Chairman's Stewardship Award Entry
Submitted by the Oklahoma Energy Resources Board (OERB)
Category: Energy Education
July 2015
Teaming up with Oklahoma teachers, university curriculum specialists and industry professionals, the OERB has developed exciting hands-on curricula that meet Oklahoma Academic Standards. Designed for kindergarten through 12th grade, the curriculum is free of charge and offered to educators across the state.

At the OERB professional development workshops, teachers learn the hands-on activities from Master Teachers. Educators leave the workshop with a free box of all the supplies needed to teach the curriculum in their classroom. Each teacher also receives a $50 stipend and professional development hours for attending.

- Little Bits (Grades K-2) has eight activities which cover reading, social studies and science standards while teaching about sound vibrations, force, physical properties and well site safety. Educators receive six professional development hours for attending this workshop.

- Fossils to Fuel (Grades 3-6) is a science program to help students learn about energy sources, the formation of oil and natural gas and sound waves. These eight lessons also teach the engineering behind producing and using oil and natural gas in our everyday lives. Educators receive six professional development hours for attending this workshop.

- Fossils to Fuel 2 (Grades 3-6) is a continuation of the original Fossils to Fuel program. With seven lessons, this program combines science and math concepts while teaching about coordinate grids, viscosity, pulleys, density and recycling. Educators receive six professional development hours for attending this workshop.

- Petro Active (Grades 6-8) is a middle school earth science program focusing on Oklahoma. In seven lessons, Petro Active covers the formation of oil and natural gas, oil reservoirs, energy conservation, sound waves, seismology and the refinement of oil. Educators receive seven professional development hours for attending this workshop.

- Core Energy (Grades 9-12) contains four separate programs challenging students to use critical thinking and activity-based modules to discover more about Oklahoma's energy industry.
  - Core Energy Language Arts is comprised of four lessons about detail and tone, textual evidence and inferences, using historical fiction, rhetoric, and pathos, logos and ethos. Educators receive six professional development hours for attending this workshop.
  - Core Energy Math is three lessons designed for Algebra 1 students and above. They cover revenue/expenses, angles, functions, graphing and rate of change. Educators receive six professional development hours for attending this workshop.
  - Core Energy Science exposes high school science students to flow rate, hydrocarbon structures, fractional distillation and bioremediation in four lessons. Educators receive seven professional development hours for attending this workshop.
  - Core Energy Social Studies uses eight lessons and focuses heavily on Oklahoma History, but also contains lessons on the US economy, the 1970s energy crisis and a history of Oklahoma's energy industry. Educators receive six professional development hours for attending the workshop.

- Rockin' Ratios (Grades 6-8) has three lessons covering mapping, tangrams, slope, algebraic reasoning, ratios and proportional relationships. Students will practice these concepts and learn more about how land descriptions are used in the oil and natural gas industry, how the concept of slope is used in directional drilling and will complete the curriculum by designing their own storage tanks by calculating volume and surface area. Educators receive six professional development hours for attending this workshop.

With OERBHomeRoom.com, energy curricula, materials and videos are just a click away. This digital hub is designed to give OERB-trained teachers easier access to helpful resources. These resources include:
- curriculum materials
- white board lessons
- message boards
- industry information
- digital books
- workshops schedule and pictures
- free career and safety materials
- contests and grant opportunities

Lab Time with Leo
One of our most popular offerings is the educational video series, "Lab Time With Leo." This series, made exclusively for the OERB, offers titles for all grade levels. These short videos feature Professor Leo and his side kick P.I.P.R. Together, they use engaging experiments to explain educational concepts and enhance the OERB curricula.

Virtual Field Trips with Leo
Words are powerful, but video can take you on a visual adventure. That's the goal of Virtual Field Trips with Leo. From the comfort of their own classroom, students can follow their favorite quirky scientist on his outings to the field. They'll see equipment in motion, meet men and women of the industry, all while gaining a better understanding of seismic exploration, drilling, hydraulic fracturing and more.
FIELD TRIPS

The OERB proudly offers free field trips to museums for classes that have completed the OERB curricula. Each trip includes free admittance for teachers and students, an energy class and/or exhibit, as well as partial to full travel reimbursement for schools or districts. The OERB currently has partnerships with nine museums across Oklahoma.

PETRO PROS

Petro Pros are oil and natural gas professionals who volunteer their time to visit Oklahoma classrooms and show kids the science and business side of the industry. During a one-hour presentation, Petro Pros use fossils, rocks, drill bits and maps to demonstrate how oil and natural gas are formed, discovered and produced. Teachers can request for a Petro Pro to visit their classroom on OERBHomeRoom.com.

WELL SITE SAFETY

The OERB is committed to educating students about the risks associated with playing around well sites. Through safety campaigns specifically designed to grab the attention of younger students, they are informed about the importance of staying away from the dangerous equipment. We also offer Oklahoma educators free safety-related materials such as posters, DVDs and pocket folders that reinforce this message.

Duh-Duh Dangerous is OERB’s safety campaign targeting students K-6th grade. The campaign was kid-tested and kid-approved. Using a musical concept, Duh-Duh Dangerous uses a series of raps about the dangers of playing around well sites. Play games and download beats to create soundtracks and enter to win cool prizes at the Duh-Duh Dangerous website, OERB.com/Duh.

Lucky is OERB’s safety campaign aimed at teenagers. A series of scaring television and radio advertisements help drive the message that hanging out or partying around oilfield sites is risky business. Bottom line? Smart beats lucky every time. Teens can learn more about well site safety at OERB.com/Lucky where they’ll find testimonials, quizzes and interactive diagrams of oilfield equipment.

Well Site Safety Day

Every spring, the OERB holds a series of contests to help inform kids about well site safety. The OERB recognizes the winners at the official Well Site Safety Day at the State Capitol.

CHILDREN’S BOOK SERIES

Petro Pete’s Adventures

This engaging series features the beloved Petro Pete and his trusty canine sidekick, RePete. Through the stories, students join them on journeys around the world learning about petroleum. Each adventure is educational, teaching readers about safety, production, conservation and the vital role petroleum plays in our lives.

- The Road to Petroville.
  The first in the three-book series, Petro Pete learns about life in the early-day oil fields of Petroville, Oklahoma from Pappy Pete.

- What’s the Risk? The Story of a Fuelless Boy.
  In this book, Petro Pete and friends return for the second installment in the Petro Pete’s Adventure series. In it, Petro Pete’s classmate Freddie Fuelless learns about well site safety and why we need petroleum in our everyday lives.

- Boomer Burrow: Home Clean Home.
  RePete and friends learn about the OERB’s well site cleanup program. Follow along as their land is cleared of oil field equipment and restored to its natural beauty. A habitat for many animals, Boomer Burrow introduces us to many of RePete’s animal friends.

O is for Oil.

Children can build their knowledge of the oil and natural gas industry from A to Z with this book. They’ll learn about the history of the industry, the people and geology behind fossil fuels, many products created from oil and natural gas and much more.

Petro Pete’s Activity Books

These coloring and activity books are available to teach students about the oil and natural gas industry. From exploration to careers, these educational activities give students an exciting and fun way to learn about energy.

Digital copies of the books are also available at OERBHomeRoom.com/ebooks.

SUPPLEMENTAL MATERIALS

The OERB is always looking for ways to equip and inform. One helpful resource is the OERB Careers Guide. It provides an in-depth look at the various industry positions, the education required and experience needed. The extensive information is helpful in determining which careers best match your skills and goals.

The OERB has also created the insightful educational video, “Energy Behind Finding Energy.” The story features an engaging host traveling the world, learning the ins and outs of the industry.

DVDs are available to order on OERBHomeRoom.com.
35,000 STUDENTS SENT ON FIELDTRIPS IN 2014

PETRO PROS

CHILDREN'S BOOK SERIES & SUPPLEMENTAL MATERIALS
THE PROCESS

The OERB began developing the energy education curricula in 1996 in response to teachers’ feedback that they wanted an earth science curriculum that focused solely on Oklahoma’s resources. Fossils to Fuel was the first OERB curriculum developed as a way to start teaching children about basic energy concepts. Since then, the program has expanded to what it is today - nine curriculum with numerous supplemental programs and resources.

When developing a new energy education program, OERB staff work with the OERB Scholastic Outreach Committee, which is made up of industry professionals. The committee oversees the budget and provides feedback and insight into each new program. Staff then work with Oklahoma teachers to develop programs and curricula that meet state academic standards, including lesson plans and hands-on activities. When the materials are ready, the program is given a name and sent out to be piloted in a select group of teachers’ classrooms across the state. Those teachers then report their recommendations and feedback for the program. Once the final changes are made, the materials are printed and then go to OERB workshops where other teachers become trained to use the program in their classrooms. When they complete the workshop, they are given a kit, ranging in value from $300 to $1,100, with all of the supplies necessary to teach the lessons.

The OERB continues to work with teachers and oil and natural gas industry professionals to further expand the energy education programs. New programs are concepted and developed to meet teachers’ needs and to continue educating Oklahomans about the energy industry.

ENVIRONMENTAL CONTRIBUTIONS

Environmental conservation lessons are weaved throughout all nine of the OERB’s curricula. For example, in the Fossils to Fuel 2 lesson “Petro Pete Recycles,” students are taught how to conserve natural resources through recycling plastics (which are made from crude oil), and to classify plastic objects according to their recycling symbols. They also learn about the different types of items that can be made from recycled plastic.

In the Petro Active curriculum, the activity called “Precious Pretzels” teaches students what they can do to conserve petroleum resources. They learn to calculate the amount of fuel they might need to travel a certain distance, and how they can get there the most efficiently and using the least amount of non-renewable resources.

OERBHomeRoom.com allows the OERB to print less paper by providing the curricula in a digital format. The OERB is committed to teaching Oklahoma’s students about conservation and being responsible stewards of Oklahoma’s natural resources.

THE IMPACT

Each year, the OERB spends millions of dollars to help teachers and students from elementary school to the collegiate level. By providing curricula, free training, materials, educational trips and in-class presentations, the OERB helps Oklahoma teachers reach more students through entertaining activities and experiments.

Since 1993, the OERB’s energy curricula have reached 1.7 million students and are now offered in more than 95 percent of Oklahoma school districts. That means nearly two million students have learned about the oil and natural gas industry through our education initiatives. To date, more than $30 million in voluntary contributions from the oil and natural gas industry has been spent on the OERB’s education programs.

This past school year, the OERB trained 1,353 teachers at 76 workshops in 14 locations. This translates to $621,645 in free classroom supplies for Oklahoma teachers in just one year. The OERB also spent $373,000 sending students who have completed the curricula to one of nine museums around the state. More than 35,000 students have participated in these field trips.