

***Safe and Simple Electrical Experiments***, Rudolph F. Graf

I love this book! It's from 1964 (reprinted by Dover) and it just shows us how some things don't date. This book is so clear that after you do some of the experiments in it with your child you may well think "why didn't I ever consider electrical engineering as a career!"

***Engineering Projects for Young Scientists*** and ***More Engineering Projects for Young Scientists***, Peter H. Goodwin

Excellent, clearly explained books that can help you design a good home physics course. After setting out an experiment, Goodwin indicates ways in which a student can investigate the phenomena further.

**ETA Cuisenaire science catalog**, (800) 445-5989, [www.eta-cuisenaire.com](http://www.eta-cuisenaire.com)

They sell lots of school packs for multi-student teaching but also individual items such as: magnets, lenses, tuning forks, pulleys, rock specimens, thermometers, pH kits, microscopes, test tubes, gears... as well as videos, workbooks, and teachers' resources.

**Edmund Scientifics catalog**, (800) 728-6999, [www.scientificsonline.com](http://www.scientificsonline.com)

This is my favorite science catalog: it is geared to single-unit sales (so you don't have to buy enough of something for 20 students) and just has a brilliant assortment of equipment, kits and no-frills gadgets.

## **Inventions and Inventors**

If you're so inclined and if your child is interested, you may like to do an Inventions and Inventors block. I have included it here because it fits in with physics, but really, this block could be done with children as young as nine and is certainly a block which could be adapted to multi-age teaching. In *Practical Advice to Teachers*, Rudolf Steiner emphasized that during this nine to twelve age period children are wanting and needing to do practical real-life things: for many children a block on Inventions fits the bill.

When thinking about putting together such a block, I would suggest one avoid inventions which use complicated science better introduced at a later stage (such as X-rays, computer chips, or neon lights). One should also choose inventions which lend themselves to making and recreating and which are relevant to the child's life. This is a practical Main Lesson, so make sure you can make some of these things! Another aspect to consider is the importance of relating inventions to the lives of real people – either to the inventor him or herself or to how it changed others' lives.

**Clocks** are a great subject for this block and though one would be hard-pressed to identify individuals responsible for different stages in the evolution of clocks, how they revolutionized people's lives is clear. Young children could have a lovely time with making sundials in the garden (and you don't have to get into the technicalities of the sun and earth's relative positions); older ones could experiment with water clocks; and Seventh Graders could explore longitude and latitude and the movements of the earth, sun and moon as part of their astronomy studies and/or Renaissance history.