



The Nucleus

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

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President's Message:

This is my last message to you as president of the Texas Association of Biology Teachers. I first want to say what an honor it has been for me to serve you during this year. TABT has continued to make strides and the future for the Association looks brighter than ever.

It goes without saying that the president does not do the work alone, and I offer my sincerest thanks to all of you who have stepped up and volunteered your time and talents this year. Without every one of you, TABT would undoubtedly be less than what it is. I will not attempt to name every person, but there are some who stand out and must be mentioned.

First, I would like to thank the members of the TABT Board of Directors - Debbie Richards, past president; Benjy Woods, president elect; Kristin Martin, secretary/treasurer; and Alton Biggs, appointee of the president. As Debbie steps away from the board, our collective hats are off to her. Debbie served for years as our secretary/treasurer and then three more years in her presidency rotation doing so much good work for the Association while continuing all of her other work on behalf of the biology teachers and students of Texas. Benjy has learned the "presidential ropes" this year and I know that I leave the organization in capable hands. Kristin's work has been behind the scenes, but she completed the task of secretary/treasurer with great success. Kristin reported the Association's accounts on a monthly basis, keeping the Board informed throughout the year. Finally, I want to thank Alton Biggs for keeping me doing most of the things that I was responsible for. Without Alton's knowledge of TABT's Constitution and Bylaws, as well as the history of our organization, it would be very easy for a president to wander off into territory that might not provide such great result for us.

Secondly, I want to thank Joe Stanaland for taking on the task of being the editor of *The Nucleus*. This is often a thankless job, but Joe has done well in finding sponsors for commercial ads as well as editing the manuscripts that have been submitted.

I also want to thank all of those who have submitted material for publication. If you haven't done so, please give it some thought. I promise you that Joe will find volunteers to help you get your ideas into a format that can be used in this newsletter.

Thirdly, I want to thank Anita Gordon for helping with CAST, the TABT Luncheon, and our presentation strand. You are a god-send, Anita!

Finally, to Robert Dennison, Keith Watson, Joe Restivo and all of the other who have helped the Association during the year I offer my sincere gratitude. You all make a difference!

Speaking of the TABT Luncheon and the speakers at CAST, I want to say how much I enjoyed the time we had. All of the TABT member who attended the luncheon got multiple door prizes. Next year, you should consider coming to our luncheon and business meeting. I guarantee you that it will be worth the time that you spend.

As 2008 is just around the corner, I urge all of you to be particularly diligent as the statewide objectives for science are revised. Some TABT members are on the revision committees, and we offer our help any time you need it. Of course TABT is very interested to know how subjects such as evolutionary theory, ecology, and environmental science issues will be addressed. With the loss of Chris Comer as the Science Director at TEA, the climate has become so political in Austin that there is reason to fear an erosion of science in favor of political expediency. TABT promises to keep you informed.

The second semester is almost here and we wonder where the first one went. I hope that you have enjoyed teaching your students this semester and that things only get better as you enter the new year.

Remember that TABT is your organization. If we can ever be of help to you, please don't hesitate to ask one of us. We may know the answer to your question, but we'll do our best to find the correct answer for you.

*Jennifer Jordan-Kaszuba,
TABT President*



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DIGESTING LACTOSE WITH LACTASE by Debbie Richards



Background:

Most foods that are ingested are composed of large, complex molecules. These molecules are not useful to the body unless they are first broken down into smaller components. This break down, or digestion is dependent on various enzymes. Lactase is an enzyme found in many humans that functions to breakdown the milk sugar, lactose, into glucose and galactose. Individuals who do not produce sufficient amounts of lactase will have difficulties digesting milk products containing lactase. For these individuals the undigested lactose in a glass of milk can cause diarrhea, flatulence (gas passed from the stomach or intestines).

Procedures:

1. Use the marker to draw and number 4 circles on glass plate or slide. Alternately, your teacher may provide a spot plate for this activity.
2. Use different droppers to place each of the following solutions into each circle on the slide:
 - Circle 1: add 2 drops of glucose solution
 - Circle 2: add 2 drops of milk
 - Circle 3: add 1 drop of Lactase
 - Circle 4: add 1 drop of Lactase plus 2 drops of milk (mix with toothpick)
3. Test the contents of each circle for the presence of glucose by dipping a piece of glucose test paper to each.
4. Record the results in Data Table 1.
5. Wait 5 minutes and repeat the glucose test.
6. Record the ending glucose test results in Data Table 1.
7. Consider the results as you answer the questions.

Circle Number	Contents	Glucose test results beginning	Glucose test results ending
1	Glucose		
2	Milk		
3	Lactase		
4	Lactase + milk		

Questions:

1. Which circle contains the enzyme alone? _____
2. Explain the changes that occur in circle 4: _____

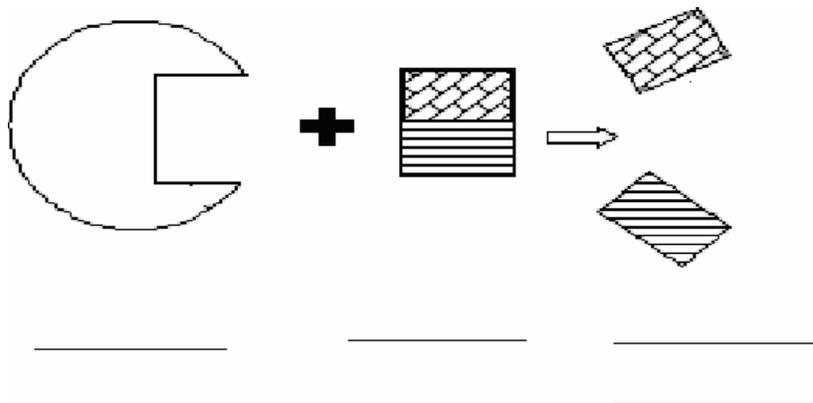
3. Name the substrate in circle 4: _____
4. Name the enzyme in circle 4: _____

5. Name the products found in circle 4: _____ & _____

(*Hint:* read the background information)

6. Label the following diagram (*below*) based on the reactions that occurred in circle #4:

7. Explain the role of circle #1. _____



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Children's Science Exam
Submission by Virginia Malone

Q: Explain one of the processes by which water can be made safe to drink.

A: *Flirtation makes water safe to drink because it removes large pollutants like grit, sand, dead sheep and canoeists.*

Q: How is dew formed?

A: *The sun shines down on the leaves and makes them perspire.*

Q: How can you delay milk turning sour?

A: *Keep it in the cow.*

Q: What are steroids?

A: *Things for keeping carpets still on the stairs.*

Q: What happens to your body as you age?

A: *When you get old, so do your bowels and you get intercontinental.*

Q: What happens to a boy when he reaches puberty?

A: *He says good-bye to his boyhood and looks forward to his adultery.*

Q: Name a major disease associated with cigarettes.

A: *Premature death.*

Q: How are the main parts of the body categorized? (e.g. abdomen.)

A: *The body is consisted into three parts – the brainium, the borax and the abdominal cavity. The brainium contains the brain; the borax contains the heart and lungs, and the abdominal cavity contains the five bowels, A, E, I, O, and U.*

Q: What is the fibula?

A: *A small lie.*

Q: What does 'varicose' mean?

A: *Nearby.*

Q: Give the meaning of the term 'Caesarean Section'?

A: *The Caesarean Section is a district in Rome*

Q: What does the word 'benign' mean?

A: *Benign is what you will be after you are eight.*

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Views From CAST 2007



David Hillis was the TABT Luncheon Speaker. He discussed ways to get students interested in evolution.



Benjy Wood is TABT's president-elect, following Jennifer Jordan's presidency. Kristin Martin is the TABT treasurer and Alton Biggs is the Friend of the President. Hey, where's Debbie Richards, our past president?!



TABT's past presidents who attended the TABT Luncheon included Robert Dennison, Anita Gordon, Karen Hewett, Alton Biggs, Joe Restivo, and Keith Watson. All of these have given outstanding service to the biology teachers of Texas. We salute them one and all!

TABT conducts its annual business at the TABT Luncheon each year as it meets with the Science Teachers Association of Texas at the Conference for the Advancement of Science Teaching (CAST). If you've never attended the annual meeting, you should. This year everyone in attendance went away with multiple door prizes and a great talk from Dr. David Hillis.



Alton Biggs was presented with the Friend of TABT Award. This is the first time the award has been presented to an individual.



Joy Killough displays the framed Texas OBTA Certificate she received this year.



Joy Killough was this year's recipient of the Texas Outstanding Biology Teacher Award. Joy stands next to Jennifer Jordan, Robert Dennison, Texas OBTA Director, and Sarah Anderson, this year's recipient of the TABT Outstanding Teacher Award.



Jennifer Jordan passes the TABT official gavel to Benjy Wood, the incoming president.

Virginia Woods Receives Prestigious Award at Fiftieth CAST



It is difficult to surprise Virginia, but we think this check for \$5,000 presented at the CAST Luncheon by Dr. Kenn Heydrick did the trick.



Alton Biggs, TABT's first president, begins his talk about Virginia by reflecting on her being the second TABT president, a TABT Honorary Member, and an OBTA recipient from Texas.



Alton then read a list of characteristics he believes identifies all unforgettable teachers and leaders such as Virginia Woods.



As Alton read each characteristic, the audience at the the CAST Luncheon expressed its agreement with applause for Virginia.

Twelve Characteristics of Unforgettable Teachers (and Virginia Woods)

- ✓ Unforgettable teachers love their work.
- ✓ Unforgettable teachers are positive people.
- ✓ Unforgettable teachers are lifetime learners.
- ✓ Unforgettable teachers are answering a call in life.
- ✓ Unforgettable teachers see themselves as their brothers' keeper.
- ✓ Unforgettable teachers look for gifts, skills, and talents in others.
- ✓ Unforgettable teachers know they can change the lives of other people.
- ✓ Unforgettable teachers refuse to allow other people to waste their lives.
- ✓ Unforgettable teachers help others become aware of their gifts, skills, and talents.
- ✓ Unforgettable teachers persist in high expectations in the face of resistance by low performers.
- ✓ Unforgettable teachers combine strong interpersonal skills with humor to connect with people.
- ✓ Unforgettable teachers know and effectively use the most powerful motivator on Earth – encouragement.



Texas Association of Biology Teachers
c/o Alton Biggs, Computer Records Clerk
2006 Creekview Drive
Commerce, Texas 75428-3947



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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
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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
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