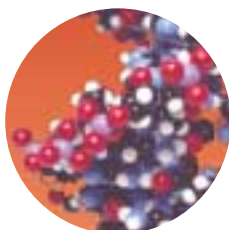


Teach Assist Resource Worksheets

Series 12 of 16



"Using the Bunsen burner"



Teach Assist Resources

TeachAssist resources are written with the practical needs of science teachers in mind. Each resource covers a practical activity that is integral to the QCA schemes of work to provide quick and easy preparation for practical classes.

Please feel free to photocopy the sheets to suit your needs.

Each TeachAssist resource contains:

- Student worksheet with practical instructions and activities.
- Technicians' equipment list for a class of 30 students.
- Reference to allow trouble-free ordering of materials and resources.

A summary table links each resource to the National Curriculum programme of study which allows TeachAssist practical activities to be quickly included into lesson plans and schemes of work.

If you require other booklets in the series, please telephone the Griffin Education sales team or send your request to the following address:-

Griffin Education
Bishop Meadow Road
Loughborough
Leicestershire LE11 5RG

STUDENT WORKSHEET



Important information:

Follow all the safety instructions that your teacher gives you.
 Wear safety glasses.
 Leave the burner and tripod to cool before handling them.
 Do not touch the metal parts of the burner.

The Bunsen burner

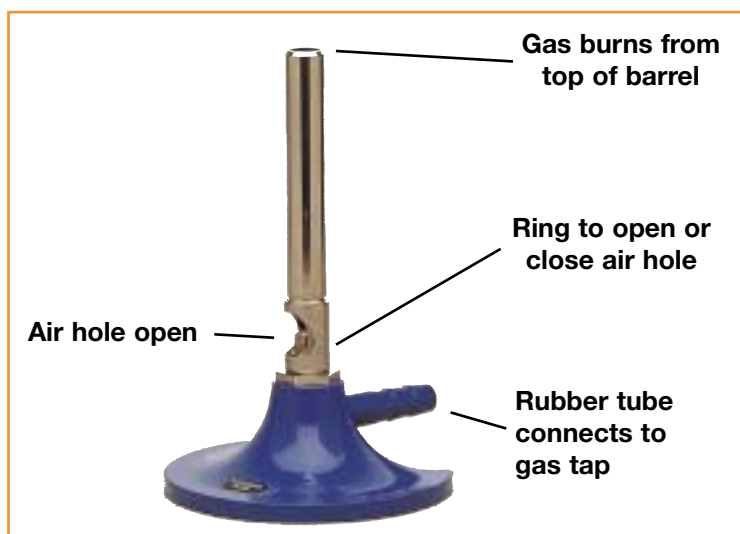
1. Put Bunsen burner on a heat-resistant mat.
 2. Connect the rubber tube to the gas supply.
 3. Use the ring to close Bunsen burner air hole.
 4. Get a wooden splint and light it.
 5. Turn on the gas.
 6. Put the burning end of the splint about 3cm above top of the burner barrel to light the gas.
 7. Leave air hole closed for a visible, yellow flame.
 8. Open the air hole for hotter, blue flame.
- Open and close the Bunsen burner air hole.

Bunsen safety.

When you are not using the burner, switch it off or close the air hole so that other people can see the yellow flame.

The burner gets hot! Leave it to cool down before picking it up.

Always use a heat-resistant mat and wear safety glasses



- Draw the blue flame and the yellow flame.
- Put the end of a wooden splint into the flame. Does it catch light quickly or take a little time? Which flame do you think is the hottest?

Record your observations in a table like this one.

	Yellow flame (air hole closed)	Blue flame (air hole open)
Drawing		
Flame is easy to see?		
Flame is the hottest.		

TECHNICIANS' EQUIPMENT LIST

QCA Unit 7I: Energy resources

Date:	Room	Time/Period:
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Equipment Class of 30 pupils, working in pairs.	Quantity	Check	Out	Back
Bunsen burner	15			
Heat-resistant mat	15			
Wooden splints	30			
Safety glasses	30			

Optional extension activity: how quickly is 100ml of water heated by 10°C on yellow then blue flames.

100ml measuring cylinder	15			
Stop clock	15			
250ml beaker	15			
Thermometer (at least 0 - 100°C)	15			
Tripod and gauze	15			

Important Information:



- The activity contains reagents and procedures that can be hazardous. It should not be performed unless an appropriate risk assessment has been made.
- Students should wear safety glasses at all times.
- Remind students to leave Bunsen on yellow flame when not in use and to turn off gas when observations are completed.
- Students should be instructed in the safe handling of the Bunsen burner and reminded to leave it to cool after use.
- Ensure that the main gas supply to the laboratory is switched off at the end of the practical.

ORDER REQUISITION

Equipment	Griffin Catalogue No.	Page	Unit cost (£)	No.	Cost (£)
Bunsen burner	BYB-400-026V	375	6.65		
250ml beakers, borosilicate glass (pack of 10)	FB33112	362	11.70		
Thermometer (-20 to +150°C, 30.5cm, mercury-free)	THL-460-060L	534	3.50		
100ml measuring cylinder (pack of 5), polypropylene	CYP-740-090P	394	12.25		
Tripod (triangular, 12cm side)	STK- 945-010V	See web catalogue	4.95		
Wooden splints (pack of approx. 1,000)	GFD-452-G	424	2.95		
Stop clock	TKL-600-010T	549	16.60		
Safety glasses	FB55125	492	2.25		
Total cost					
VAT					
Order total					

Complete the order form above and place your order with Griffin Education in your usual way. Prices are correct at time of print, please contact the Griffin Sales office or check on the Griffin Education website for the latest prices.

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By fax: 01509 231893
By email: griffin@fisher.co.uk
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SUMMARY TABLE

QCA unit	KS3 NC programme	Y7 TeachAssist	Activity	Relevant experience from Key stage 2
7A: Cells	Sc1.2f Sc2.1a	1	How to use a microscope and prepare an onion epidermis slide	Use of hand lenses and basic microscopes. Plants and animals, including internal body organs and plant structures
7C: Environments and feeding relationships	Sc1.2g	2	Using a data logger to monitor environmental conditions	Some use of data loggers How organisms are suited to their environment
	Sc1.1a,c,d Sc1.2h,k,o	3	Wood lice in choice chambers	Asking questions and designing a fair test How organisms are suited to their environment
	Sc2.5b,e	4	Organisms and food chains in leaf litter	How organisms are suited to their environment Food chains as a feeding relationship
7E: Acids and alkalis	Sc3.3d	5	Finding the pH using universal indicator solution	Little or no previous coverage of pH
	Sc1.2g Sc3.3e	6	Using a data logger to monitor changes in pH when an acid is added to an alkali	Some use of data loggers Identification of patterns and trends
	Sc3.3e	7	Investigating the neutralisation of acids with antacid tablets	Use of tables and line graphs to represent data Mixing materials can lead to a change
7F: Simple chemical reactions	Sc3.3a	8	Reactions of metals with acids	Describing how materials change when mixed or heated and how irreversible changes produce new materials
7H: Solutions	Sc1.2a Sc3.1h	9	Purifying salt from rock salt	Use of dissolving, filtering and evaporation to separate mixtures
	Sc3.1h	10	Simple distillation	Knowledge of evaporation as a separation technique
	Sc3.1h	11	Paper chromatography of ink	Separation of colours in food colourings such as sugar-coated sweets
7I: Energy resources	Sc1.2f	12	Using the Bunsen burner	Possible use of methylated spirit burners or candle-burners
	Sc4.1c Sc4.5a,e	13	Demonstrating solar energy: solar cells and absorption of heat energy by different surfaces	Little or no previous coverage of energy
	Sc4.5a	14	Finding the energy content of foods	Little or no previous coverage of energy
7J: Electrical circuits	Sc4.1a	15	Current in series and parallel circuits	Construction of series circuits from circuit diagrams
7K: Forces and their effects	Sc1.2f,g,j,k Sc4.2b	16	Extension of springs and elastic bands	Push and pull in springs Testing elastic band catapults. Some may have extended bands with masses Measurement of forces and weight