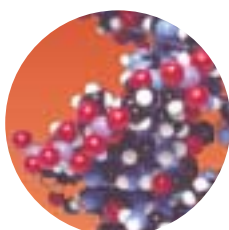


# Teach Assist Resource Worksheets

Series 9 of 16



## "Pure salt from rock salt"



## **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.  
Take care with any sharp edges on glass rods.  
Wear safety glasses.

## Pure salt from rock salt

Rock salt is a mixture of grit (rock) and sodium chloride (salt). You must plan a method to get a sample of pure salt from the rock salt.

Here are some pieces of equipment that you could use.

		<p><b>Top tips:</b></p> <p>Salt can dissolve in water.</p> <p>Grit cannot dissolve in water.</p> <p>Filtering can separate solids from liquids.</p> <p>When salt dissolves in water it does not disappear. Evaporate the water and the salt will be left behind.</p> <p>To find out how much salt you have purified: weigh the evaporating dish before you start and then again when it has the dry salt in.</p>
<p><b>Beaker</b></p>	<p><b>Evaporating dish</b></p>	
		
<p><b>Filter paper and funnel</b></p>	<p><b>Pestle and mortar</b></p>	

## How much salt is in rock salt?

Take some measurements so that you can work it out.

<p><b>Weight of rock salt used</b></p>	
<p><b>Weight of dried salt obtained</b></p>	

$$\begin{aligned} \text{Percentage of salt in rock salt} &= 100 \times \frac{\text{Weight of dried salt}}{\text{Weight of rock salt}} \\ &= 100 \times \frac{\quad}{\quad} \\ &= \quad \% \end{aligned}$$

### TECHNICIANS' EQUIPMENT LIST

#### QCA Unit 7H: Solutions

<b>Date:</b>	<b>Room</b>	<b>Time/Period:</b>
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<b>Equipment</b> Class of 30 pupils, working in pairs.	<b>Quantity</b>	<b>Check</b>	<b>Out</b>	<b>Back</b>
250ml beakers 2 per group	30			
Top-pan balance	3			
Approx. 10g rock salt measured out for students	15			
Glass rods	15			
Pestle and mortars	15			
Filter funnels + filter paper to fit	15			
Evaporating dishes	15			
Oven, 75 litre capacity	1			
Safety glasses	30			

#### 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.**
- **If rock salt is not available, make a sand and salt mixture.**
- **For less able students, the activity can be simplified by removing any weighing and calculations.**
- **Oven will speed up the evaporation of water. Dishes can be observed in the following lesson.**

## ORDER REQUISITION

Equipment	Griffin Catalogue No.	Page	Unit cost (£)	No.	Cost (£)
250ml beakers, borosilicate glass (pack of 10)	FB33112	362	11.70		
Rock salt (3kg)	S/3100/63	198	7.19		
Mortar, 160ml capacity	MWA-250-110F	462	7.75		
125mm Pestle	MWA-260-070S	462	4.50		
Filter funnels, glass, top diameter 100mm (pack of 10)	FB56642	419	37.45		
Filter paper, 15cm diameter (pack of 100)	FDH-240-170K	414	6.95		
Glass rods, approx 0.5m lengths, 8mm dia. (pack of 25)	RND-291-081H	487	27.60		
Evaporating basin porcelain, 98mm diameter	BHW-320-070M	355	6.75		
Oven (75 litre chamber volume)	OVB-100-075B	463	540.00		
Top pan balance (500g maximum, 0.1g readability)	BFM-120-040V	346	152.00		
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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## SUMMARY TABLE

QCA unit	KS3 NC programme	Y7 TeachAssist	Activity	Relevant experience from Key stage 2
<b>7A: Cells</b>	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
<b>7C: Environments and feeding relationships</b>	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
<b>7E: Acids and alkalis</b>	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
<b>7F: Simple chemical reactions</b>	Sc3.3a	8	Reactions of metals with acids	Describing how materials change when mixed or heated and how irreversible changes produce new materials
<b>7H: Solutions</b>	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
<b>7I: Energy resources</b>	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
<b>7J: Electrical circuits</b>	Sc4.1a	15	Current in series and parallel circuits	Construction of series circuits from circuit diagrams
<b>7K: Forces and their effects</b>	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