


The Children's Engineering Journal

A Journal of Virginia's Children's Engineering Council

Visiting a Winner: A Principal's Plan for Creating a Model Children's Engineering Program

By Jason Perry, Assistant Principal, Middlesex Elementary School

Many times in education, schools receive well deserved recognition for exemplary programs. Prime examples are the Elementary Program of the Year and Elementary Teacher of the Year Award honored each year by the Virginia Technology Education Association (VTEA). As an assistant principal in a rural elementary school, I recommend a visit to these exemplary schools. Take your key stakeholders on the trip so they may some day invest the needed interest, support, and motivation to pursue recognition for your school. In order to get the most out of your trip, here are a few steps for consideration:

1. *Gather Information*. Finding the elementary schools in the state that "think outside the box" is a fairly easy task. The winners of the VTEA program of the year award for elementary, middle, and high school are posted on the web at www.vtea.org. Once you contact the school, ask the principal to schedule a date and time that fits into the school's schedule. You will want to try and see as much activity as possible in the amount of time you are to visit.

2. *Gather Stakeholders*. Seek good representation from parents, teachers, technology coordinators, support personnel, principals, school board members and central office personnel. These are the folks that "make things happen" within a school. Organize a diverse group of teachers to join you. Teachers are the most important stakeholders in the group. Try to talk to teachers in various curriculum areas/grade levels and those that may disseminate information to the remaining faculty at a later date.

3. *Arriving at the School*. Ask the principal to outline how the school day schedule is arranged: ask questions, including does the school have a resource time for teaching and learning technology or do the teachers orchestrate the teaching of technology with their own classrooms?

4. *Talk to Everyone Involved*. Don't be afraid to ask questions of the teachers and students in the

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Children's Engineering Convention, March 25-27, 2004

The 2004 Children's Engineering is set for **March 25 - March 27** at the Richmond Marriott West in Innsbrook. Keynote speakers include **Peter Sellwood** of the United Kingdom and **Ariel Shlien** of *Mad Science*. Registration deadline is March 1, 2004. Visit www.vtea.org/ESTE for more information or look inside for the registration form. Don't miss this wonderful opportunity to learn about children's engineering from the leaders in our field!

Children's Engineering Journal

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The Children's Engineering Journal

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Pictures on the Front Page Banner: Special thanks to Neil A. Armstrong Elementrary School, Reston, VA for pictures of students presenting their handmade alphabet. Ms. Ann Erickson sent these pictures after Ms. St. Clair's kindergarten class completed the *Building A Letter* activity. The activity is from the *Children's Engineering: A Teacher Resource Guide for Design and Technology in Grades K-5.* For more information on this free activity guide, visit www.vtea/ESTE.

Assessment Portfolios

By Susan K. Barnes, Instructor, Early Childhood Education
James Madison University

As I walked into colleague's second grade classroom one morning in September, I was surprised to see eighteen extra large pizza boxes neatly stacked near the door. When I asked what time I should come back for the party, she laughed and explained that those might look like pizza boxes to me, but they were actually student portfolios. While they did not have much in them just then, throughout the year students would be making some very high-level decisions regarding what would have to be removed from the box when they added another large project. She went on to explain that these boxes were new, donated by a parent who owned a pizza franchise, and were absolutely perfect for storing all kinds of artifacts throughout the year. Collages, paintings, small sculptures, student-created books, models, worksheets, and creative writing could all be neatly stored in one sturdy stack.

Later in the semester, a bright-faced young lady came to my office door with a large three-ring binder in hand. Did I have time to look over her portfolio before she went to a job interview with a superintendent of public schools? Her notebook included personal essays on her philosophy of classroom discipline, a newsletter she had written to the parents of students in her student teaching placement, and sample lesson plans. Everything was organized with tabbed dividers and sheet protectors.

At the end of that week, I was busy viewing websites of faculty and staff from universities located all over the country. The universities had posted the electronic portfolios of their teacher education students. I clicked on student names and up popped their resumes. There were links on their pages that took me to their courses and grades, their work experience, hobbies, letters of recommendation, test scores, and even QuickTime Video clips of them as they taught lessons.

Each of the above is an example of a different type of portfolio. Each has its advantages. The electronic portfolio allows you to gather and keep large amounts of information and takes up no physical space at all! The binder goes everywhere and can be viewed without any hardware. The pizza box is hands-on and perfectly appropriate for the concrete operational level of the developing young child.

The type of portfolio you use in your work with young children will depend on your purpose. Most of us are considering portfolios in response to a need to document student growth and achievement. We need this information to plan meaningful instruction and to document learning for parents, administrators, and the community at large. Collecting these snapshots of student growth over time is an authentic way to evaluate young children. It is performance–based, realistic and developmentally ap-

propriate. To serve the assessment purposes, the teacher would include screening tests, checklists and anecdotal records along with the student work samples.

While portfolios serve as powerful tools for assessment, their purpose should not be limited to evaluation. Another important use of the portfolios is to help students to reflect on their work and understand their own learning style. Students need to have control over what goes into their portfolios and be required to reflect and justify why it is important to include each item. In their journals they should respond to questions such as: What did they learn doing that project? How did they feel about the process of creating the project? What did they discover about their own learning style? How students answer these higher level questions reveal more about their learning that the project itself. Also, portfolios help to motivate students to improve their work. Knowing that their work will be kept and then reviewed and discussed by other people provide incentives for them to do their best work.

Regardless of the type of portfolio you choose to use in your classroom, there are some guidelines to follow to help make them effective as assessment tools.

-The portfolio should include examples of how students achieved learning goals.

-The portfolio should be easily accessible to the students, teachers and parents.

-The materials should be reviewed frequently.

-Students should have control over what is in the portfolio.

-Parents should be involved in reviewing the portfolio.

-All information should be dated and organized into categories.

The Importance of Feedback

By Marcia Hickey, Children's Engineering Educators,LLC

Feedback can be given in as many different forms as there are people to receive it. Design technology activities do not fit the teach, drill, and test feedback pattern. Students and parents alike need to be aware that a design technology activity has a definite purpose.

Feedback for the student is derived from the project itself, working with peers, teacher questioning, and reflection. Students receive hands-on, problem-based, "real life" feedback simply from participating in a design challenge. Does the design meet their requirement? Does it do what they designed it to do? The "end game" response is whether or not their project meets all the challenge criteria. The design project that doesn't quite meet the mark, frequently provides the largest learning opportunity and the greatest feedback! Using inquiry techniques can stimulate creative thinking by opening doors to new possibilities and responses. As the children use previously taught skills, teachers should remind them of those skills. This validates their learning. For those who "get stuck," it might be enough to ask what has been learned that could help the student. As all teachers have seen, children often use newly acquired skills in real-world problem-based situations and don't even realize it! In my class, we once made a list of all the skills we had used for one of our projects. The students found they had used more than we had thought!

Parents need different types of feedback. They want to know what design technology has to do with core subject content mastery. Having the children keep a design activity portfolio or journal gives parents the child's insight into the project. Students might be given an assignment to write/tell the parent about the project, the skills they used, and what they learned. More traditional methods use "Skills Assessment" checklists and tests. Checklists or a rubric work well for communicating student achievement. Anecdotal notes made during the project can also be a form of communication.

For those parents who need even more feedback, a visit during project time might help them better understand how design and technology supports and enhances the more "traditional teaching" methods. Also, an extra set of hands can be a welcomed help!

Integrating Children's Engineering Into the K-8 Curriculum in Delaware, Ohio

By Angela McFarland, Science/Technology Education teacher, Willis Intermediate and Teena Butts, Technology Specialist, District Technology Center

"Sometimes it appears as though they are just having fun building things. But then the lights start coming on and you see the students grasping the concept and wanting to know more. They are learning and connecting it to the real world. That's Technology Education," says Angela McFarland, Willis Intermediate School Science/Technology teacher.

Hands-on technology education is arguably the most effective and interesting way to expose students to the past, present, and future of technology. Unfortunately, it can be expensive to provide the necessary resources in every classroom. The Delaware City Schools District Technology Center in Delaware, Ohio decided to develop a single place where teachers from across the school district could bring their students to expose them to different kinds of technology while integrating what they learn into their own current classroom curriculum. It also offers career exploration and outlets for individual interest and curiosity.

Our mission at the Delaware City Schools has been to develop a technologically literate student population starting at the K-8 level. Our technology education team has worked with students on projects such as first graders making magnetic toys to go along with their unit on magnets, second graders building simple machine with K'NEX, third graders designing houses to withstand cold climates, and fourth graders creating weather charts.

We are also working with Dr. Ron Todd, the Director of Children Designing and Engineering at the College of New Jersey, to enhance our elementary program by creating technology education activities that are integrated into the regular elementary teachers' classrooms. To make the integration process easier, our technology education coordinator designed an activity guide that correlates the Harcourt science textbook to the Ohio science/technology education standards.

Once students move from the elementary level to the fifth/sixth grade building, they have the opportunity to take the science/technology enrichment class. Fifth graders investigate the positives and negatives associated with alternative forms of energy (wind, solar, and hydroelectric), recycling, and the use of biodegradable items to create new devises. The sixth graders are introduced to the four basic areas of technology: transportation, biotechnology, construction, and manufacturing.

According to the science/technology teacher Angela McFarland, "It just makes sense that as society continues to become more technologically advanced, so should our students." McFarland says she works closely with science teachers to coordinate and not duplicate lessons.

"Students in science class act as scientists. In technology, we're teaching them to think like engineers, to solve problems, and to think creatively." For example, McFarland explains the typical class assignment must follow four basic steps:

1) Identify the problem.
2) Come up with several solutions.
3) Test and evaluate the solutions.
4) Redesign based on evaluation results.

To assess students' achievement the standards, she has her students maintain daily logs of their progress, designs, problems, and solutions that will be gathered into an electronic portfolio. Rubrics are used to evaluate the design projects, and tests and quizzes are used to monitor their understanding of the concepts and vocabulary associated with the respective projects.

"I also give students specific criteria or constraints such as limited time, money, and resources," explained McFarland. "It's similar to the real world where you usually can't solve your problems with unlimited resources."

During the Alternative Energy unit, students had to build a windmill

from recycled material that was strong enough to lift one cup full of quarters from the floor to the table. This challenge taught them that building the windmill was not necessarily the most difficult part, but making the system work together to lift the weight was the real problem. In January, they built solar reflectors and designed vehicles that ran with the use of solar panels. This brought on new challenges and problems to solve when it came time to run the vehicles on an overcast, cloudy day.

After researching biodegradable materials and the reusing of recycled items, teams of fifth grade students had to create a chair that would actually hold a person using only recycled cardboard and tape. Students are forced to think "outside of the box" and work together to solve a problem. "At the end of the allotted time, students were anxiously raising their hands to share their newly discovered findings," says McFarland.

Her sixth grade Science/Technology class built historically innovative toys for the Delaware Historical Society after researching the history of toys of the late 1800's. The toys were a hit during the Society's December Open House and are still on display.

Scenes from the 5th grade bidegradable chair project.

During the biotechnology unit, they studied the field of ergonomics. They used the principles of ergonomics to design and build hand tools that could be used by tall and short people to pick up objects from the ground without bending over.

Based on the fifth and sixth grade science/technology course, Willis has been awarded a $1,000 grant by the International Technology Education Association. Ms. McFarland received a plaque and the grant monies at the ITEA annual conference in Nashville, Tennessee in March 2003. "We will purchase supplies and materials to help us expand lessons and activities," says McFarland. "It just goes to show you that in Delaware Ohio, we're leading the way in technology education and our students are the real winners." District web page: www.dcs.k12.oh.us

Visiting a Winner

continued from page 1

classes. They will tell you what makes the school or program so special and they will also share with you any disadvantages to the program. Students are your best point of contact to tell the "ins and outs". Relate this information directly to your own school. Ask your visiting teachers how they see this "fitting in." Will there be major changes in scheduling to facilitate change?

5. *Gather Resources*. Once you return to your school, continue to prompt the stakeholders to pursue an implementation plan. Spend some time searching for classroom resources. Many resources may be gathered at no charge. Join school organizations that support the teaching and learning of technology. There can be a lot said about the packets of information given to members in an association.

6. *Prepare Facilities*. Make some determinations in scheduling and appropriate facilities for the endeavor. It may be a simple change to a classroom space or additional spaces may be best suited to house the program. Having a successful program in place is much more important than worrying about limited space in a school.

7. *Take Your Time*. Don't feel that you need to have a state-of-the-art facility and a model program the first year. It may take many months of planning to establish a well recognized program. Teachers will continue to "buy into" the plan. Good luck and don't forget to invite the school you visited to your facility.

8. *Public Relations*. Call the local newspaper to share information with your community about the program. Many educators forget this important detail in their plan. Having the community behind you plays an important role in the process. Who knows? In the years to come, your school too may also share the honor of being VTEA program of the year.

The Children's Engineering Convention 2003: A Principal's Perspective

By Bill Cawley, Principal, Tucker-Capps Elementary School, Hampton City

The 2003 edition of the Children's Engineering Convention (CEC) has come and gone, but preparations for CEC 2004 are already underway. I would like to thank the organizers for their hard work during the past months in putting together another successful conference. In addition to long-timers Russell Bennett, Patti Fazzi, Kathy Stansbury, and George Willcox, this year we added VTEA President-Elect Mohamad Barbarji, Tom Pinelli and Harla Sherwood to the planning team. Tom and Harla were responsible for bringing to the CEC not only our excellent keynote speakers, but also the exciting NASA breakout sessions on Friday and Saturday.

Our keynote speakers contrasted and complimented each other very well. Dr. Ed Sobey—the second most famous resident of Redmond, Washington—kept everyone hopping (physically and mentally) as he spoke about inventions and the inventive mind. When was the last time a keynote speaker led you in a hands-on technology competition at the end of his speech?

On Friday, Dr. Henry Petroski spoke thoughtfully to the luncheon crowd on the differences between science, technology, and engineering. Dr. Petroski was most impressed with the fact that children's engineering was being taught in Virginia's public schools.

Interspersed between our keynote speakers was an excellent array of breakout sessions covering children's engineering topics as diverse as submarines, bugs, LEGOs, robots, and Mars Landers. All of this concluded with a stirring musical rendition by our own Russell Bennett. He inspired all by singing, "Did you ever know that you're my hero?" Russell also wore a wig to emphasize our need to let go of the past, just as he did with his hair.

There were numerous positive and helpful comments made on the evaluation forms. The consensus was that the hotel and site were excellent although the date was not (too cold, snow possibility, bad timing). When we looked last year for the site for 2003, we found we could either keep the site or keep the date. We opted for the site since it was so well received. This year, we are opting for the date. The 2004 CEC will be held in Richmond on March 25-27.

Respondents to the evaluation were overwhelming in their enthusiasm for the keynote speakers and hands-on sessions. Our goal for next year is to continue to provide high quality nationally recognized keynote speakers thanks to NASA and encourage the participation of more classroom practitioners of children's engineering to share their designs and strategies.

Thomas Pinelli from NASA presents Dr. Henry Petroski a thank you for his presentation.

CEC participants enjoy the hands-on learning approach.

I hope you will make plans now to attend next year's Children's Engineering Convention. Visit and bookmark our website www.vtea.org/ESTE for the latest information on the convention and for electronic copies of *The Children's Engineering Journal*—the source for design and technology for young learners.

Everyone is an Inventor

By Patricia Fazzi, President, Virginia Children's Engineering Council

"Everyone is an inventor. Self confidence makes the difference," said Dr. Edward Sobey the founder of *Invent America*. Dr. Sobey spoke at the 2003 Children's Engineering Convention. We had a chance to discuss children's engineering with him after he gave his keynote address.

Dr. Sobey was speaking with Russell Bennett and me in Williamsburg during the 2003 Children's Engineering Convention. During the interview I realized Dr. Sobey was speaking a language that verified the importance of our annual Children's Engineering Convention, the language of an educator who fully understands that teaching children to become problem solvers is essential. Dr. Sobey, Russell Bennett, and I discussed the following points in the interview:

George Willcox and Dr. Ed Sobey discuss Invent America at the 2003 CE Convention.

-Learning about inventors and inventions is fun and an effective approach to teaching. Children learn through play. They need time to "putz around" with materials. This hands-on approach creates learners who are willing to take on a challenge.

-Good teachers model behaviors to the students. Educators need to teach students how to find answers. Let the students know that no one knows all the answers but they need to learn how to research and find answers. "Let's look on the Internet" should be modeled by the teacher in elementary classrooms.

-What is your definition of children's engineering? Dr. Sobey said, "Kids making things work. We give the kids the box and they make the toy."

I remember the joy in my classroom when I had a giant box for a play we were performing. That box turned into a space ship, a cave, a hiding place from the class during the time it spent in my room waiting to become Rosa Parks' bus in our play.

The real test of a child's education is life, not standards. Dr. Sobey and I discussed the importance of research to validate this information. For further information on Dr. Ed Sobey and *Invent America* visit www.inventamerica.org.

A Glimpse at the 2003 Children Engineering Convention

Creating Your Supply Line

By Janis Detamore, Second Grade Teacher, McGaheysville Elementary School

Have you ever wanted to do an awesome activity in your classroom and didn't know how to pull it off? Do you want to integrate technology into your curriculum but don't know how to get the supplies? Have you ever paid for "just a few things" at Wal-Mart for those Ancient China or weather projects with your own money? Every classroom teacher knows that in order to do some hands-on activities, there are some hidden costs. Sometimes those costs are things like late night planning, after school building and designing, or giving up things in order to provide the necessary learning environment for your students. And then there are those monetary costs: hammers, nails, drills, screws, hot glue guns, wood, and the list goes on and on.

A couple of years ago, I was looking through a magazine and found a technology cart that I wanted to have at the small cost of only $1,000!! Last year, I also wanted a digital camera for my class projects and found that the prices ranged from $300 to $1,000. I don't know about you, but I don't have that kind of money lying around my classroom. Even though those amounts seemed monumental, I didn't get discouraged because I believe in technology-based learning and I wanted those things available to my students. My second graders deserved to have their learning enhanced with special tools and supplies. So I did what I could to obtain the supplies and funds for technology learning in my classroom.

I want to share with you a couple of ways that I got that cart, digital camera, and many more supplies for my students. In order to receive that cart and digital camera, I wrote grants asking the county I work in for the money. Now, many of you reading this article are saying to yourselves, "I don't have time for that" or " I can't write very well."

Kindergarten students using recyclable cardboard to experience their problem solving activities.

Don't sell yourself short! I'm not the best writer, but all I did was share my hopes and goals for the classroom and my enthusiasm for this hands-on learning. The end result was that I got two different grants for my students. The beauty of this is that I can share the cart and digital camera with other teachers and students in our building and more design technology takes place. So, don't ignore those grants!!

Another way to obtain supplies and funds is through newsletters. Your class and school newsletters are great avenues to let parents and school business partners know what is needed and what the students will do with the items bought. I have found that encouraging the students to write about their desires and needs not only helps them in persuasive writing, but it also means more to moms and dads, especially when the parents see the end results. Inviting visitors in to see our final work helps them remember what we are doing and what we need. Don't forget that recyclable materials are wonderful supplies for many projects. When you receive your students' information sheets, pay close attention to where the parents work. Some businesses throw out supplies which you might find useful. For example, printers often discard "end of the roll" paper and cabinet manufacturers discard scraps of wood too small to use for a cabinet but just right for your class projects. Another idea is having a "Giving Tree" in the classroom or school with leaves labeled "hot glue sticks," "cardboard," "disposable cameras," etc. The parents or visitors take the leaf and purchase the item, then drop it off at the office. I've never tried it, but what would it hurt to put $5.00, $10.00, $100.00 on those leaves??

Don't be bashful. Ask for what you need!! Don't be timid to showcase what your students are learning and everyone will see that in order to succeed and do well there are some costs. I guarantee that those costs will be covered because the children are worth it and people believe in them!!

Kindergarten
English
Design Brief

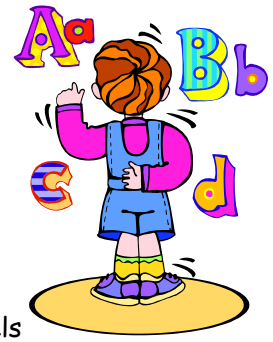
Building a Letter

Based on the book

Albert's Alphabet by Leslie Tryon

Background: In the book Albert's Alphabet, Albert designs and builds all the letters of the alphabet, using tools and scraps. A playground and path are then lined with the letters.

Design Challenge: Build a letter of the alphabet that will stand by itself. Be ready to present your work to the class.



Criteria:

- The letter must be freestanding.
- It must be made from materials found in the classroom.

Materials: You may select from the items below.

- cardboard
- straight edge
- scrap paper/cloth
- tape
- brads
- hole punch
- boxes
- stapler
- scissors/cutting tools
- wood and wooden dowels
- string
- writing and drawing tools
- glue

Rubric for *Building a Letter*

Student Evaluation	no evidence 0	limited understanding 1	some understanding with room for improvement 2	good understanding with room for improvement 3	substantial understanding 4
Oral Presentation: The student					
☐ used complete sentences					
☐ used descriptive words.					
Guided Portfolio: The student					
☐ restated the problem					
☐ brainstormed solutions					
☐ created a solution					
☐ tested the solution					
☐ evaluated the solution.					
Team Skills: The student					
☐ used appropriate voice					
☐ encouraged team members					
☐ listened to team members					
☐ was involved in all aspects of the project					
☐ respected team members.					

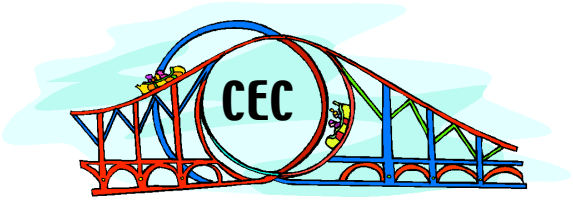
This design brief and corresponding rubric are excerpts from the *Children's Engineering: A Teacher Resource Guide for the study of Design and Technology in Grades K-5*. **For the entire detailed lesson, including correlations to Virginia SOL, visit www.vtea/ESTE.**

8th Annual

Children's Engineering Convention

March 25 - March 27, 2004

Richmond **Marriott West** at Innsbrook
4240 Dominion Boulevard
Glen Allen, Virginia 23060



CONVENTION REGISTRATION FORM
(Please Copy As Needed)

1. Please return one registration form for each individual attending by March 1, 2004 (postmark) with a check or purchase order made payable to **VTEA.** Mail registration form and check/purchase order to:

VTEA / Children's Engineering Convention
P.O. Box 35537
Richmond, VA 23235

Registration Information ***(Print or Type)***

First Name: _____ Last Name: _____

Position/Title: _____ Name for Badge: _____

School Name: _____ School District: _____

Address: _____

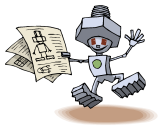
City: _____ State: _____ Zip: _____

School/Office Phone: (___) _____ Home: (___) _____

E-mail Address: _____

Registration includes
- ◇ reception with light hors d'oeuvres on Thursday evening,
- ◇ continental breakfast, lunch, two breaks on Friday, and
- ◇ continental breakfast on Saturday.

Register before **February 1, 2004** and be eligible to win a tool kit for your classroom!



2. There will be no onsite registration.
3. Registration postmark deadline March 1, 2004
4. Registration Fee is $95.00 $ _____

Additional Payment Options:

□ *Credit Card:* (Circle one): MasterCard / VISA Number: _____ Expiration Date: _____

Signature: _____

□ School Purchase Orders (VTEA FIN: 54-1790667)

5. Accessibility information for registrants with disabilities is needed in advance. Please identify accommodation(s) and/or special dietary requirements needed during the Convention.

Technology: the application of knowledge, creativity, and resources to solve problems and extend human potential.

Sponsored by:
Virginia Technology Education Association
NASA Center for Distance Learning
Technology Education Service, Virginia Department of Education

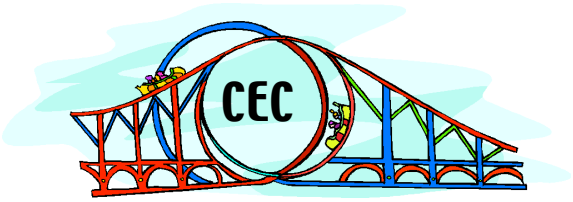
Hosted by:
Virginia's **C**hildren's **E**ngineering **C**ouncil
Children's **E**ngineering **E**ducators

http://www.vtea.org/ESTE/

8th Annual

Children's Engineering Convention

March 25 - March 27, 2004



Hotel Reservation Form
Please Copy As Needed

RICHMOND *Marriott* WEST
at Innsbrook

4240 Dominion Boulevard - Glen Allen, Virginia 23060
(804) 965-9500 Fax: (804) 968-7134

All hotel reservations must be postmarked by **March 1, 2004**

The Children's Engineering Convention Hotel rate is $ 77.00 plus tax (single or double). Each reservation must be accompanied by a one night deposit in the amount of $86.63 (includes state and local tax). If paying via credit card, provide those details at the bottom of this form.

Send hotel reservation form and check to:

Group Reservation Manager
Group Code: **CEC**
Richmond Marriott West
4240 Dominion Boulevard
Glen Allen, VA 23060

Telephone: (804) 965-9500
FAX: (804) 968-7134

Please reserve accommodations for: (Print or Type)

First Name: _____ Last Name: _____

School/Organization Name: _____

Address: _____

City: _____ State: _____ Zip: _____

School Phone Number: (___)_____ Home Phone Number: (___)_____

Special Requests: _____NON Smoking Room _____Smoking Room

_____Single _____Double/Double _____King

Arrival Date: _____ Time: _____ a.m./p.m.

Departure Date: _____

If you are sharing a room, provide the person's name and address below. (*Please submit only one form per room.)*

_____

Accessibility information for registrants with disabilities is needed in advance. Please identify accommodation(s) needed during the Convention. _____

Credit Card Payments:

□ Circle one: *MasterCard / VISA* Number:_____ Expiration Date: _____

American Express / Discover *Signature:* _____

□ School Purchase Order

Cancellation policy: If you need to cancel a room, contact the hotel no later than 6 p.m. of your scheduled arrival date to avoid a penalty of one night's room and tax charges.

The Children's Engineering Journal
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Visit us on the web at www.vtea.org/ESTE

If you would like to contribute an article to the next edition of The Children's Engineering Journal, please submit a WORD or WORDPad document to cej@vtea.org.

VTEA: The Organization For YOU!

By Linda Harpine, VTEA Elementary Representative

The Virginia Technology Education Association (VTEA) is the organization for you! Real life problem solving activities, children's engineering, Standards of Learning, state and national legislation, student assessment, and technological literacy for all students are just a few of the areas addressed by this 21st century association. Composed of elementary, middle, and high school teachers, collegiate educators, state department representatives, college students and other friends of technology, the VTEA has been active in Virginia since 1958 and is an affiliate of the International Technology Education Association. The VTEA strives to work closely with TECA (Technology Education Collegiate Association) and TSA (Technology Student Association) to provide exemplary technology education programs in Virginia.

A most successful "elementary" project of the VTEA has been sponsorship of seven annual Children's Engineering Conventions. These conventions have been designed specifically for elementary teachers providing statewide networking opportunities, a basic understanding of technology education, and standards based "hands-on" problem solving activities for classroom implementation.

In addition to its support of the Children's Engineering Convention, the VTEA holds an annual staff development conference for technology educators at all levels. Recognition is given at this conference to the outstanding elementary, middle and high school technology programs, as well as the outstanding elementary, middle and high school technology teachers in the state of Virginia. The VTEA monetarily supports these award winners to help them attend the annual International Technology Education Association Conference to be recognized for their outstanding accomplishments.

TECHnologize, the official newsletter of the VTEA, is published quarterly and provides the latest information and resources in the field of technology education. This publication is one of the benefits of joining VTEA. *The Children's Engineering Journal*, published biannually by the Virginia Children's Engineering Council in conjunction with the VTEA, is also available to members of the organization.

You are invited to become a member of this dynamic association. Information concerning the organization and membership are available online at www.vtea.org. *The Children's Engineering Journal*, along with other information on elementary technology, can be located online at www.vtea.org/ESTE.