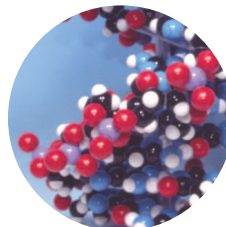


TeachAssist Resource Worksheets

Series 2 of 16



"Using a data logger to monitor environmental conditions"



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TeachAssist 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.
Careful: scalpels, knives, glass slides and cover slips have sharp edges.
Wear safety glasses when handling iodine solution. Quickly wash off any that gets onto your skin. It will stain yellow-brown.

Monitoring the environment

You will compare how temperature and light change over a 24 hour period in a water environment (like a pond) compared to on land.

Temperature on land

1. Turn on the data logger.
2. Place the data logger onto a surface that is near a window.
3. Start recording both temperature and light intensity.

Temperature in water

You will use a bucket of water to imitate a pond environment. It has been left for a few hours so that the water is at room temperature.

1. Attach the temperature probe to the data logger.
2. Dip the probe (**not the logger**) into the water.
3. Put the data logger and bucket next to the other data logger on the bench top.

Attach temperature probe to measure a "pond" environment



Activate internal temperature and light probes

Download data to analyse on a computer

After the recording has been completed, download the data to a computer. Use the software to plot graphs that show the change in temperature and light over the 24 hour period for each environment.

Compare the graphs


- Is there a link between the light intensity and temperature? Explain why?
- Does the water heat up and cool down as quickly as the land? How would this effect the organisms living in water or on land.
- What other things in the laboratory could influence the temperature?

TECHNICIAN'S EQUIPMENT LIST

QCA Unit 7C: Environments and feeding relationships

Date:	Room	Time/Period:
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Equipment Class of 30 pupils, working in pairs.	Quantity	Check	Out	Back
LogIT Explorer	10			
LogIT Explorer temperature probe	5			
Bucket of water (leave for several hours to each room temperature)	5			



Important information:

The activity contains procedures that can be hazardous. It should not be performed unless an appropriate risk assessment has been made. Water should lag behind the surface as it warms and cools over the 24 hour period. Tap water may be at a different temperature to the laboratory. Leave buckets for several hours to equilibriate. The same procedure could be used with a pond or fish tank.

ORDER REQUISITION

Equipment	Griffin Catalogue No.	Page	Unit cost (£)	No. Required	Cost (£)
LogIT Explorer (starter pack, Windows™, USB)	CRD-600-030N	324	179.99		
LogIT Explorer temperature probe	CRD-650-010H	325	19.99		
Bucket (25 litre)	YRW-255-090X	373	9.65		
Data Logging activity masters (7-16 years old)	CRD-130-6689	338	14.95		
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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