

# SCIENCE AWARD TRUST® Information for teachers

The Explorer Badges are the renamed Science Certificate Scheme, with certificates replaced by attractive badges.

They are aimed at students in Year 5 (Explorer Badge) and Year 6 (Advanced Explorer Badge) although it is an excellent source of remedial work for some senior students or extension work for more able junior students.

The Year 6 Advanced Explorer Badge is similar to the Year 5 Explorer Badge covering the Nature of Science and the Science Capabilities and offering a more advanced range of extension activities and skills. Students complete eight activities from each of the four categories including a technology-based task to qualify for a very attractive badge. The student's progress is monitored with stickers in a booklet, which contains the activities. The activities are designed to be completed by the students in their own time but they are also ideally suited for class project work.

The categories are the same as the science curriculum: The Living World; The Physical World; The Material World; Planet Earth and Beyond. To facilitate students receiving their badges as soon as possible, activity sheets and badges will be supplied to the school in one package, negating the need for a second mailing. Schools should hold the badges and issue these to the students on a satisfactory completion of the activity sheet. This kit contains information sheets for the school coordinator.

[Scroll down for sample activities for Explorer and Advanced Explorer badges on the next pages](#)

**Scheme Coordinators:** Your role should be minimal. You should: Copy and distribute to each class teacher multiple copies of "Some Information for Teachers". This contains an outline of the Explorer Badge Scheme. At suitable intervals collect the activity sheet requests and after entering the information on the enclosed order form (or download the order form from the web site) send the money and the order form to: The Science Badge Coordinator, 21 Kingrove Street, Bishopdale, Christchurch 8053 · Award a Badge when students have completed the four categories. Act as arbiter to ensure some uniformity of standard within your school. Your help in the coordinating of this scheme is very much appreciated by the organisers of the scheme.

# SCIENCE AWARD TRUST®

## Sample activities from the EXPLORER Badge activity card Suitable for Year 5

*This card is not to be photocopied*

Name: Class:

I agree to complete at least 8 activities from the FOUR categories

By:

Signed Pupil

Teacher:

Caregiver:

- You must complete at least **EIGHT** activities with one from each of the **FOUR** categories, with at least one being a **TECHNOLOGY** based task. (Technology tasks are marked with an \*)
- You may be asked questions to check your understanding. When each activity is completed satisfactorily you will obtain your sticker.
- When you have completed all requirements, you will receive a certificate.
- You will be expected to work on this project at home as time may not be available at school.

### ***THE LIVING WORLD***

1. Using a PET, Coke or similar bottle, grow a plant from seed to seedling. Measure, sketch and document its growth every two days.
2. Research, draw and describe 8 plants that have been used as medicines. Describe how these have been used to treat specific ailments. .
3. (a) Draw a detailed picture of an animal in its own environment,  
(b) Draw a diagram to show your animal in a food chain.
4. Investigate a system in the human body (eg digestive system) that helps us stay alive. Make a model of that system and label the main parts.

### ***PLANET EARTH AND BEYOND***

1. Record the weather for 7 days at your home or school. Record the temperature and wind direction, at a specific time every day. Record the daily rainfall over each 24 hour period.  
Compare your findings with weather maps in your area using newspapers or internet.
- 2.\* Design and make a rain gauge from a plastic bottle and measure the daily rainfall over a 2 week period. Graph and interpret your findings.
3. Collect at least 15 different rocks. Classify them in any way you choose and record why you chose to classify them that way.

### ***THE MATERIAL WORLD***

1. Collect several different types of kitchen utensils. Predict which utensils will or will not float. Test your predictions. Display your results.

2. List the steps needed to change an ice cube into steam. Describe the apparatus you need to do this. Discuss your ideas with an adult. Carry out your method and report your results.
3. Investigate how you could make something useful out of old newspapers. List your ideas and demonstrate one of these by making it.
4. Find out what happens to bottles when they are recycled. Draw a flow diagram of the process.

## ***THE PHYSICAL WORLD***

- 1.\* Design a dart for a specific purpose (eg distance, turning, load carrying). Predict its performance. Trial your dart. Record its performance, modify and continue this process until you reach its optimum (best) performance.
2. Construct a colour wheel to show primary and secondary colours.
- 3.\* Using Lego/Technic, Lego or similar, design and create a bridge at least 30cm long that is strong enough to support 500g mass (eg a can of baked beans or block of butter, if you don't have weights) at its centre when spanning a 25cm gap between 2 desks.

# SCIENCE AWARDS TRUST®

## Sample activities from the ADVANCED EXPLORER Badge activity card

Suitable for Year 6

*This card is not to be photocopied*

**Each Section has 8 activities**

### **THE LIVING WORLD**

5. Choose four packaged breakfast cereals. Look at the table of ingredients on each. Would these foods be suitable for part of a healthy diet? Explain your answer.
6. Make a bird table/ feeder for use at home or at school. Using different sorts of food, feed the birds daily and record your observations over a 2 week period. Present your findings.
8. Find out why your arm has two muscles to work the elbow joint. Describe how a muscle works. Make a working model of an elbow

### **THE PHYSICAL WORLD**

2. Find out and draw the way infra-red remotes work. List the uses and devices that utilise infra-red and what they are used for.
4. Using Lego/Technic Lego or similar materials create a device for lifting loads. Explain where in the real world the machine could be used. Make a list of at least 3 problems you found in the construction of your machine, and/or any changes you made to the original design.
6. Design a way of testing the “bouncability” of at least 5 different types/sizes of balls. Graph your findings.

### **MATERIAL WORLD**

3. What is chromatography? Set up a demonstration and explain how it works to your class.
4. Freeze equal amounts of the following - lemon juice, mixture of salt and water, tap water, another liquid of your choice. Make sure they all start at the same temperature. Measure how long it takes for each liquid to freeze. Present your findings as a graph.
6. Why do bicycles rust? Devise your own experiment to determine under what conditions iron will rust. Predict your results, record and present your findings. Do your predictions match your findings?

### **PLANET EARTH & BEYOND**

1. Construct a diorama in a shoebox or construct a model to show the major features of the watercycle.
7. Graph how much rubbish is produced from your house on a daily basis. Sort this rubbish into materials that can be recycled in your area, those that can be composted, and things that have to go to landfill.  
Plan a waste reduction programme with the agreement of your family. Carry this out and report the results.