



The Nucleus

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

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President's Message:

As most of you know, on November 7, the State Board of Education (SBOE) voted 11 – 4 in favor of placing all of the biology books up for adoption on the state's "conforming" list. Biology teachers across the state are grateful to all of you who lobbied the SBOE in favor of adopting the books without requiring any changes that would have weakened their coverage of evolution. Members of TABT were instrumental in combating the efforts of the Discovery Institute and other intelligent design advocates. I thank and applaud all of you who took part in the process by testifying before the SBOE and/or contacting SBOE members via emails, letters and phone calls. I know that the opinions of biology teachers carried much weight with the majority of the SBOE members.

I also want to thank the Texas Freedom Network, the Texas Citizens for Science and the National Center for Science Education for the tremendous work they did to help assure that our biology books would contain the best current scientific understanding of evolutionary theory. The outpouring of support from the scientific community was impressive and a direct result of the work of these three groups.

As a result of the SBOE vote, biology teachers will now have excellent texts from which to choose for use in their classes beginning in 2004-5. However, I feel the need to add some words of caution. As pleased as we should all be with the adoption vote, the need to continue combating intelligent design creationism is far from over. I strongly urge each of you to read Dr. Marshall Berman's recent guest editorial in the November/December issue of *The American Biology Teacher*. It is eye-opening and

should be read by all biology teachers.

Our annual luncheon at CAST 2003 was a great success. We were privileged to hear a fascinating talk by Dr. John Charles entitled "Biomedical Aspects of Early Interplanetary Expeditions." My thanks to Dr. Dan Wivagg for arranging to have Dr. Charles speak to our group. Also, every single luncheon attendee received a significant door prize thanks to the generosity of many CAST vendors who supported TABT. (Please see the Fall issue of *The Nucleus* for a complete list of those vendors.)

I conclude my last President's Message with a rather long, but important list of acknowledgements. First of all, thank you to all who helped make CAST 2003 such a success for TABT: Anita Gordon for setting up our much-improved booth; Alton Biggs, Anita, Dan Wivagg, Keith Watson, Sandra Coffey, Suzy Thacker, Nadine Dickson, Laura Oswalt, and Debbie Richards for working in the booth; and all those who helped during the luncheon, especially Anita for saving the day with the last-minute loan of her laptop computer.

I also thank those who have made my year as President so memorable and enjoyable: Ginger Torregrossa for serving as editor of *The Nucleus*; Dan Wivagg and Keith Watson, President-elect and Past-president, respectively, for their help and advice; to Alton Biggs, our founder, and my mentor for all things related to TABT, my undying thanks for his work at many more "jobs" than I could possibly list in this space; to Debbie Richards for serving as TABT's secretary/treasurer for the past 10 years; and most importantly, my sincere thanks to you for allowing me to represent you. It has been one of the greatest honors of my teaching career to be called the President of the Texas Association of Biology Teachers. 1

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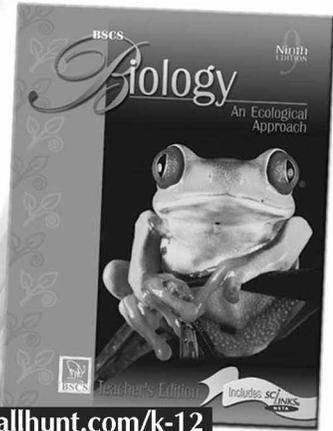
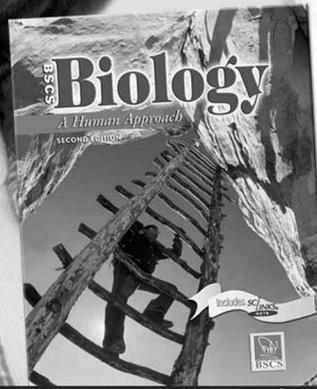
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Estimating Population Sizes

by Alton L. Biggs

Microscopic organisms usually populate their environment in a method called “boom or bust” because the numbers may be tremendously high when conditions are favorable and very low when resources are limited. In this activity, you will *hypothesize* what the population is of several organisms, *collect data* on the actual number of organisms per drop of water, and *estimate* the total populations in a given volume of water.

First, observe the cultures of organisms. Pay special attention to the apparent density of the organisms in the culture. Does the culture look thickly populated? If so, there must be a very high population. If it appears that the water is almost clear, there may be many fewer organisms.

A hypothesis is a statement about a natural phenomenon based on observational evidence. Write a hypothesis that indicates what you think the population size is for each organism studied.

For each organism, make a wet mount slide. Count the actual numbers of organisms in one high power (400X) view on your microscope slide. Write your data below.

_____	_____	_____	_____
organism name	population	organism name	population
_____	_____	_____	_____
organism name	population	organism name	population

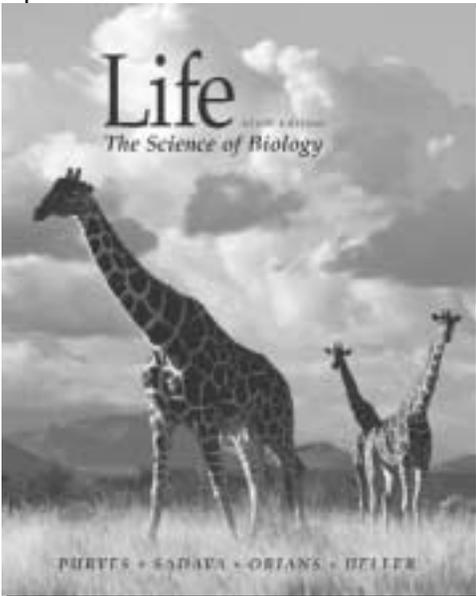
At 400X, you can see approximately 260 different views per drop of water. Also, there are 30 drops of water per ml. So, if you multiply the population in one view X 260 views/drop X 30 drops/ml, you can find the population per ml. Then if you know how many ml of water there are in the culture, you can find the total population.

REPORT

1. For each organism, determine the estimated population/ml.
2. For each organism, determine the estimated total population.
3. Make a drawing of each of the organisms you counted. Follow your instructor’s directions for making laboratory drawings.

Meeting the AP Standards for Biology Educators and Students

On
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Read the independent review of *Life, Sixth Edition* at <http://apcentral.collegeboard.com>. (Search for 'Purves' under 'Author's Name' in the 'Teaching Resources' area across the top).

*W*hen it comes to helping your students prepare for future studies in

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A Message from the Past-President ... or in Alton Biggs's terms ... "about to be President Has Been!"

Let me take this opportunity to tell about some things that have happened this Fall. This is school year number 32 for me and it has been a year that I will never forget!

Our school district's theme for the year is "You Make a Difference." The theme was announced in August. In keeping with the theme, our Curriculum Director secured and presented letters from former students about teachers who had made an important difference in their lives. I was called to the podium on three different occasions to receive letters from these students. This was, to say the least, a very humbling as well as gratifying experience.

I had been informed by Robert Dennison earlier in the summer that I would be getting the Texas Outstanding Biology Teacher Award (OBTA) at the National Association of Biology Teachers Convention (NABT) in Portland, Oregon in October and again at the Conference for the Advancement of Science Teaching (CAST) in Houston. I did not know, however, that at the STAT luncheon on Friday, October 30, that I would also be receiving Honorary Membership in TABT. I was shocked, surprised, and humbled when Alton read the letter - that I thought was about the OBTA, but actually announced my Honorary Membership to TABT.

Allow me to take this opportunity to tell YOU, the

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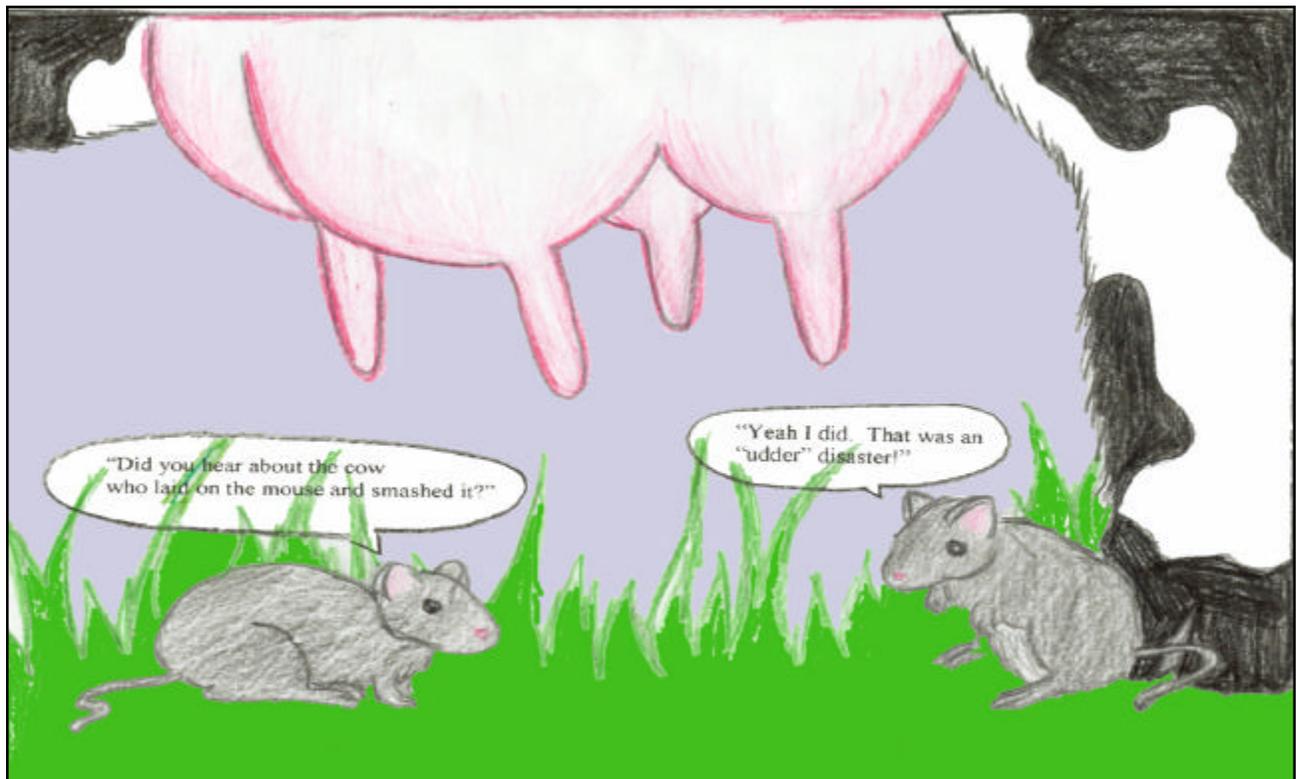
NASCO

Ward's Natural Science Establishment

Texas Association of Biology Teachers, that I am blessed beyond measure to have served you as President, and then to be honored with Honorary Membership in our organization. This and the OBTA are the most cherished events of my career. Since I am seriously considering retirement at the end of this school year, these two things will remain the most important for the rest of my life.

Sincerely,

Keith Watson - not a "has been" yet!





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