Thinking outside the *BrainBox*

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Overview of the *BrainBox* kit

The *BrainBox* is an affordable electronics kit with no wires and easy to make connections. Press studs allow parts of a circuit to be constructed quickly and easily. The plastic pieces have a metal strip running through them so no wires are needed. The kit contains battery holders, various connectors, light globe holder, motor, buzzer, reed switch, photo sensor, speaker, a couple of switches, LED, touch plate, and three different types of sound module. The circuits can be activated by touch, sound, moisture, light or magnets, in addition to more conventional switches. All the parts are colour coded and numbered and housed in a specially designed box which has separate compartments for each of the major components. A booklet of construction ideas comes with the set and is very easy to follow. All in all it is the ideal kit to introduce primary (or early secondary) school students to electric circuits. STAV also have a range of spare parts available separately if you want to expand or replace a number of items.

But do we then put the kits away until next year? The main feature in my eyes is that we have a set of modules that are easy to connect and could be used as part of the student's wider investigations of circuits. A sound or light module could be used as part of an alarm circuit or game that the students have to design and make. Connecting extras into a *BrainBox* circuit is easy. You can easily trap a bared piece of wire between two press studs. The metal of the press stud conducts well while the press stud holds the wire securely in place. The *BrainBox* kit even has single press stud units that are ideal for this purpose. There are several examples for design briefs elsewhere on this website page.

Students can also insert elements from the *BrainBox* kit into their own circuits. Each element is colour coded and sturdy making it easier to retrieve at the end of a unit than the usual discrete components that always seem to disappear into pockets or fall under cupboards. Their reed switch is a good example of a component that a student could include into a circuit. It is a glass capsule with a magnet tripped set of conductors inside. The normal reed switch is a little too delicate for children to safely use while the *BrainBox* one is safely encapsulated in plastic. You could have the student construct a circuit in the conventional way and then they could add in the reed switch to make the circuit active only when a magnet is near (e.g. for a door bell or burglar alarm).

Almost all of the other parts could be included in a student's circuit either individually or as a mini module (e.g. a sound module and speaker or buzzer). As the *BrainBox* components can be so easily connected using press studs they prove to be very versatile in a wide range of circuits.

Picture gallery

Image 1: Connecting wires into a *Brainbox* circuit using the single press stud connectors.

Image 2: The bare metal wire is wrapped tightly around a connection point and then taped in place.