CARD-TRONICS

Class Equipment

DETTA Digital Technologies Teachers Aotearoa

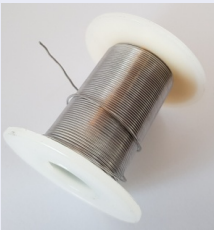| CLASS EQUIPMENT	
Safety Glasses 	This is a must for soldering. Initially, I spend a lot of time explaining that they are either over your eyes or back on the rack. No other place is acceptable. On the desk and the lenses get scratched. On the head and they get dirty with grease from even the cleanest hair. Either clear or the 'happy yellow' glasses are good. Tinted ones make it cool but too difficult to see your work in the classroom.
Soldering irons 	One between two is sufficient. More is always better! It is worth getting 'descent' soldering irons. I bought cheap and regretted if for years! (Slow learner!) The one on the right have 'hot swap tips'. They really can be changed in seconds! It also has an auto off function which is very useful.
Tip Cleaning Sponges	A clean soldering iron is essential to good solder joints. I buy a couple of packs of cheap washing up sponges then cut them up into four. They end up being roughly 70 x 60 x 10 Stored in a large ice-cream container for the students to use (and put back!)
Solder 	I used to use a roll and would give out solder, as required to the students. I found that they would only use about 75% then would ask for more as it was difficult to hold. I would also find, short bits, on the floor that no one owned. I found that 'solder tubes' was the answer. Each student was given a tube with their name on it. I could keep an eye on who was using how much and who kept 'losing it'. It was a much better solution for me.

CLASS EQUIPMENT

Copper Tape

I found either 6 or 8 mm to be ideal.

Never give the roll out to the students! You will end up with a big ball and wasting most of it.

I was the only one to hand it out. Initially I would use scissors to cut it to length and students would then cut individual lengths to fit their circuits.

This left lots of bits of paper that the students would have to clear up at the end of the lesson.

It is better if you tear it off with your nails. It makes it easier for the students to separate the backing from the tape. After 'testing' I made the students leave the backing in one piece and tear off the copper strip as required. Only one piece of backing paper that was easy for them to store in their boxes. Much easier at the end of the lesson!

Cardboard Squares

Cheap cardboard was much better than more expensive paper.

One piece of card will last students a good number of circuits. I try to recycle as much as I can. It does make it much cheaper for me but I really don't like students getting into the habit of just throwing stuff away.

I cut up 'a load' of squares and store them in an ice-cream container.

Keep all the offcuts. They can be used for switches later on.

Between 100 x 100 and 120 x 120

CLASS EQUIPMENT	
Tip Cleaner	You only need one for all your classes. Students loved to play with it so I found that it was better to become a 'teacher only' resource. I would use it to clean soldering iron tips if I thought they needed it. NEVER use a file or sandpaper on a soldering iron tip. It just destroys it!
Tip Refresher	Definitely a 'teacher only' resource. Strong flux cleaner mixed with solder particles. A really good way to remove old grease and re-tin the tip of a soldering iron. I would use one little pot for the year. I kept it in my lab coat pocket.
Pliers (Bent Nosed)	I found that the bent nosed pliers with smooth jaws worked the best for students. It was easier to place components and the smooth jaws didn't leave serrations in component legs. I found that 10 pairs in a rack would be sufficient for a class.
Side Cutters	The two side cutters to the left both work. They cost around the same but I found the jaws on the blue ones to be too sharp. Students would find it difficult to strip the wire. They would end up cutting their wires shorter and shorter. The red ones were definitely better for 'beginners'. Again, 10 pairs was enough for the class. Of course, more is always better but harder to manage. Pliers and side cutters were in the same rack. Easy to keep track of them at the end of the lesson.