

Egg Incubation Investigation

Target age group and level

In trial the experiment was tested on a group containing year 7 & 8 pupils. Depending on ability level it could be pushed older or younger. Suggested level if everything completed independently with good line graphs, Sc. Level 6

Aims & objectives;

1. Students will use the stimulus of a real life example to practise several fundamental science skills.
 - a. Drawing tables with correct headings and units
 - b. Setting up equipment.
 - c. Gathering data.
 - d. Graph plotting.
 - e. Extrapolating line graph data.
 - f. IT use.
2. Students will have to cooperate in working groups
3. Students will gain exposure to a real life conservation issue.

Advance Preparation

1. The eggs must be hard boiled and then kept in an incubator or water bath at 37oC for several hours to ensure a stable starting temperature.
2. Use whatever temperature measuring device you have available. In trials a small hole made in the side of an egg into which a temperature probe could be inserted worked well, as did the use of infrared gun type thermometers. However there is a safety issue with these due to their laser beam pointers. Whatever you use, the method of deployment will need to be explained / demonstrated.
3. Check out the website www.lrwt.org.uk/rutland-ospreys in advance. If you are working between mid March and early September there should be live screening from a nest which could be put up on the lab screen for the duration of the lesson. Otherwise select a good photograph.

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4. Make provision for students to work in different ambient temperatures, for example could a group work outdoors or in the corridor where it is cooler? Use of fans or open windows could lower temperatures locally, heaters or infrared lamps could raise them. If this is all not possible, have a ready prepared set of data students can use for question 5. See next page for a set of data collected by a group of year 8 boys in a trial.

Lesson Plan

1. Use picture or live screening from the website to introduce the subject and explain the aims and task.
2. Demonstrate apparatus use, including temperature reading for accuracy and reliability
3. Distribute worksheets, paper and equipment.
4. Allow students to follow the worksheet.
5. Make appropriate provision for the swapping of data.
6. Extension work and finalising graphs could become homework, if lesson time is short. In longer lesson time it could be done in class if students have computer access. Or as a class discussion using the website on the class screen.

Sample data

Set of sample data obtained at an ambient room temperature of 22.7°C

Time /min	Temperature/ °C
0	32.0
2	30.1
4	29.0
6	28.5
8	28.7
10	26.6
12	26.1
14	25.7
16	25.5
18	25.3
20	25.3
22	25.1
24	25.0
26	24.2
28	24.1
30	23.8
32	23.9
34	23.6
36	23.5
38	23.2