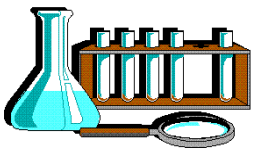
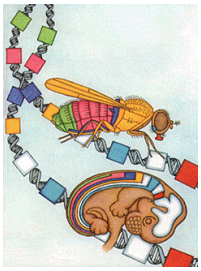
MSTA





Newsletter

SCIENCE Matters
National Science Teachers Association

Mississippi Science Teachers Association August 13, 2014

Table of Contents:

We've added two new tabs to the MSTA Website, Professional Development and MSTA Reads. Bookmark the link below and check them out.

If you know any professional development opportunities, please email them to me at bdjh99@gmail.com

http://www.ms-scienceteachers.org/msta_website_009.htm
Professional Development www.ms-scienceteachers.org

2014 MSTA Fall Conference

October 19 & 21, 2014

At the Marriot Hotel in Jackson, MS

For Hotel reservations call: 1-601-969-5100 by September 18, 2013
(Be sure to mention MSTA when you make your reservations.)

The room rate is $119/night.

Free parking for hotel guests (obtain a parking ticket at the hotel check in) and $4/day for those driving in for the day

Want to get your MSTA News faster?

Join the MSTA Listserv and the Mississippi Science Teachers Facebook page. All of the information in the Internet Resource section of this newsletter was gleaned from these two sources. Go to the instructions on joining the listserv by clicking on the links above.

Become a MSTA Member

MS-SCIENCETEACHERS.ORG

If you didn't attend the fall conference or you are not attending this year's fall conference, you need to update your membership. Do you want to gift a membership to a new teacher, a teacher intern or a pre-service teacher? Go to the website and click on the tab "Become a Member" and get started.

http://www.ms-scienceteachers.org/msta_website_012.htm

Presidential Post:

Welcome back to school! Hopefully you enjoyed your summer and are energized for leading a new group of students through the joys of science. I'm personally wondering where I lost a month. I am sure somewhere in the universe is a time thief!

Each school year presents its own challenges. In the high schools of my school district we are going digital: each teacher and student has received a MacBook Air. We teachers are plotting and planning the implementation of these computers within our lessons, facing the honesty challenges and overcoming our personal fears of "doing damage" to the computers. I'm excited about this use of technology and have been exploring applications for the classroom. These computers were delivered "loaded" with apps and programs. I've very excited about the iMovies app. My plan is to have students develop trailers as presentation modes during classes. I'll let you know the success of this.

Presenting at the MSTA Fall Conference:

Please consider presenting at this year's MSTA Convention. Here is the link for proposals.

https://docs.google.com/forms/d/1Iyq4aELbp7dvn85oR9hfXPGUuxrywKRhL4q8Xk93QoI/viewform

2014 MSTA Proposals

Please complete the following form for program proposals for the 2014 MSTA Conference. Deadline for submission is September 12, 2014. If you have more than 3 presenters please email me their names: kwester@ilstu.edu. Thanks!

The Fall Conference Theme is:

I want to encourage you to plan your attendance at our annual conference, October 19-21, 2014, at the Marriott in Jackson. Begin your paperwork to request professional leave and book your substitute! Our theme this is year is Cyberscience, and we will offer sessions for using technology in the classroom. If you have an activity of lesson that uses technology, please consider presenting a session at the conference. You are the expert. To submit a proposal for presentations follow this link: https://docs.google.com/forms/d/1Iyq4aELbp7dvn85oR9hfXPGUuxrywKRhL4q8Xk93QoI/viewform

Never presented before? Now is the time to start! Prepare for about 30 people to attend your session and have fun! I look forward to seeing you in October!

Sincerely, *Betsy Sullivan, President*

MSTA Online Registration 2014

MSTA Online Registration! Submit your registration (but not the money) through this form. Aleta Sullivan will email you your "invoice," which is a document made from your submitted form. Please note: You are not TRULY registered until the funds are received.
http://goo.gl/5c5V9m

Online payment methods coming soon.

MSTA registration video instructions

Using the online registration form

(Aleta Says don't laugh too hard.)

Planetarium Show
6:00 pm--October 19, 2014

President Elect Post:

Check out our new Member Resources page! It contains member Wikispace and Pinterest pages so far.

Please email me if you have a great Pinterest, Wikispace or resource you'd like to add to this page. You can access it from the home page of the MSTA website. (bdjh99@gmail.com)

http://www.ms-scienceteachers.org/msta_website_016.htm

The 2014 National Congress on Science Education (NCSE) met in July in Washington, D.C. As President-elect, I joined MSTA President Betsy Sullivan and District Director John Ammons as we attended the NCSE. Betsy and I had the privilege of meeting with MS Senator Thad Cochran, MS Senator Roger Wicker, and MS Representative Gregg Harper. We met with staff members from

Representatives Alan Nunnelee, Steven Palazzo, and Bennie Thompson. We emphasized the need for continued science support for our students and teachers.
During the Congress, I had opportunity to learn more about Next Generation Science Standards (NGSS) http://ngss.nsta.org/nsta-products-and-services/ Although Mississippi is still working through Frameworks, there are many resources for NGSS and science classes in general that we can access and use. There are some resources available for those who are not National Science Teacher Association (NSTA) and additional resources for those who are members. The resources are organized by science discipline, age, and are aligned to state standards. Visit the NSTA learning center to see what will help you: http://learningcenter.nsta.org/
As school begins, please be safe with your lab activities. NSTA has resources for science safety that will assist you in your planning: http://www.nsta.org/safety/
Be sure to register for the MSTA conference. Information and online registration is available at: http://www.ms-scienceteachers.org/msta_website_003.htm
Are you ready for a challenge? As teachers, sometimes, we find ourselves in the midst of a "pity party". When you find yourself surrounded by negative people and thoughts, take a deep breath and begin to count all the positive things around you. Determine to find something good in each class period. When that becomes easy, find something good in each colleague. Now that you are a pro at finding the positive, find something good in each student you teach!! When you have a slip up, just start over! You will be amazed at the transformation you see in yourself and in your classroom.
I look forward to seeing each of you at our MSTA Conference, October 19-21, 2014!
Sincerely, Ann Huber *President Elect*

Keynote Speaker – Jeffery Powell:

As one of northeast Mississippi's go-to experts when it comes to Apple products, Northeast Mississippi Community College's Jeffrey Powell has quickly become one of the trusted names when instructors have questions about technology in the classrooms.

From speeches at the Creating Futures Through Technology Conference (CFTTC) on the Mississippi Gulf Coast to a mobile learning workshop, Powell has travelled the southeastern United States giving insight into what it takes for teachers to stay on the cutting edge of technological advancements in the educational arena.

Powell, a native of the small town of Tishomingo in the very northeastern corner of Mississippi, has served as webmaster for the college since the turn of the century and has developed a passion for technology that the Northeast alum passes on to others.

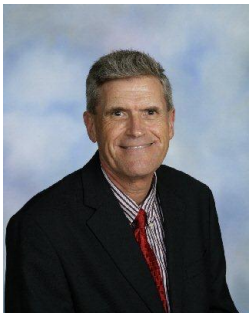
Powell has helped to lead Northeast in the area of technology as it pertains to Apple products with the introduction of the Mobile Learning Conference five years ago.

From a small workshop, the Mobile Learning Conference developed into a three-day all-intensive conference that allows instructors to understand the value of technology and how to use it constructively in the classroom.

Powell has also been instrumental in introducing e-Textbooks to the Northeast campus.
When not busy with Apple products and helping instructors embrace technology, Powell also serves as the webmaster for Northeast and recently oversaw a full redesign of the Northeast Mississippi Community College website (http://www.nemcc.edu) that allows for an easier flow of information for potential and current students and provides all data and documentation in an easy-to-find format.
In addition to his duties as webmaster, Powell serves as a technology specialist for the college and helps faculty, staff and students with their technology needs from a simple computer repair to resetting of passwords for e-mail.

Jeffrey Powell

Candidates for President Elect:



Johnny L. Mattox is Chair of the Department of Mathematics and Natural Sciences and Professor of Biology at Blue Mountain College. Dr. Mattox received his A.A. degree in Science Education from Northeast Mississippi Community College, the B.A.E. degree in Science Education, M.C.S. degree in Biology, and Ph.D. degree in Secondary Education-Science from the University of Mississippi.

Dr. Mattox has taught at the high school, community college, and senior college levels. Dr. Mattox has been listed in Who's Who in the South and Southwest, Who's Who Among America's Teachers, Who's Who in Mississippi, Who's Who in America, Who's Who in Science and Engineering, and Who's Who in the World. Dr. Mattox has taught Biology for Itawamba Community College, Northeast Mississippi Community College, Mississippi University for Women, the University of Tennessee at Martin, and Blue Mountain College. He has taught education courses for the University of Mississippi. Dr. Mattox received an Outstanding Achievement Award from the University of Tennessee at Martin in 2007, the Outstanding College Science Teacher Award from MSTA in 2008, was the HEADWAE Faculty Honoree for Blue Mountain College in 2009, and the Distinguished Science Teacher Award from MSTA in 2013.

Dr. Mattox is a member of the National Science Teachers Association, the Mississippi Science Teachers Association, the Association of Southeastern Biologists, the Mississippi Association of Biology Educators, the National Association of Biology Teachers, the Pi Tau Chapter of Beta Beta Beta, Phi Kappa Phi, Phi Delta Kappa, Kappa Delta Pi, and the Mississippi Academy of Sciences where he has served for two terms as Vice-Chair and two terms as Chair of the Division of Science Education. He has served on the Board of the Mississippi Science Teachers Association since 2005. Dr. Mattox regularly makes presentations at the annual meetings of both MSTA and MAS.

Dr. Mattox wishes to promote continued growth of MSTA so that it will maintain leadership in the enhancement of Science Education in the state of Mississippi at all levels.

Joe Sumrall Biography

Dr. Joe Sumrall was a former middle and high school science teacher. He currently teaches science education at the University of Mississippi and previously taught science education at Mississippi State University. He holds undergraduate degrees from the University of Mississippi and graduate degrees from the University of Southern Mississippi. He has been an active member in both the Mississippi Science Teachers Association and the National Science Teachers Association through various committee activities and service on the MSTA Board of Directors. He has previously served as the Mississippi State Science and Engineering Fair Director as well as being a science fair judge at multiple levels. He is currently the state coordinator for E-Cybermission sponsored by NSTA and the U.S. Army. As a science educator he has presented papers and workshops at both MSTA and NSTA for over 20 years. Furthermore, he has authored and co-authored twenty-nine curriculum based articles in NSTA journals Science and Children, Science Scope, and The Science Teacher.

eCYBERMISSION

Calling all middle school science teachers! Check out this competition.

Everyone else, please register to be a virtual judge!

eCYBERMISSION

Take the challenge Are you in 6th, 7th, 8th, or 9th grade? Compete for state, regional...
e-Cybermission for grades 6-9 has cranked up for the fall! It is important for MSTA that in the drop down menu that registrants use NSTA: Referred by NSTA State Chapter to register as a team, an advisor, or a virtual judge. By registering using the NSTA: NSTA State Chapter drop down menu when registering for student teams, MSTA will support financially the participants for $50 in materials to do their projects. Here is a portion of the the email I got late last week for additional information about eCybermission. The web site to register is www.ecybermission.com. Finally, I will be presenting at the MSTA conference this fall about eCybermission if you are not familiar with the program. But please don't wait, I encourage you to get your students involved today in this rewarding program!

Please feel free to contact me if you have any additional questions about eCybermision. Joe Sumrall- sumrall@olemiss.edu.

Scholarship and Grant Opportunity

Otis Allen Criteria

1. Request a scholarship application (national or regional) from the scholarship chairperson).
2. Requests must be received two months prior to the national convention or regional meeting to be attended.
3. A person may receive a scholarship once in three to five years.
4. Earliest application received will receive first consideration.
5. Each recipient will receive scholarship monies as partial expense reimbursement after submitting a copy of their registration and a letter signed by his/her principal stating that the recipient attended the meeting.

To request a scholarship application, contact the chairman of the scholarship committee. Send the request to the following: Dr. John Ammons, 209 E. Gresham St., Indianola, MS 38751, Email: jammons@msdelta.edu or jammons53@hotmail.com

R. C. Roberts Grant Form

The R. C. Roberts Fund was initiated to honor Mr. Roberts, a long-time science supervisor in the Mississippi Department of Education and assist teachers in developing outdoor classrooms, nature centers, or nature trails at their respective schools. Maximum funding that can be obtained by one teacher from one school at a particular time is $100. Applications for funding must show that additional funds from sources other than R. C. Roberts have been obtained to support the proposed project. This may be “in kind” support as well as monetary. Individuals who receive support from the R. C. Roberts Funds may apply for additional funding provided a period of three years has elapsed since the original funding was granted.

Guidelines for the R. C. Roberts Fund

Individuals interested in applying for funding should get an application form the Newsletter or request an application form from the Executive Officer or President of the Mississippi Science Teachers' Association. The completed application must be attached to the proposal and returned to the Executive Officer. The Executive Officer will assemble a committee of at least three individuals involved in science education who will examine the proposal and recommend funding status. The decision of the review committee to fund or reject the proposal is final.

R. C. Roberts Grant Form

Name: _____

School: _____

School Address: _____

Phone: _____

Principal: _____

1. How long have you been at the school? _____

2. What do you plan to do with the money? _____

_____

3. List the materials and cost of supplies for this project. _____

_____

4. Where is this project located in relationship to the school? _____

_____

5. Do you have the support of the principal? _____ other teachers? _____

If so, name/s. _____

6. What kind of monetary or "in kind" support do you have? List. If "in kind" support is provided, estimate its monetary value. _____

_____

Complete the grant form and attach the proposal and return to: Bess Moffatt, MSTA Executive Officer, 1510 Oldfield Road, Gautier, MS 39553

National Science Teachers Association Welcomes New Board and Council Members

ARLINGTON, Va. — July 2, 2014 — The National Science Teachers Association, the largest professional organization in the world promoting excellence and innovation in science teaching and learning for all, welcomed three new members to its Board of Directors and six new members to its Council last month. Elected by NSTA's membership, the new board and council members began serving their three-year term June 1.

"The new board and council members bring a vast amount of experience and diverse perspectives to the table," said NSTA President Juliana Texley. "They will use their expertise in the field of science education to bring about positive change and effective solutions to pressing issues facing the association and its members."

The new board members join a 13-member board that oversees NSTA's finances, policies and procedures, and strategic planning.

Dr. John Ammons (District VII Director)

Biological Science Faculty, Mississippi Delta Community College (MDCC), Moorhead Miss.

Dr. John Ammons is a member of the biological science faculty at Mississippi Delta Community College in Moorhead. Prior to joining the NSTA council, he served on the NSTA board and was a member of the 2011 planning committee for the NSTA Area Conference in New Orleans. He also sits on the NSTA Awards and Recognition Committee and was selected to be on the NSTA science lab safety advisory board.

Ammons served for two years as president of the Mississippi Science Teachers Association (2008-2010) and continues to be a member of the MSTA board of directors. He has received a number of awards in Mississippi, including the 2004 Headware Teacher Award from the state legislature; the 2003 MSTA College Science Teacher of the Year; and the 2000 Lamplighter award selected by MDCC faculty for teaching excellence.

Dr. Ammons is a 27 year veteran of the MDCC biological science faculty where he has taught Microbiology, Anatomy & Physiology, General Biology, and Zoology.

Ammons holds a Ph.D. from the University of Mississippi, a M.S. from University of Southern Mississippi, and a B.S. from Mississippi State University. In addition, he has completed additional graduate work at The University of Mississippi Medical Center, Boston University and Oxford University, Oxford England.

About NSTA Awards and Recognitions

Visit http://www.nsta.org/about/awards.aspx#mardigian to learn more about each of the awards listed below.

The 2015 award applications are open for submission. You can't win if you don't apply!

You may apply for more than one award; however, each application must be based on a unique program and process and you will be eligible to win only one NSTA award per year.

Please note that the Yager Award will be presented at the NSTA National Congress on Science Education, held each summer (not at the NSTA National Conference, held in the spring).

Click on an item in the list below to read a description of the award.

- Angela Award
- Distinguished Informal Science Education Awards
- Distinguished Service to Science Education Awards
- Distinguished Teaching Awards
- DuPont Pioneer Excellence in Agricultural Science Education Award
- Faraday Science Communicator Award
- Maitland P. Simmons Memorial Award for New Teachers
- Ron Mardigian Memorial Biotechnology Explorer Award
- Northrop Grumman Foundation Excellence in Engineering Education Award
- NSTA Fellow Award
- NSTA Legacy Award
- PASCO STEM Educator Awards
- Robert E. Yager Foundation Excellence in Teaching Award
- Robert H. Carleton Award
- SeaWorld Parks and Entertainment Outstanding Environmental Educator of the Year
- Shell Science Teaching Award

- Shell Urban Science Educators Development Award
- Sylvia Shugrue Award for Elementary School Teachers
- Vernier Technology Awards
- Wendell G. Mohling Outstanding Aerospace Educator Award

ONLINE MSTA REGISTRATION

Here's the link for online registration. If you attend workshops this summer, encourage participants to register this way.

https://docs.google.com/forms/d/1wXRJ1XFlrBs3xgb5rdaK8EwONwIdDFXjyd21BSzSlzM/viewform

MSTA Online Registration 2014

Early Bird/T-shirt deadline October 1, 2014 Advanced Registration (no T-shirt) deadline October 8, 2014 No refunds after September 26, 2014 Registration Fees: Full (October 19-21, 2014) member/nonmember $80 undergraduate/graduate $25 non-teaching guest $40 (these fees include Awards Luncheon) Monday…

UPCOMING SCIENCE MEETINGS/CONFERENCES FOR TEACHERS

Conference	City	Date
National Association of Biology Teachers	Cleveland	Nov 15- Nov 18, 2014
Mississippi Academy of Sciences	Hattiesburg	Mar 6-7, 2015
NSTA REGIONALS		
	Richmond	Oct 16-18, 2014
	Orlando	Nov 6-8, 2014
	Long Beach	Dec 4-6, 2014
NSTA NATIONAL	Chicago	March 12-16-2015
LSTA & LATM	Shreveport	Oct 20-22 , 2014

COMPETES WITH OUR CONFERENCE MAY NOT WANT TO ADVERTISE THIS ONE IN THE NEWSLETTER/WEBSITE

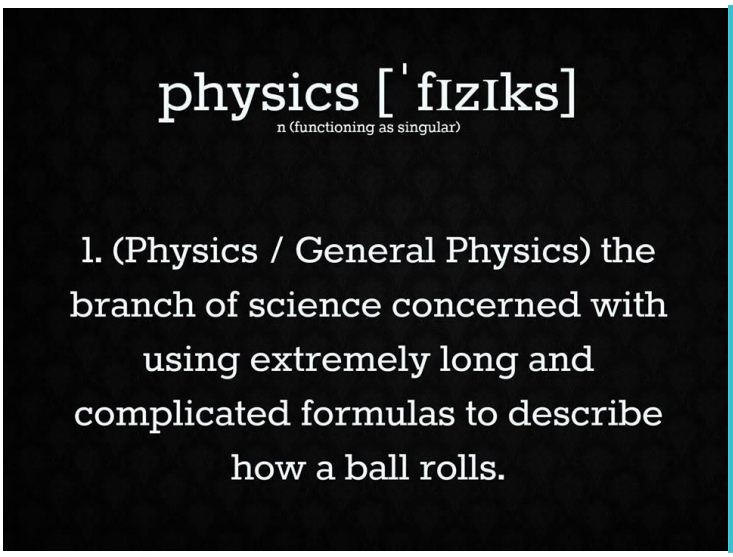
You Be The Chemist *Challenge® Student Competitions*

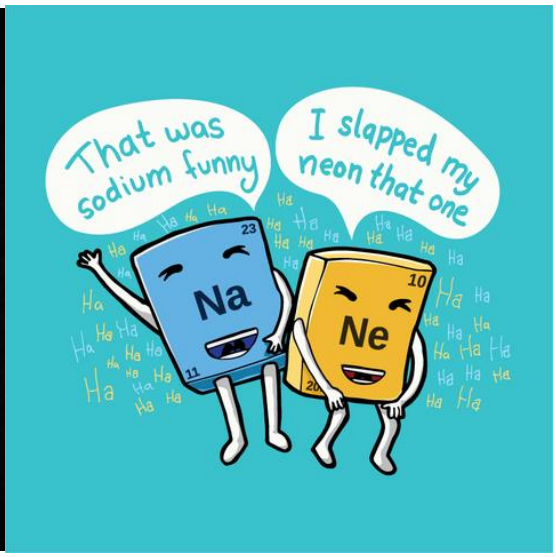
Get your students excited about chemistry with the *You Be The Chemist* Challenge—a free, national academic competition for grade 5-8 students. The Challenge was created by the Chemical Educational Foundation® (CEF), a non-profit organization dedicated to enhancing science and chemistry education. The Challenge tests students' knowledge of chemistry concepts, scientific theories, and laboratory safety in an engaging, interactive format. Local and state competitions occur in the spring and the top student from each state (together with one educator!) receives an expenses-paid trip to the national competition in June.

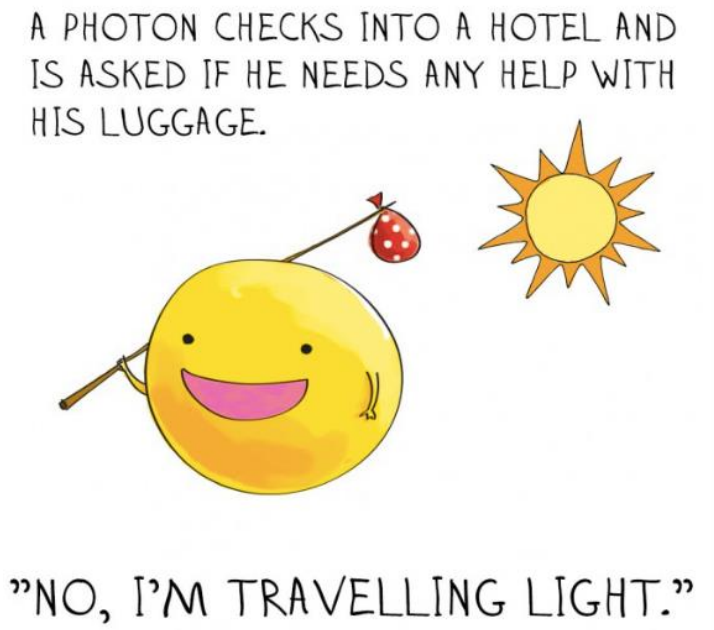
To find out how your school can get involved, please complete our inquiry form, e-mail challenge@chemed.org, or call 703/ 527-6223.

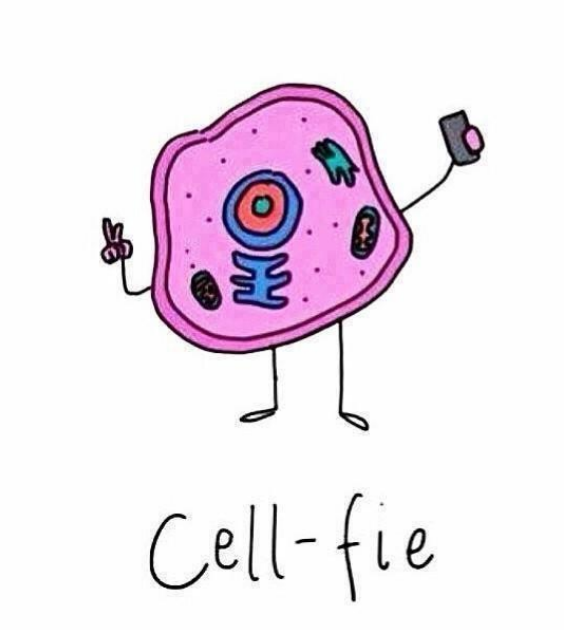
Elena Lie, Coordinator, Outreach & Marketing, Chemical Educational Foundation®, 1560 Wilson Boulevard, Suite 1100, Arlington, VA 22209, Phone: 571/482-3039, Fax: 703/527-7747 www.chemed.org

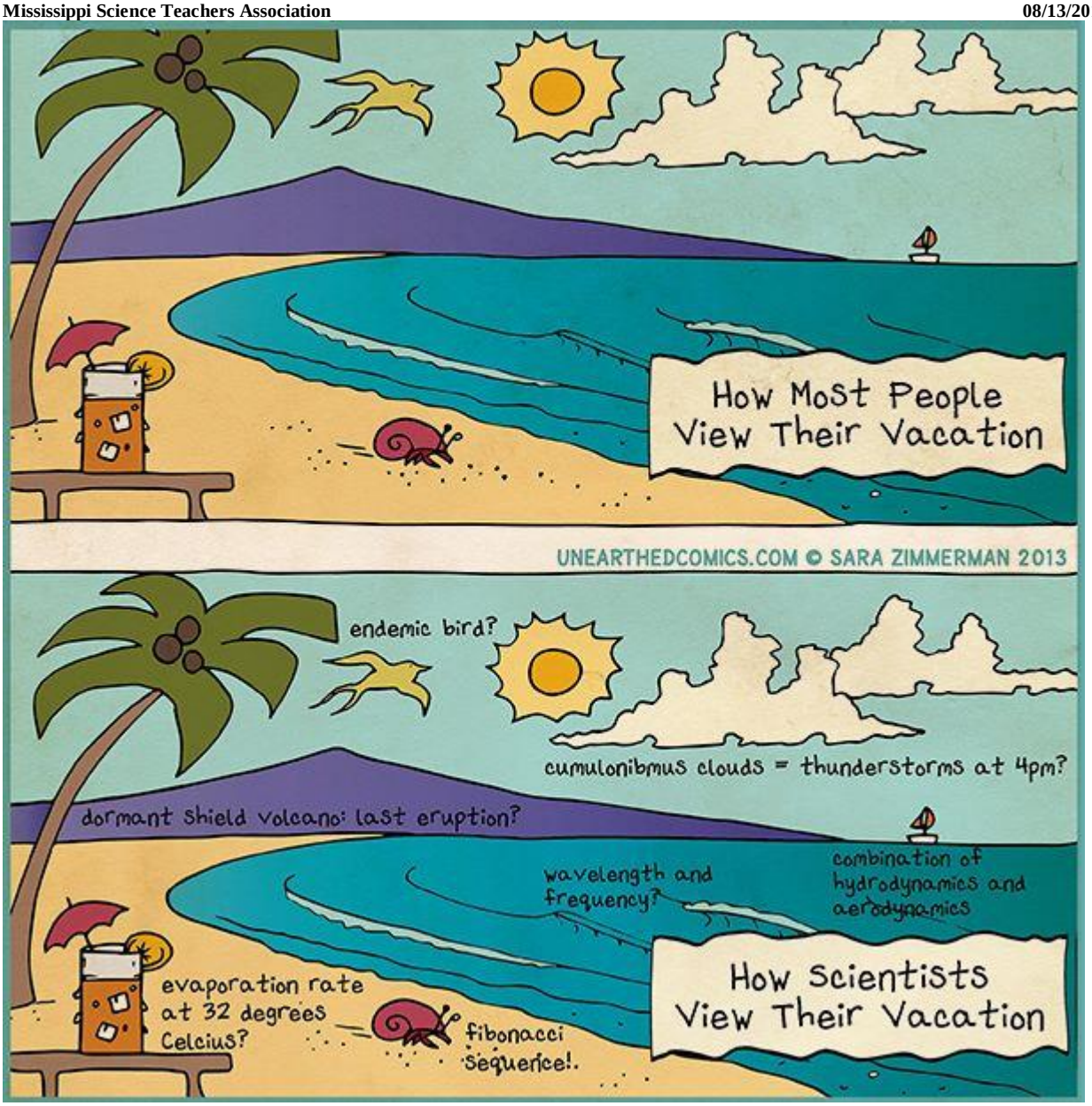
Joke Corner:


physics [ˈfɪzɪks]
n (functioning as singular)
1. (Physics / General Physics) the branch of science concerned with using extremely long and complicated formulas to describe how a ball rolls.


That was sodium funny
I slapped my neon that one
Na
Ne


A PHOTON CHECKS INTO A HOTEL AND IS ASKED IF HE NEEDS ANY HELP WITH HIS LUGGAGE.
"NO, I'M TRAVELLING LIGHT."


Cell-fie



Science Olympiad

Hello!

As the director of the Mississippi Science Olympiad, I would like to encourage you and your students to assemble a team to compete in MSO. There are two categories: Division B (Grades 6-9) and Division C (Grades 9-12). The MS Science Olympiad website is http://www.usm.edu/science-math-education. Additional information about Science Olympiad can be found on the national website, www.soinc.org.

In order to help you prepare for the competition, I invite you to the MSO Coaches Workshop scheduled for Friday, September 19, 2014, from 8:00 am until 3:30 pm at USM. The workshop will start with check-in at the R. C. Cook Union, room H. A registration fee of $25 will include information and helpful tips on events (including several that are new), demonstrations, and door prizes. We are making arrangements for vouchers toward lunch on campus.

This year we will have three regional competitions scheduled in February. The North Regional will be held at Ole Miss. The Southwest Regional will be held at Co-Lin in Natchez. The Gulf South Regional will be held at PRCC in Poplarville. Hopefully, representatives from all three will be available to answer questions. Teams will be allowed to choose which of the competitions they will attend. The top 20 teams in each division will be invited to move on to the state competition to be held here at the University of Southern Mississippi on Friday, March 27, 2015.

Workshop attendees will receive a $10 coupon good toward team registration for the MS Science Olympiad (one coupon accepted per team). Team registration officially begins on Sept. 19, and coaches registering a team the day of the workshop will receive the official Science Olympiad manual.

Attached you will find a workshop registration form. Please note that the deadline is Monday, September 15th. Please check the website for updates. The team registration form for the Mississippi Science Olympiad competition is also attached, since most teams register the day of the workshop.

We look forward to hosting the 2015 Mississippi Science Olympiad. Start preparing your teams now for the spring competition. The first-place team from each division will be invited to go on to the National Science Olympiad Tournament to be held at the University of Nebraska on May 15-16, 2015 in Lincoln.

Please pass this information along to others in your school or district who may be interested. Help us continue to build the Mississippi Science Olympiad. It is a great program! If you have any questions, feel free to contact me at sheila.hendry@usm.edu, or 601-266-6367. We hope to see you soon.

Sincerely,

Sheila R Hendry

Sheila Hendry, Ph.D.
Director, Mississippi Science Olympiad
Center for Science and Mathematics Education
The University of Southern Mississippi
118 College Dr. #5087
Hattiesburg, MS 39406

THE UNIVERSITY OF SOUTHERN MISSISSIPPI
COLLEGE OF SCIENCE AND TECHNOLOGY

Registration Form

Mississippi Science Olympiad

March 27, 2015

Complete one form Check only one:

per team DivisionB (6-9): DivisionC (9-12):

Head Coach:

School:

School Address:

City: , MS Zip code:

Phone Number: Fax #:

Email:

Additional Coach & Email:

Participation in a regional competition is mandatory. Please indicate which you plan to attend:

Please TYPE or PRINT all information clearly.

(each team must have its own head coach)

Southwest @ Co-Lin, Natchez: Feb. 21, 2015 North @ Ole Miss: Feb. 28, 2015

Gulf South @ PRCC, Poplarville: Feb. 7, 2015

Fees (per team): State w/ regional ($40) + National ($60) Membership Fees $100.00

On-time registration form with payment or First-year school . . . . . -$40.00

indication of P.O. must be postmarked by Dec. 15. Workshop Discount . . . . . -$10.00

Can not be combined with first-year school discount 3rd or 4th team/school . . . . . -$25.00

No registration forms will be accepted after Dec. 31, 2014. Total Due:

___Please check here if you are using a purchase order for your registration fee. PO# (if possible): _____

PLEASE ask your bookkeeper to indicate yourschool's name and the coach's name on the PO.

Late registration: Dec. 16 - 31, 2014. . . . . +$10.00

Payment or PO must be submitted by Feb. 1

NOTE: Submission of this form constitutes intent to pay fees and compete.

If your team is unable to compete, your school will be charged the national fee.

Please email form to: sheila.hendry@usm.edu Make checks payable to:

Mail check and registration form to: OR Bring them with you to the

THEN

Mississippi Science Olympiad Coaches Workshop on Sept. 19

USM CSME

118 College Drive Box 5087 Questions?

Hattiesburg, MS 39406 Emailsheila.hendry@usm.edu or call (601) 266-6367

Membership Benefits For additional rules manuals please see http://soinc.org/store

Each Team Receives a Coaches Manual and Set of Rules

- Each School is Eligible to Participate and Advance in State and National Science Olympiad Tournaments
- State Receives FREEof Charge First, Second and Third Place Set of Medals and Trophies
- Students are Eligible to Receive Scholarships (Over $2,500,000Awarded to National Winners)
- Communication and Rule's Clarifications with National Executive Board and Event Supervisors
- Science Olympiad Web Page Containing Important News and Updates Available to Each Team
- State Director's Fees for Room and Board Paid for at Annual State Director's Meeting

Note: No Part of the Membership Fee Has Been Used to Pay For Any National TournamentExpenses or Administrative Expenses.

The University of Southern Mississippi

Center for Science and Mathematics Education Outreach
Science Olympiad Workshop Registration
Friday, September 19, 2014

Fee: $25 / person: Each registered team will receive a $10 discount with workhop attendance

Name: _____

Please check one:

My team will be: _____ Div. B (grades 6-9) _____ Div. C (grades 9-12)

School Name: _____

School Address: _____

City: _____ MS Zip: ___

Phone #: _____ Fax #: _____

Email Address*: _____

*** Please provide your email address so that you can stay informed of all MSO updates.**

Has your school participated in the MS Science Olympiad? _____ Yes ___ No

If so, what year(s)? _____

Please type, save, and email your registration form ASAP to:

Dr. Sheila Hendry at
Sheila.Hendry@usm.edu

Please bring your registration fee with you to the workshop

Or

after emailing your registration form, send your $25.00 check to:

MSO (Mississippi Science Olympiad)
USM CSME:
Sheila
Hendry
118 College Drive #5087
Hattiesburg,

MS 39406

Be sure to note your name and school on the check; give a copy of the form to your bookkeeper

If paying by purchase order, please check here: _____ ***If possible, indicate PO #:*** ____

Invoices will be sent out after a copy of the PO has been received.
Fees for both workshop registration and team registration can be placed on the same PO.

If you have any questions, feel free to email or phone: sheila.hendry@usm.edu or 601-266-6367

Forms must be received on or before September 15, 2014.

Oh My Aching Stomach

Adapted from NSTA Conference

Have you ever eaten too much junk food and gotten a stomach ache? Maybe you took an antacid to help you feel better. But which one should you choose? Get beyond the hype of commercials to discover which one really neutralizes acid the most effectively.

Objective

In this activity, students will test the ability of different antacids to raise the pH of vinegar and in this way learn which antacids may be best at neutralizing stomach acid.

Materials

- **Vinegar**
- **25 mL or larger graduated cylinder**
- **Universal pH paper**
- **Mortar and pestle or similar crushing device**
- **4 beakers or cups, 50 mL volume or larger**
- **Coffee stirrers or similar stirring devices**
- **½ teaspoon, teaspoon, and tablespoon measuring spoons**
- **Baking soda and 3 other antacids with different active ingredients**
- **Timer or clock with a second hand**
- **Paper/Notebook/Journal for recording data**
- **Graph paper**

Procedure

1. Choose four different antacids to test. Read the labels of the antacids and baking soda to find the lowest recommended dosage for each.
2. Set out 4 cups and pour 25 mL of vinegar into each one. Vinegar is 5% acetic acid, and represents the acid in your stomach.
3. Use the pH paper and its color scale to find the pH of the vinegar.
4. Choose one antacid. Add its lowest recommended single dose to the cup of vinegar. If it is a tablet, crush it first with a mortar and pestle.
Important: When you use baking soda, add it directly to the vinegar; do not dilute it first as the package suggests.
5. Mix the vinegar and antacid thoroughly with a stirring device and wait one minute. Test and record the pH. Record any observations of activity in the cup.
6. Repeat steps 4 and 5 for the three other antacids. Be sure to use a fresh cup of vinegar and clean stirrer each time. Clean the mortar and pestle (and measuring spoon, if used) between each use.

DATA SHEET

1. Record the results of your investigation in the table below.

ANTACID #1	ANTACID #2
Name of antacid: pH of vinegar: pH of vinegar + antacid: Observations:	Name of antacid: pH of vinegar: pH of vinegar + antacid: Observations:
ANTACID #3	**ANTACID #4**
Name of antacid: pH of vinegar: pH of vinegar + antacid: Observations:	Name of antacid: pH of vinegar: pH of vinegar + antacid: Observations:

Analysis and Conclusions

1. According to your results, which antacid does the best job of raising the pH of vinegar? Do you think this antacid will work best in your stomach too?

2. Make a bar graph that shows how much each antacid raised the pH of vinegar.

Going Further

Calculate the cost per dose of each antacid and the frequency of doses needed to determine which antacid may be the best value for the money.

Teacher's Page – Oh My Aching Stomach

Time Management – 30-40 minutes

Big Ideas

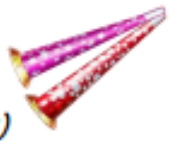
- The pH scale expresses a measurement of the acidity or alkalinity of a fluid.
- Our stomachs produce hydrochloric acid, which is very acidic.
- Sometimes our stomach over-produce acid or we become extra-sensitive to our stomach acid, which causes acid indigestion.
- Products called antacids can neutralize excess acid, and they vary in their ability to do so.

Questions for Getting Started

- Have you heard of pH before? In what context?
- Can you give some examples of acids and bases?
- What is the purpose of the acid in your stomach?

Questions for Ending the Activity

- Did you notice any bubbling or foaming with any of the antacids? Which ones? What do they have in their ingredients that the other antacids do not? Do you think this could be the cause of the bubbling? If you take baking soda for an upset stomach, what do you suppose happens to all of the gas that is produced?
- How do you think your results might differ if you use the same amount of antacid for each trail, rather than the recommended dosage?
- The pH of our stomachs is normally very acidic. Why do you think this is so?
- Many commercials and advertisements for products such as shampoo, soap, and deodorant say that the products are "pH balanced." What do you suppose this means and why would it be important?



Woo-Woo Lab – a.k.a (Party Frogs)

Adapted from NABT Conference

Introduction:

Many students struggle with concepts related to natural selection. This interactive activity demonstration provides students with a concrete example that can be used to explain the mechanisms involved in a change in the frequency of a certain trait over time. Students will use party blowers to catch insect prey in a simulated pond. Variations in the blowers simulate variation in a population. Successful "frogs" reproduce passing their traits to the next generation.

Materials:

- Party Blowers (Woo-Woo) – three different colors or prints
  Suggested: 8 yellow, 16 pink, 24 blue
- Velcro Discs
- Insect Cards
- Timer

Preparation:

1. Attach a Velcro discs to the end of each blower. Attach complimentary discs to the insect cards.
2. Alter the yellow blowers by cutting them to approximately half of their normal length.
3. Alter the pink blowers by attaching a smaller or half Velcro disc.
4. Use tape or a table cloth to make a "pond" on the floor or on a table.

Procedure:

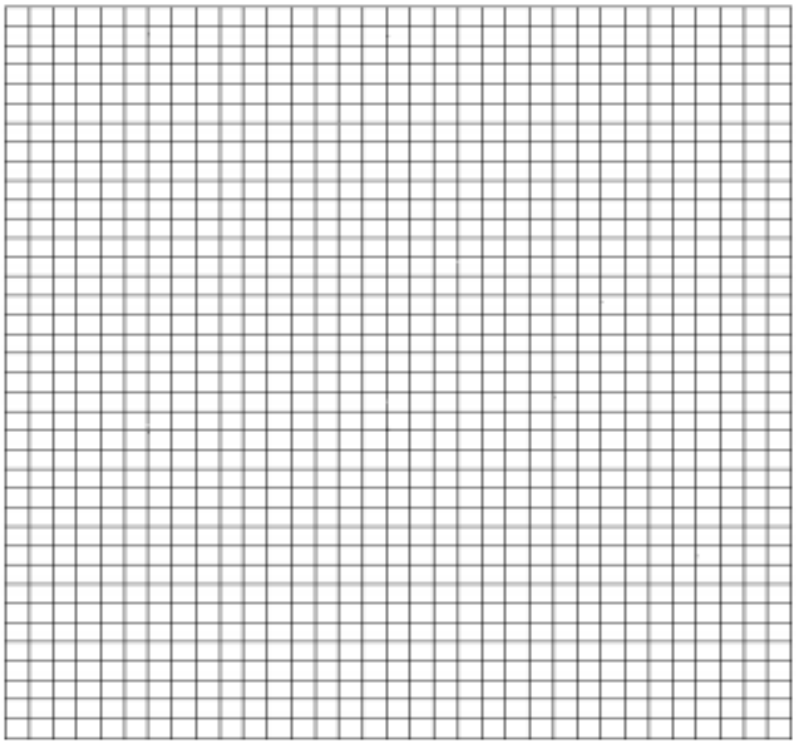
1. Select six students to start the demonstration. Give each student a blower (2 yellow, 2 pink, 2 blue).
2. Allow students to catch as much prey as possible in two minutes.
3. Count and record the number of prey collected by each frog.
4. Frogs that caught at least five insects reproduce. Add a student with the appropriate colored blower for each successful parent.
5. Repeat steps 2, 3, and 4 for five generations or until you run out of blowers.

Student Data Page

Data Table – Number of Successful Frogs

	Start	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6
Yellow	2						
Pink	2						
Blue	2						

Use the information above to construct a graph.



Analysis Questions:

1. Why was it harder for the yellow frogs to catch enough prey to survive?
2. Which trait increased in the population over time? Why?
3. Which trait decreased in the population over time? Why?
4. If the trends you see continue over many generations, what would you expect to happen to the yellow phenotype?
5. Why did the trait distribution in the population change?

Unit 2—Graphing

Lesson 1, Constructing A Line Graph

Student Worksheet 2.1

Name _____

Date _____

Introduction

Line graphs are useful in comparing several measurements with one another. You may want to know how the air temperature changes during the day. You may want to find out how fast a model car rolls when it starts at different heights on a slope. You may be curious about the stretch of a spring with the addition of different weights. In each of these examples there are two variables. A variable is a quantity that changes or fluctuates with changing conditions. When investigating the relationship between two variables, one variable is selected as the independent variable upon which the second variable may depend. For example, if investigating the first question posed above, the time of day would not be expected to depend upon the temperature of the air. However, the temperature of the air would be expected to depend upon the time of day. Two sets of measurements, one for each variable, organized as data pairs would be needed for comparisons to be meaningful in answering the questions presented above. For example, the temperature of the air along with the time of day would need to be recorded as data pairs.

Exploration 2.1.1, Collecting Data

Materials

5 round lids of different sizes
1 meter stick
1 ruler
1 length of string

In this exploration, you will collect data and construct a graph to examine the relationship between the diameter and circumference of circles. The directions for making the measurements are as follows:

1. First determine the circumference for each of the five lids. To do this place the top of each lid downward on a flat surface with the lip extending upward. Make a mark with an ink pen a few centimeter inward on a length of string adequate to encircle the lid. While one group member holds the lid in place, have a second group member encircle the lid with the string making sure the fit is tight. If the lip of the lid curves outward, be sure that your measurement is made below the curve. Don't pull the string so tightly that it will stretch and distort the measurement. Holding the string tightly in place, make a second mark at the point on the string that exactly meets the first mark. Remove the string from the lid. Using a meter stick or metric ruler, determine the length between the marks on the string. Working as a group make three independent measurements of the length to the nearest 0.1 cm.

2. Record each measurement of the circumference in centimeters on Student Data Chart 2.1.1 and find the average of the three measurements.

3. Measure the diameter of each corresponding lid in centimeters to the nearest 0.1 cm using the meter stick. Since some lids have a lip that curves outward, make sure the diameter

measurement corresponds in each case to the circle previously measured for the circumference.

4. Record each of three measurements of the diameter to the nearest 0.1 cm on Student Data Chart 2.1.1 and find the average for each lid.

Student Data Chart 2.1.1
Circumference and Diameter of Five Lids

Lid	Circumference			Average	Diameter			Average
A	_____	_____	_____	_____	_____	_____	_____	_____
B	_____	_____	_____	_____	_____	_____	_____	_____
C	_____	_____	_____	_____	_____	_____	_____	_____
D	_____	_____	_____	_____	_____	_____	_____	_____
E	_____	_____	_____	_____	_____	_____	_____	_____

Exploration 2.1.2, How To Make A Line Graph

Using the data in Student Data Chart 2.1.1, make a line graph to examine the relationship between the diameter and circumference of a circle. A line graph will provide a visual representation (not a picture) of the relationship between number pairs. Follow the instructions as outlined below.

1. Draw a line near the bottom of the graph paper for the **horizontal (x) axis** leaving space below the line for numbering the scale and for labeling the axis. Draw a second line, the **vertical (y) axis**, along the left side of the graph paper so that it meets the horizontal axis near the lower left corner of the graph paper as shown in Figure 2.1.1. Leave space for labels and numbers to the left of the vertical line. The point where the horizontal and the vertical lines meet is called the **origin**.

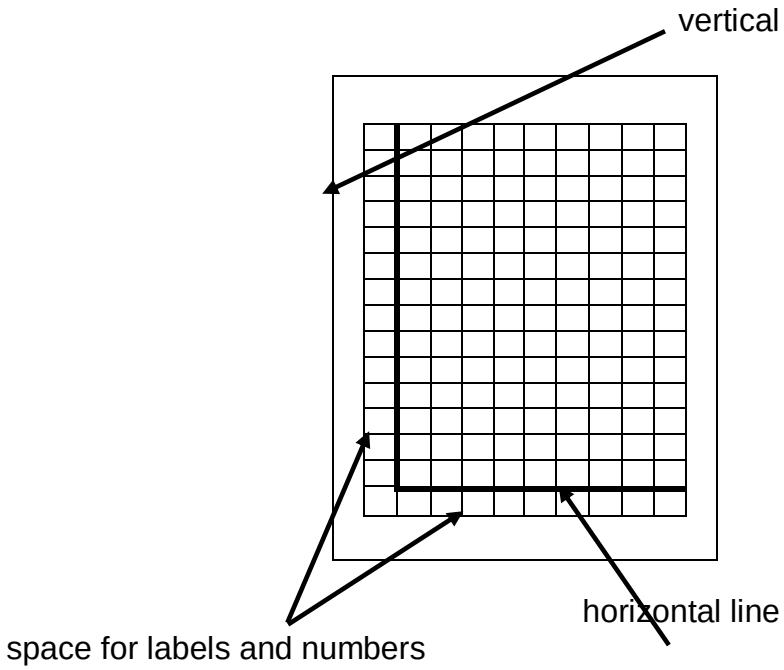


Figure 2.1.1

2. Decide the variable to be recorded on each axis. The convention is to place the independent variable on the x-axis and the dependent variable on the y-axis. The independent variable is the quantity deliberately changed for testing and the dependent variable the quantity that was then observed. In this investigation neither variable was manipulated by the experimenter. Label the vertical and horizontal lines you previously drew with the names of quantities measured and the unit symbols. For the purpose of this lesson, label the x- axis “Diameter (cm)” and the y-axis “Circumference (cm).”

3. To determine an appropriate scale for the x-axis, find the difference between the largest and smallest values (range of data) for the diameter of the circles. (If it is appropriate to start the scale at zero, the range would be from zero to the largest number in your data). Count the number of grid spaces you wish to incorporate along the x-axis in your graph, keeping in mind that the scale should spread across most of the grid for a clear representation of the relationship between the two variables. Divide the range in the data by the number of grid spaces. The quotient will give you an approximate value for the number progression on the scale along the x-axis. When necessary, round up your answer to a number that is easy to use.

Some guidelines to follow when choosing and numbering a graph scale are:

- Choose a reasonable starting point for the axis (It does not have to begin at zero.)
- Use the same scale for the entire length of the axis.
- Number the lines so that all of your data will fit on the graph.
- Write the numbers to correspond with the lines and not in the spaces.
- Number the lines so that it is easy to read values between lines. (Scales with the smallest divisions represented by 1, 2, 5, or some multiple of 10 such as 10, 20, 50, 100; or 1/10 of these numbers such as 0.1, 0.2, 0.5, and so on.)

Some example scales are shown in Figure 2.1.2.

EXAMPLES OF SCALES

0.0	0.1	0.2	0.3	0.4	0.5	0.6
0.0	0.2	0.4	0.6	0.8	1.0	1.2
0.0	0.5	1.0	1.5	2.0	2.5	3.0
0	1	2	3	4	5	6
0	2	4	6	8	10	12
0	5	10	15	20	25	30
0	10	20	30	40	50	60
0	20	40	60	80	100	120
0	50	100	150	200	250	300

Figure 2.1.2

4. Following the same procedure as in 3 above, determine the scale for and number the y-axis. As a general rule this scale should extend at least 2/3 of the vertical distance along the y-axis. Your finished graph should be taller than it is wide.

5. Plot the data pairs as accurately as possible estimating between lines as necessary in locating the points. Each point plotted represents a pair of numbers (the diameter and the circumference of a particular circle). A general rule in locating a point for a data pair is to go across the x-axis to the desired position on the scale estimating between lines as needed and then up the y-axis to the appropriate value. Figure 2.1.3 illustrates finding coordinates 2.4 cm and 7.5 cm. Make a dot at each position where the desired values for the data pairs meet on the horizontal and vertical grid lines.

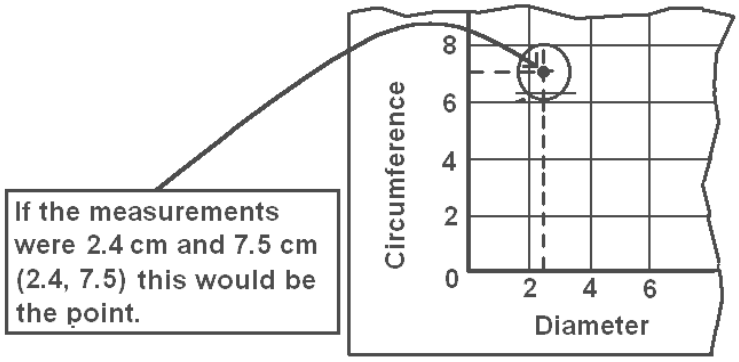


Figure 2.1.3

6. The location of any point on a graph can be described by a set of two numbers called coordinates. The horizontal coordinate is given first followed by the vertical coordinate. The coordinate numbers are separated by a comma and enclosed in parentheses. To illustrate, the coordinates for the point in Figure 2.1.3 would be written as (2.4, 7.5).

7. When you have finished plotting the data pairs for each circle, examine the plots to determine if a relationship between the two variables is apparent. For example, do the plots seem to form a straight line or a smooth curved line that indicates the quantities are related? For such data, a line of "best fit" (a straight line or smooth curved line) that goes through all or most of the points is appropriate as shown in Figure 2.1.4. The line doesn't have to go through every point because there are always errors in measurement.

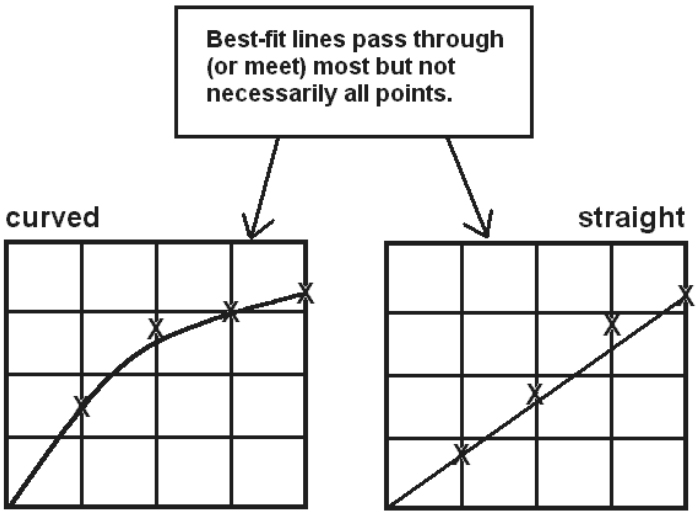


Figure 2.1.4

If no relationship between quantities exist, the plots will fluctuate up and down in no apparent pattern as shown in Figure 2.1.5. It is appropriate to connect with a line from point to point on such a graph. This type graph is called a *broken-line graph*.

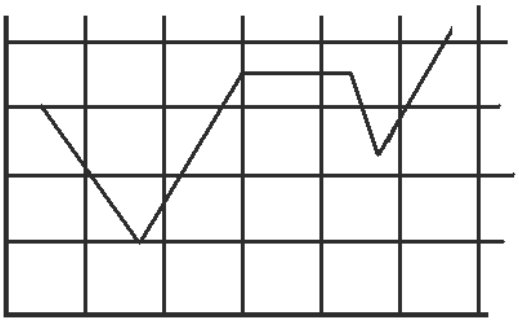


Figure 2.1.5

8. Write a title for your graph that tells what the graph represents.

Check Your Understanding

Using your graph, answer the following questions:

a. What is the circumference of a circle with a diameter of 4.6 cm? _____

b. What is the diameter of a circle with a circumference of 22 cm? _____

c. Write the coordinates (grid lines) for the largest circle you measured. _____

d. Using your graph, find the y-coordinate for a lid with a diameter of 8 centimeters and write the two grid coordinates appropriately. _____

Exploration 2.1.3, How To Find The Slope Of A Line

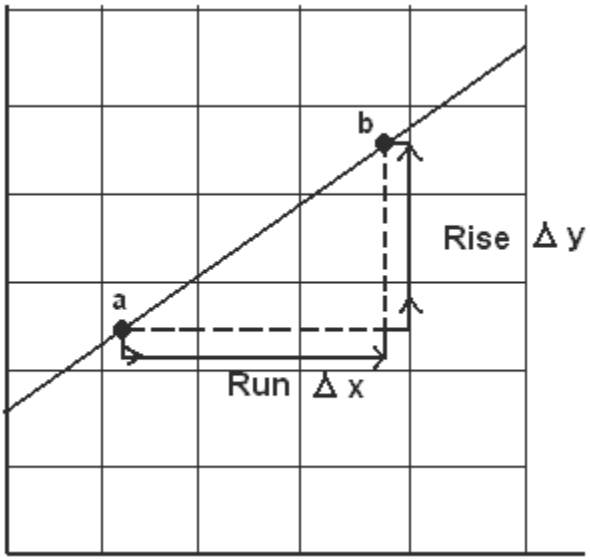
The line drawn on your graph through points which you plotted for corresponding diameters and circumferences of different lids formed a straight line showing that there is a relationship between the two variables. Knowing the slope of a straight line is useful in examining relationships between two variables. Slope is the ratio of the change in the y-axis to the change in the x-axis, or "rise" over "run." Figure 2.1.6 illustrates change in the x-axis and y-axis between two points along a straight line. Follow the steps outlined below to find the slope of the line for your graph.

1. Using your graph mark two points (a and b) several blocks apart on the sloping line as illustrated in Fig. 2.1.6.

2. Find the change in the y-axis (rise) from point a to point b. (The Greek symbol Δ means "change in," and is read as "delta."

   Δy = (y at point b) - (y at point a)

   Δy = _____



3. Find the change in the x-axis from point a to point b.

   Δx = (x at point b) - (x at point a)

   Δx = _____

4. Calculate the slope of the graph by dividing the change in y (rise) by the change in x (run).

$$\text{slope} = \frac{\text{change in y}}{\text{change in x}} \text{ or } \frac{\Delta y}{\Delta x}$$

slope = _____

Write the value you found for the slope of the line for your graph on the class data chart prepared by your instructor.

5. Find and record the average value of the slope of the line from class data. _____.

Exploration 2.1.4, Circumference To Diameter Ratio

Return to Student Data Chart 2.1.1. Using the average values for circumference and diameter of each lid, calculate the circumference to diameter ratio (divide the circumference by the diameter) for each lid and record your answer in Student Data Chart 2.1.2 below.

Student Data Chart 2.1.2
Comparison Of Circumference To Diameter Of Circles

Lid	Group Average Circumference (cm)	Group Average Diameter (cm)	C/D Ratio
A	_____	_____	_____
B	_____	_____	_____
C	_____	_____	_____
D	_____	_____	_____
E	_____	_____	_____
			Average _____

Check Your Understanding

Answer the following questions:

1. What is the numerical value for the slope of the line? _____

2. How does the numerical value for the slope compare with the average of the C/D values in your chart?

3. What is significant about the number you found for the slope of the line?

4. What symbol is used to represent the number you found? _____

5. Summarize in words the relationship shown on your graph between the two variables, diameter and circumference.

Probing Deeper

Look in source books and use the Internet (*www.cecm.sfu.ca/pi)* to learn more about *pi*.

1. Where and when was the relationship between the circumference and diameter of a circle first discovered? _____

2. How many decimal places have been calculated for *pi*? _____

The following quotation from Nobel Prize winning physicist Richard P. Feynman will cause you to begin thinking about the significance of *pi*. Quoted material was included in an address to science teachers. Dr. Feynman talked about the influence of his father in challenging him to probe deeply and not be satisfied with memorized definitions from science and mathematics books.

> *...Another thing that my father told me--and I can't quite explain it, because it was more an emotion than a telling--was that the ratio of the circumference to the diameter of all circles was always the same, no matter what the size. That didn't seem to me too unobvious, but the ratio had some marvelous property. That was a wonderful number, a deep number, pi. There was a mystery about this number that I didn't quite understand as a youth, but this was a great thing, and the result was that I looked for pi everywhere.*
>
> *When I was learning later in school how to make the decimals for fractions, and how to make 3 1/8, I wrote 3.125, and thinking I recognized a friend wrote that it equals pi, the ratio of circumference to diameter of a circle. The teacher corrected it to 3.1416.*
>
> *I illustrate these things to show an influence. The idea that there is a mystery, that there is a wonder about the number was important to me, not what the number was. Very much later when I was doing experiments in the laboratory--I mean, my own home laboratory--fiddling around --no, excuse me, I didn't do experiments. I never did; I just fiddled around. Gradually through books and manuals I began to discover there were formulas applicable to electricity in relating the current and resistance, and so on. One day looking at the formulas in some book or other, I*

discovered a formula for the frequency of a resonant circuit which was $f = \frac{1}{2}\pi\sqrt{LC}$, *where L is the inductance and C the capacitance of the circuit? You laugh, but I was very serious then. Pi was a thing with circles, and here is pi coming out of an electric circuit. Where was the circle? Do those of you who laughed know how that comes about?*

I have to love the thing. I have to look for it. I have to think about it. And then I realized, of course, that the coils are made in circles. About a half year later, I found another book which gave the inductance of round coils and square coils, and there were other pi's in those formulas. I began to think about it again, and I realized that the pi did not come from the circular coils. I understand it better now; but in my heart I still don't quite know where that circle is, where that pi comes from.[1]

The above was contributed by

Chantell Herchenhahn

Attached is one of my favorite and yet simple graphing activities. I find that students at the high school level still do not really understand graphing. This is an essential skill for science and for success on the science portion of the ACT. I especially find that students are unfamiliar with data that does not fit perfectly on the line. I believe this is due to most of their graphing experience coming from math class where data points are generated through solving an equation and are therefore, perfectly on the line. Collecting their own data also helps them to grasp the relevance of this concept. Another reason I really like this lab is that the materials are easily obtained in quantities, large enough for class sets.

Credit to the MS Mathematics and Science Partnership for this lab.

[1] Feynman, Richard P. (1968). *What Is Science. The Physics Teacher*, Vol 7, issue 6, pp. 313-320.

MSTA CONVENTION ADVANCE REGISTRATION FORM

2014 MSTA Annual Convention October 19-21, 2014

Marriott Jackson, Jackson, MS

IMPORTANT NOTES:

- Each person attending the annual convention must complete a separate form.
- Spouses must file separate forms.
- Convention attendees must wear their nametag to gain admission to all convention activities.
- Early Bird Advanced registration deadline is Wednesday, **October 1, 2014 (applications MUST be postmarked by October 10th for early-bird "free" t-shirt).**
- **Continued Advanced registration (no t-shirt) can be made through October 11 (postmarked date).**
- **For hotel reservations:** Marriott Hotel-Jackson, Mississippi (Phone: 601-969-5100)
  Cut-off-date for rooms is September 18, 2014)

1. REGISTRATION INFORMATION (PLEASE PRINT)

Name_____

_____

School/Organization (for convention badge)

PROFESSIONAL ADDRESS

Address

City/State/Zip _____

School Phone _____

Grade(s) and/or subjects that you teach:

_____

_____

HOME ADDRESS

Address _____

City/State/Zip _____

_____

Home Phone: (_____)_____

E-mail Address please **print carefully**: (If you have a personal email address you may want to use it so if you change schools your newsletters and communications will follow you.)

_____

_____

* On-site registration fees will be $5.00 higher and does not include T-shirt.

** Teachers who are also part-time graduate students must register at the Member/Nonmember rate.

Send completed form and payment to:
MSTA - Aleta Sullivan, Registrar
PO Box 588
Poplarville, MS 39470
email: aleta@peoplepc.com and I will let you know by email when I receive your registration

2. REGISTRATION FEES*

Full Program (Mon. & Tues.) Rates

___ Member/Non-member $80.00

___Undergraduate/Graduate Student $25.00

___Non-teaching Family/Guest/Spouse $40.00

These Include the Awards Luncheon on Tuesday.

___OR ___ Daily Admission: [Check the day(s)]

Monday. October 20 only:

___Member/Non-member $50.00

___Full-time Undergraduate/Graduate Student $15.00

___Non-teaching Family/Guest/Spouse $30.00

Tuesday, October 21 only:

___Member/Nonmember $80.00

___Full-time Undergraduate/Graduate Student $25.00

___Non-teaching Family/Guest/Spouse $40.00

The Tuesday registration fee includes admission to the Awards luncheon.

Total Payment $_____
Make checks payable to MSTA
Early Bird Advanced Registration fee includes T-shirt. MUST be postmarked by 10/10/2014.

No registration refunds for registrations after 9/26/2014

T-shirt size: _____

FOR OFFICIAL USE ONLY

___ Personal Check ___ Cash

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Amount Received: _____

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MSTA on the Internet: Join us at the **MSTA Listserv** by visiting this site ***http://lists.ms-meca.org/mailman/listinfo/msta*** and filling out the form found there. **Visit our website at *www.MS-Scienceteachers.org*** The listserv and website are services provided for MSTA members at no additional cost. Don't forget the MSTA Wiki space at http://msta.wikispaces.com Websites and more can be found here. MSTA on Facebook: Join ***Mississippi Science Teachers*** page on Facebook. **Please send information** on workshops, announcements, other matters of interest to our membership to me,

Deborah Duncan, 1402 Golf Course Rd., Philadelphia, MS 39350 or email me at **deb50duncan@gmail.com**

MSTA Membership Application

Mississippi Science Teachers Association cordially invites you to become a member.
To do so, please complete the items below. Return completed form and the $20.00 annual membership fee ($5.00 student) to:

Melinda Miller, Treasurer
Mississippi Science Teachers Association,
PO Box 588
Poplarville, MS 39470

Email address: Please print and use your personal address.

_____

Name: _____
Last First Middle Initial

Home Address: _____
Street or Box City State Zip

Name of School or Institution: _____

Work address:_____
Street or Box City State Zip

Grade Level: Circle the correct grade K 1 2 3 4 5 6 7 8 9 10 11 12 College Informal

Subject(s) Taught: _____