Elementary STEM resources

ITEEA's Engineering by Design

The International Technology and Engineering Educators Association's **STEM±Center for Teaching and Learning**™ has developed the only standards-based national model for Grades K-12 that delivers technological literacy in a STEM context. The model, Engineering byDesign™ is built on the Common Core State Standards (**High School / Middle School), Next Generation Science Standards** (K-12**), Standards for Technological Literacy** (ITEEA**); Principles and Standards for School Mathematics**(NCTM); and **Project 2061, Benchmarks for Science Literacy** (AAAS). Additionally, the Program K-12 has been mapped to the National Academy of Engineering's **Grand Challenges for Engineering.**

http://www.iteea.org/EbD/ebd.htm

ITEEA’s Innovation Station elementary listserv

Join ITEEA's elementary learning community - elementary educators interested in bringing out every student's creative ability to design, build, tinker, and construct. Innovation Station is for teachers who want to get their students actively involved in learning. It's a teacher's resource for answers, ideas, and teaching techniques that work! This is free to anyone who is passionate about teaching.

http://www.iteea.org/Networking/IS/IS.htm

National Science Teachers Association Science and the STEM Classroom

This is free monthly newsletter about integrating STEM into the science classroom. It has separate issues each month for elementary, middle and high school science classes. Membership to NSTA is not required.

https://www.nsta.org/publications/archive-scienceclass.aspx

NSTA Young Scientist Newsletter

Encouraging Young Scientists is a free monthly newsletter that aims to make science accessible to and achievable by young children in grades PreK–2, to encourage teachers, and to provide resources and ideas for making science fun and relevant in the classroom. Each month has a different science theme.

https://www.nsta.org/publications/archive-eys.aspx

Center for Mathematics, Science and Technology, Illinois State University

CeMaST has partnered with TPS Publishing and Alpha Graphics to produce, promote, and distribute the Creative Core Curriculum program. This is available for both mathematics and science. Both the mathematics and science Creative Core Curriculum programs consist of a series of lessons and practice sheets that specifically address Common Core Standards for Mathematics or Next Generation Science Standards grades K-5. Both programs also include correlated lessons utilizing crafting activities, specific materials for ELL and students with special needs, and an extensive assessment database. CeMaST contributed STEM projects addressing each standard and provides Professional Development for all of the Creative Core Curriculum materials.

http://cemast.illinoisstate.edu/educators/stem/elementary/

Children’s Engineering Educators

The members of Children’s Engineering Educators are an experienced group of elementary teachers who believe that the hands-on learning involved with children's engineering will encourage children of all learning styles and abilities to develop ownership of the essential knowledge expected of elementary students in our rapidly changing world. They also believe that technology education develops critical thinking skills that will be needed by all students to make sound decisions in the future.
The members are dedicated to providing meaningful hands-on in-service programs for teachers and developing age appropriate technology based teaching activities to will help create technological literate citizens for the 21st Century. Their first book, *Children’s Engineering: A Handbook for Elementary Educators*, is one of the classics in elementary engineering.

http://www.childrensengineering.com/CEEShop1.htm

The Virginia Children's Engineering Council

The Virginia Children's Engineering Council (VCEC) is dedicated to developing design and technology instructional materials, and providing local, regional, and statewide in-service opportunities for educators at grades K-5. The in-service programs help teachers ensure that children develop an understanding of how to use, create, control, and assess technology. These instructional experiences are provided in a design, critical thinking and problem solving contest. They undergrid attainment of selected Standards of Learning in English, mathematics, science, history and social studies. The VCEC also host the world's largest conference devoted to children's engineering:

www.childrendsengineering.org

http://childrensengineering.org/convention/convention.php

Design It! Series by Bernie Zubrowski

The Design It! curriculum was developed by Bernie Zubrowski and others at Educational Development Centers in Newton, MA, and is published by Kelvin. It includes design challenges where students create: gliders, ball-and-track toy, rubber-band-powered cars, pinball machine, paper bridge, spinning toys, and model crane. Design It! has a well thought-out pedagogy behind it, which differentiates it from other design-based curricula. Students spend more time with the activities' materials, before being given plans from which they can make more optimal designs. Zubrowski explains that students need to learn by hands-on explorations about what the materials can and cannot do, before they can make knowledgeable decisions of how to improve the devices they are building. This translates into more time spent on the project -- an in-depth way to learning.

http://www.kelvin.com/mm5/merchant.mvc?Store_Code=k&Screen=CTGY&Category_Code=ENDEED

Design Squad

Use DESIGN SQUAD NATION activities, animations, video profiles, and episodes in classrooms and afterschool programs, in libraries and museums, at events and at home.

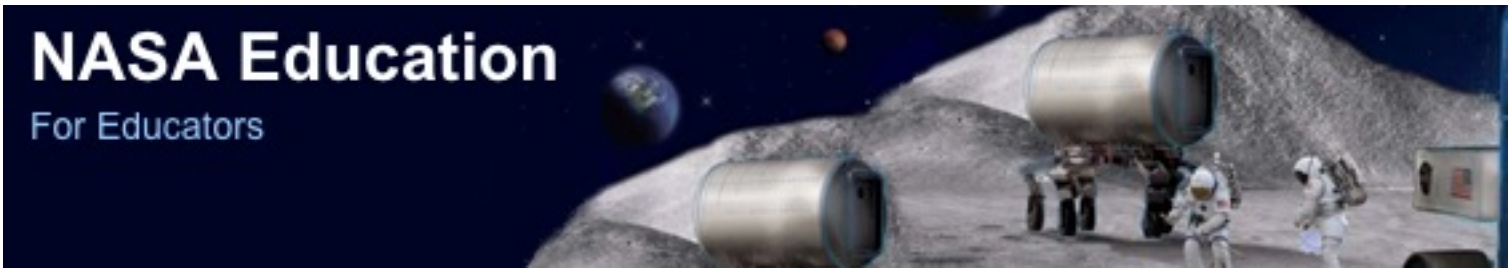
http://pbskids.org/designsquad/parentseducators

Engineering is Elementary

The Engineering is Elementary (EiE) project aims to foster engineering and technological literacy among children. EiE is creating a research-based, standards-driven, and classroom-tested curriculum that integrates engineering and technology concepts and skills with elementary science topics. EiE lessons not only promote K-12 science, technology, engineering, and mathematics (STEM) learning, but also connect with literacy and social studies.

http://www.mos.org/eie

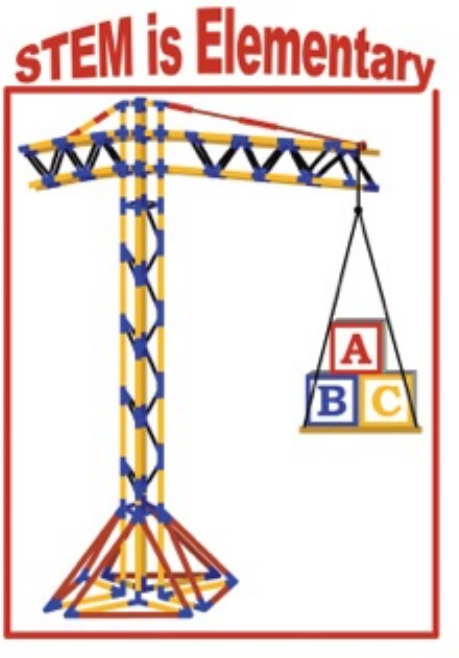
NASA Educational Resources



NASA's Education Materials Finder will help teachers locate resources that can be used in the classroom. Users may search by keywords, grade level, product type and subject. With hundreds of publications and Web sites indexed, the finder is the best way to locate NASA educational resources.

http://www.nasa.gov/education/materials/#.VZaz1BNViko

STEM is Elementary



A website with free resources and a free monthly newsletter on integrating STEM literacy in grades K – 8.

www.stemislementary.com

Try Engineering

Try Engineering is a resource for students, their parents, their teachers and their school counselors.

www.tryengineering.com

Engineering – Go For It

eGFI evolved from the name of the first 3 editions of the magazine, Engineering, Go For It!. Today, eGFI refers to several integrated components of the eGFI brand: the new interactive eGFI website, the 5th edition of the eGFI magazine, the teacher and student e-newsletters and eGFI poster, flash cards and kids' book

http://www.egfi-k12.org