

# Brookfield High School – SciFest Day

The Association for Science Education (ASE) and the British Association for the Advancement of Science (BA) funded a SciFest day at Brookfield High School, Wigan. This school is for pupils with moderate learning difficulties and has whole days when the timetable is abandoned (Industry Day, Health Day, French Day). Staff and pupils are used to this, which may not be the case in all schools. In larger schools it may be more practical to concentrate on one year group at a time, perhaps for half a day when many of them have science lessons. What follows is a resume of how our day was organised.

I decided to involve Year 11 in carrying out the day, as this would prove useful for them. Year 10 might well have not followed instructions from Year 11 pupils, so they engaged in different activities that did not require helpers. Year 11 ran the activities for Years 7-9.

The smaller the group sizes for activities, the more involvement for the pupils, so I decided to run short activities for each group on a rotation basis. I had 16 groups at any one time and planned 16 different activities. This allowed 20 minutes per activity, but not all groups were able to take part in every activity. The school bell was rearranged to ring every 20 minutes. Year 10 participated in one major activity in the morning and one in the afternoon.

Costs and time available were major factors in the decision making process. Year 11 made up some fun science games that needed some leading, but they had been to SET last year and borrowed some ideas. I refined these and produced a task chart explaining what to do, what materials were needed, and how many points a team acquired for completing each task successfully.

Staff commented on the initial ideas and after finalising these, the event was publicised through staff briefings and with the pupils. Year 11 pupils selected the activities they wanted to run and working in pairs completed a 'Success Chart' for themselves. This included clear criteria for the method to be employed for each activity, upon which they judged themselves. Staff from our local primary school, Mount St Joseph's, also came along to help organise the event and we offer many thanks to them for their activities and assistance.

Resources were laid out in separate trays for each activity with a copy of the Task Chart so that the equipment could be checked. I produced a timetable and location list for each group, distributing these to supervising staff. A large copy was clearly on display in case any groups got lost! Scorecards were produced for each group with posters ready to show the scores at the end of the day.

This is just one way of organising such an event. There may be problems in your school that I did not have in mine, for example, coursework completion dates. You may not be able to justify taking pupils out of other lessons for a science activity day. However, we have found that the skills and experience that were gained by everybody involved in the day more than make up for the small amount of time missed. Our pupils learn how to tackle problems, meet deadlines, develop social skills and learn some science!

## SciFest Day Activities

Title	Task	Points for	Need
Spectrum balloons	Choose the balloons that are the correct colours of the spectrum. Blow up the balloons and tie them with wool. Mount them on a board. They must be in the correct order of the spectrum.	Correct colour balloons blown up. Balloons in correct order.	Balloons Wool Board to mount them on
Model car race	Make a track for model cars to go down. You have seven cars. They must finish in the order of the colours of the spectrum. Put different things on the track to slow some cars down and speed some cars up.	Track made for cars to go down. Cars finish race in spectrum order.	Model cars Timers Track materials
Parachute drop	Make parachutes to drop the model people. The models are different colours of the spectrum. They must fall down in the correct order.	Parachutes made. Parachutes drop in correct order.	Paper Sellotape Timer String Masses Toy soldiers in spectrum colours
20 seconds and out	Make a timer that measures 20 seconds. You are given sand, containers, sellotape and a thin tube.	Timer made. Accuracy of timing.	Sand Containers Sellotape Plastic tube Timer
Entertain yourself	Make musical instruments with the objects you are given. Play a tune on your instruments. You get extra points if people can guess the tune.	Instrument made. Tune recognition.	Scrap materials for making instruments – bottles, water, bottle caps, string, clothes hangers, sticks etc.
I can't see over	Build a tall tower with the materials you are given. Your tower must hold a tennis ball on top. The taller your tower, the more points you get.	Tower supports ball. Tallest tower bonus points.	20 straws or tapioca pieces 10 sheets of paper per attempt Sellotape Tennis ball

Body warmer	You are given a hot vegetable. Make a jacket to keep it warm. The jacket must be re-useable and not too heavy.	Temperature maintained for one minute. Not too bulky. Re-useable.	Microwave Potatoes Thermometer or temp. probe Bags Range of fillings for bags Sellotape
Ooh, I've got sunburned	Make a sunshade. Bonus marks if it folds like an umbrella.	Shade made. Shade collapsible. Shade shaped like an umbrella.	Poles String Canes Sellotape Carrier bags
Volts counts	Put the different metals into the fruits and vegetables. Measure the voltage. Find out which fruit or vegetable gives the highest voltage. You also have to find out which pair of metals gives the highest voltage reading.	Voltage recorded. Best fruit/vegetable identified. Best metal combination identified.	Fruits and vegetables Metal strips Leads Voltmeter
Eat or heat?	Find out how hot the water gets. Use the food to warm up the water. Burn the foods under the container. You get marks for safety, fair testing, identifying the best food for heating the water, and reading the thermometer accurately.	Accurate thermometer reading. Best food identified. Safe method. Fair test.	Foods (no nuts) Thermometer Water Beaker Heating apparatus Tongs Balance Knife
Bumpy road	Make an egg saver. Drop your egg saver from 2 metres. The egg must not smash. You get extra points if your egg saver could be re-used.	Egg not smashed. Egg not cracked. Container re-useable.	Egg Card Sellotape Packaging materials 2m drop zone

Filter beds	Make a filter for the muddy water. The cleaner the water, the more points you get. The cleaner your bench at the end, the more points you get. Bonus points if you can use the light to show how much clearer the water is.	Water clearer. Clean bench. Clarity comparison made.	Muddy water Sand Stones Funnels Beakers Light source White paper & tile or light probe (if available)
Find the bug	Use a microscope to observe the insects. Draw your specimen. Bonus points if you can identify your insect.	Diagram drawn. Correct identification made.	Microscopes Specimens in sealed petri dishes Paper
Cart ьер?	Make a buggy using the materials you are given. Your buggy must carry the tyres. The tyres should not fall off. The buggy goes up a twisty course. You must dismantle your buggy at the end of the course, and pile the wood up neatly. You cannot cut the string!	Buggy moves 1 metre. Buggy carries tyres. Buggy negotiates twisting course. Cart dismantled ready for next team (several points for this).	Wood Wheels Axles Axle bolt String Small tyres to be carried by buggy Plywood course for buggy