

# SSERC

SCOTTISH SCHOOLS EQUIPMENT RESEARCH CENTRE

## Science & Technology Equipment News

Number 1

Spring 1994

*For teachers in Primary schools and of S1/S2 Science & Technology courses*

### Extension of SSERC services to primary schools

We are pleased to announce that we are formally extending SSERC's advisory, information and training services into the primary sector. This first issue of our newsletter for teachers involved with science and technology at 5 - 14 is the first tangible result of this extension of the service. There is as yet no extra funding for this addition to our workload (sorry - naughty word there!). There seems no defensible reason for us not to try to help primary teachers as a logical extension of our existing remit.

We have always given assistance to those primary teachers and advisers who have heard of us on the grapevine and have never turned them away when we were approached for advice or information on equipment or health and safety. More recent experience of piloting practical training courses for primary specialists and some secondary colleagues has convinced the SSERC Board of the need to make available formally the full range of our services.

### General information on SSERC

#### History

SSERC is a national common service agency set up and controlled by Scottish Councils as Education Authorities.

The Centre was founded in the late sixties by the Associations of County and City Councils which were the predecessors of CoSLA - the Convention of Scottish Local Authorities.

The work originally covered science teaching equipment but in latter years has extended to technology education as well as to more general health and safety advisory services.

#### Control

CoSLA oversaw the affairs of the Centre (through a Governing Body) until quite recently when SSERC was registered as a Company limited by guarantee. The Board of the Company however continues to be controlled by the Regional and Islands Councils who are the corporate members of SSERC Limited and nominate and elect its Directors.

#### Functions

The Centre provides an advisory, information and training service based upon its expertise in testing and evaluating equipment and teaching materials. Such services are provided on any aspects of the sourcing, purchase, use (including health and safety), maintenance and repair of equipment for science or technology education.

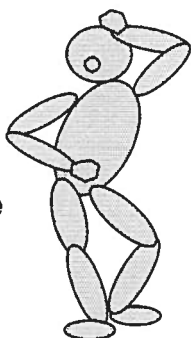
#### Funding

Core services such as the basic provision of advice and information to any Scottish teacher or technician are meant to be funded by contributions from all Regional and Islands Councils as EAs with the size of their contributions being linked to pupil numbers.

Other, additional services such as training or consultancy for specific projects or the sale of goods or extra publications are charged out separately. In the current climate some of these extra services are subject to contracts with specific EAs.

## How might SSERC help you?

One way of illustrating the SSERC service which we have found to be effective is to list the kinds of questions which teachers will probably need at sometime to ask and for which Centre staff have the expertise and resources to give reliable and practicable answers.



Some of these we have set out below.

### What's the question?

*Do you or will you ever need answers to questions such as these?*

### Earth and space

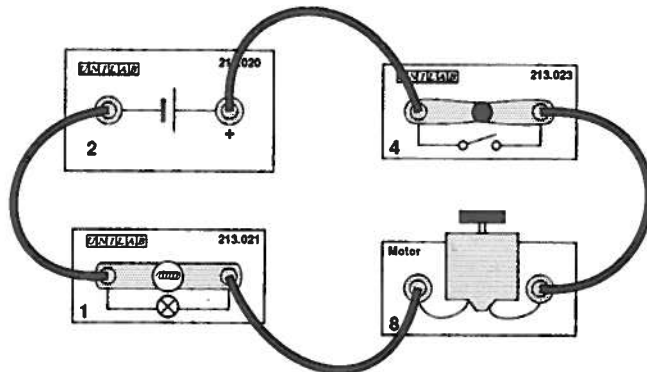
The pupils want to look at the night sky and be able to pick out some constellations : what would be best to buy - a telescope or pairs of binoculars?

I was thinking about the possibility of second-hand instruments - what should I look out for to avoid making a poor buy?



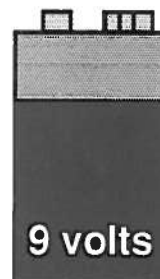
## Work with electricity

I want to integrate some studies on simple electrical circuits with topic work at P4 on the theme of "Shipwrecked": What scientific and technological ideas or concepts lend themselves naturally to inclusion in such a topic at this level?



What would be the best kind of power supply to use? Since batteries are so costly, are any mains power supplies suitable for use at this level? If so what make and type are they?

If I have to use batteries which kinds offer the best value? Are rechargeable cells safe for use at P4 and are they more cost-effective than non rechargeables?



### Chemicals

I've seen some ideas on growing crystals and on making a chemical garden. How can I find out if the risks associated with these activities are acceptable for primary work? Do I need to take any particular precautions in storing and handling these substances?



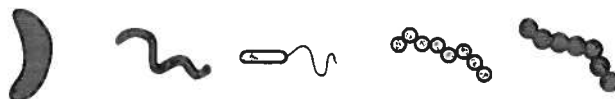
Toxic

### Microbiology

Are there any activities which can be carried out using micro-organisms in primary schools? Are there publications which will tell me about the best methods and the precautions to be taken against the possibility of infection etc.?



BIOHAZARD



## What about the answers?

SSERC can try to provide answers to such enquiries in several ways. For example, for the secondary sector we run a direct enquiry and information service by telephone or correspondence. However given the large number of Primary schools relative to the secondary sector we may well be overwhelmed if too many individual primaries start contacting us directly.

One way around that problem could be for us to publish simple technical guides on a topic by topic basis or on categories of equipment. Such guides could provide more detailed advice and information than we have space for here.

Another way might be to embed some of our advice on equipment and on safety matters in our in-service training materials. Yet another is for primary teachers to make their first point of contact the relevant adviser or development officer (assuming they are still such folk around for them to call on).



## Feedback

Do let us know what you think of the idea of a Science and Technology Equipment News for the Primary Sector and of the suggestions so far for simple technical guides on the selection and use of equipment.

We also intend publishing material on safety issues but would like to ensure that such advice is given both a curricular context and a proper perspective. Some primary teachers are already worried enough over the prospect of teaching science and technology in a possibly more structured way. The last thing we wish to do is to present any health and safety issue in ways perceived as posing yet another threat.

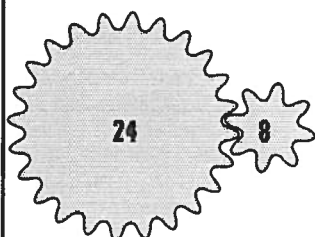
So do let us know your views as to how we may be best able to help - even if that means telling us you don't need yet more busy-bodding, teacher botherers getting involved at this stage of the game!

## Components & materials

Another SSERC service for science and technology in the secondaries has been the small scale supply of equipment, components and materials useful for projects or other practical activities. This service is not intended to compete with the mainstream educational suppliers. Rather it aims to support schools by finding a range of unusual or hard to find items or at least it is difficult to get them in small enough quantity.



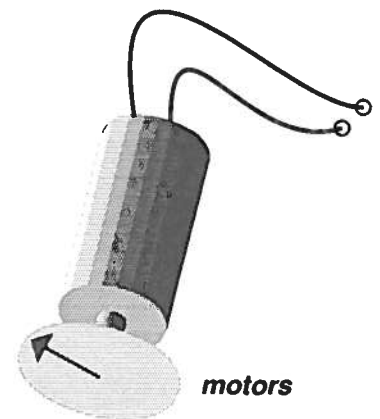
*resistors*



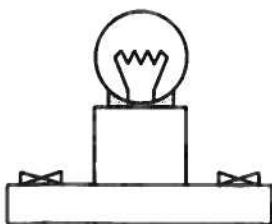
*gearwheels*

A list of such items is given on the last page of this first edition of SSERC Science and Technology News. These items from our wider range are those which we judge primary teachers might find useful.

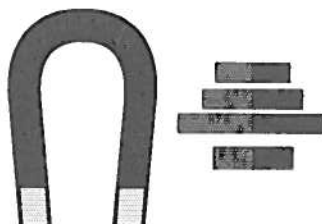
Where we know of several better and convenient sources of some commonly used components we may have deliberately decided not to stock such items ourselves. We can however refer readers to the relevant preferred suppliers.



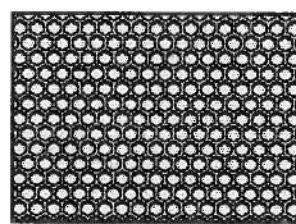
*motors*



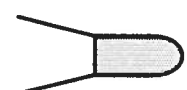
*bulbs and holders*



*magnets*



*solar cells*



*LEds*



*crocodile clips*

## ***Components & Materials List***

593	Miniature motor, 1.5V to 3V, 2mm dia. shaft	30p
614	Miniature motor, 3V to 6V, 2mm dia. shaft.	40p
Both of the above motors can be used for project work but they run at fairly high speeds, some form of gearing will be required. See item 625		
621	Miniature motor, 1.5V to 3V, 1.5mm shaft. The open construction of this motor makes it ideal for demonstration.	25p
625	Worm and gear, gives a 38 to 1 speed reduction.	35p
629	Dual tone buzzer with flashing light supplied with PP3 battery clip. Ideal for model burglar alarms, warning barriers, police car etc..	55p
710	Sonic switch. Clap your hands, the motor starts, clap again the motor reverses, on the third clap the motor stops. Needs 4 AA cells, batteries not included.	45p
645	Ceramic magnets, reasonably strong, various shapes.	7p
688	Crocodile clips, red, miniature, insulated.	5p
759	as above but black.	5p
	MES lamps (bulbs).	9p
691	MES battenholders for above.	20p
	LED 3mm, red, yellow and green.	10/50p
	3V buzzer.	55p
	Crocodile leads, assorted colours, insulated croc. clip both ends. 36cm long.	£1.35
	Propeller, 3 blade to fit 2mm shaft. Blade 55mm long.	45p
	Propeller kit comprises hub and prop. blades. Makes ten 3 or ten 2 bladed propellers.	£3.40

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**Enclose payment with**  
**orders less than £5**