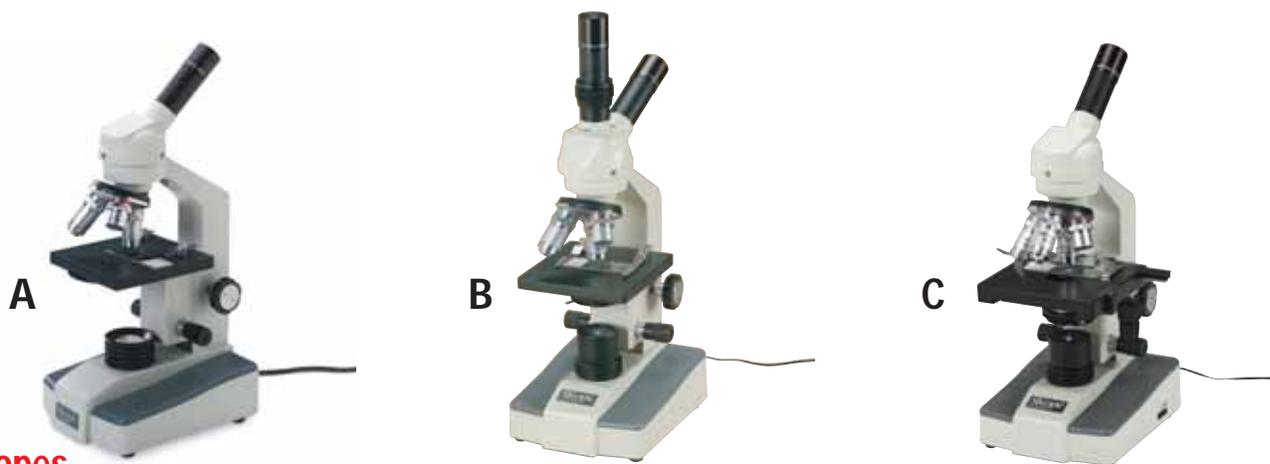
Now, why don’t you send us your top five Web sites (and a brief reason why they are your favorites)? You might find your name under the next “The Web and Me” byline.

Humor

We hope your summer vacation was anything but an “udder” disaster!



Recall a humorous remark from one of your students, one of your own “misspeaks”, or send us a drawing from one of your students, or even one done by you that in some way illustrates humor in biology. We’ll try to find space for it in a future edition of *The Nucleus*.

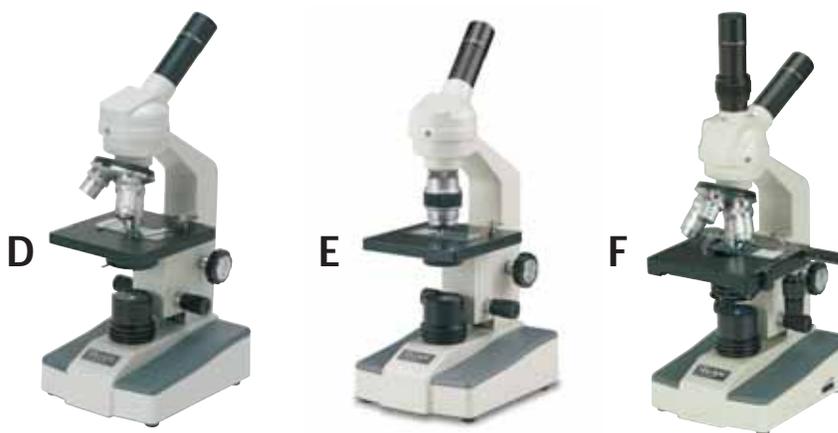


SKopes

Cat. No.	Viewing Head	Nosepiece	Objectives	Stage	Illumination	Condenser	Price
A FN55841-21	Single	3	4X, 10X, 40X	Plain	Tungsten	N.A. 0.65	\$189.00
FN57452-00	Single	3	4X, 10X, 40X	Plain	LED	N.A. 0.65	\$195.00
B FN57450-00	Dual	3	4X, 10X, 40X	Plain	LED	N.A. 0.65	\$245.00
FN55841-35	Single	4	4X, 10X, 40X	Mechanical	LED	N.A. 1.25 Abbe	\$265.00
C FN55845-00	Single	4	4X, 10X, 40X, 100X	Mechanical	LED	N.A. 1.25 Abbe	\$330.00
FN55844-00	Dual	4	4X, 10X, 40X, 100X	Mechanical	LED	N.A. 1.25 Abbe	\$375.00

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Cat. No.	Viewing Head	Nosepiece	Objectives	Stage	Illumination	Condenser	Price
D FN57904-00	Single	3	4X, 10X, 40X	Plain	LED	N.A. 0.65	\$225.00
FN57905-00	Dual	3	4X, 10X, 40X	Plain	LED	N.A. 0.65	\$265.00
E FN57446-00	Single	Zoom	5X-30X Zoom	Plain	LED	N.A. 0.65	\$275.00
FN57911-02	Single	4	4X, 10X, 40X, 100X	Mechanical	LED	N.A. 1.25 Abbe	\$350.00
F FN55849-00	Dual	4	4X, 10X, 40X, 100X	Mechanical	LED	N.A. 1.25 Abbe	\$420.00



Texas Association of Biology Teachers
c/o Alton Biggs, Computer Records Clerk
1002 Madera Court
Allen, Texas 75013-3639



Membership Application (Please Print All Information)

Name: _____ Telephone: (____) _____

Home Street Address, City, State, Zip: _____

E-mail address (*very important*): _____

Type of membership: Active (\$10) Student (\$5) Retired (\$5) Life (\$250)

Please complete the following to assure balanced representation in planning TABT activities

1. Professional Class (**Check one only**)

Biology Teacher Department Chairman Curator/Interpreter
 Supervisor/Administrator Teacher Training Student
 Other _____

2. Male Female (**OPTIONAL**)

3. Have you ever received the OBTA? No Yes If yes, what year? _____

4. Number of years teaching? _____

5. Organizational Class (**Check one only**)

Elementary Middle/Junior High Secondary College/University Zoo/Aquarium
 Business/Institution Other _____

6. Special Interests (**Check no more than 2**)

Cellular/Molecular Botany/Plant Science Laboratory Science Reproduction/Evolution Zoology
 Computer Instruction Environmental Biology Teaching Materials Other _____

7. I am also a member of (**Check all that apply**): National Association of Biology Teachers (NABT)

National Science Teachers Association (NSTA) Science Teacher Association of Texas (STAT)

Please send membership application and dues to: Alton L. Biggs, TABT Records Clerk
 1002 Madera Court, Allen, TX 75013-3639

Make all checks payable to: Texas Association of Biology Teachers