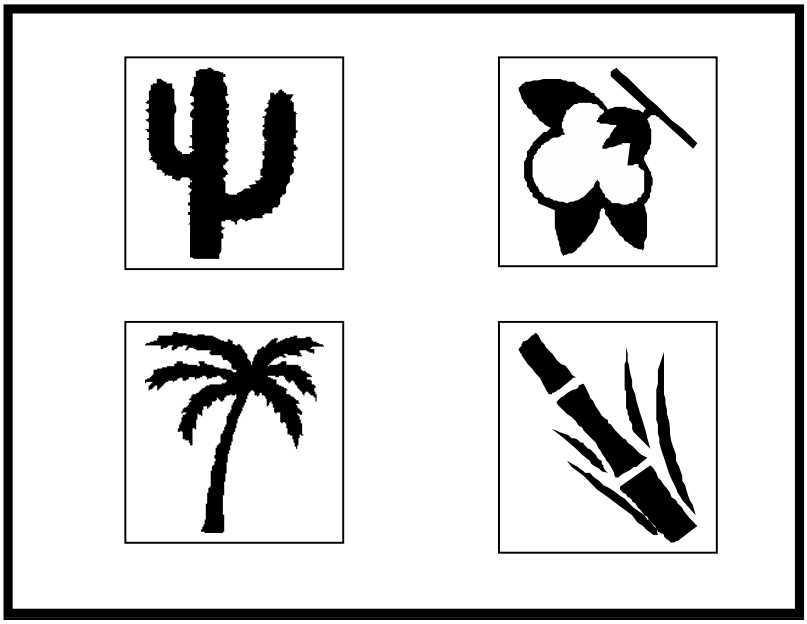
Birmingham Botanical Gardens

THE BIRMINGHAM BOTANICAL GARDENS
TURN OVER A NEW LEAF



Investigating Plants and Environments

Birmingham City Council

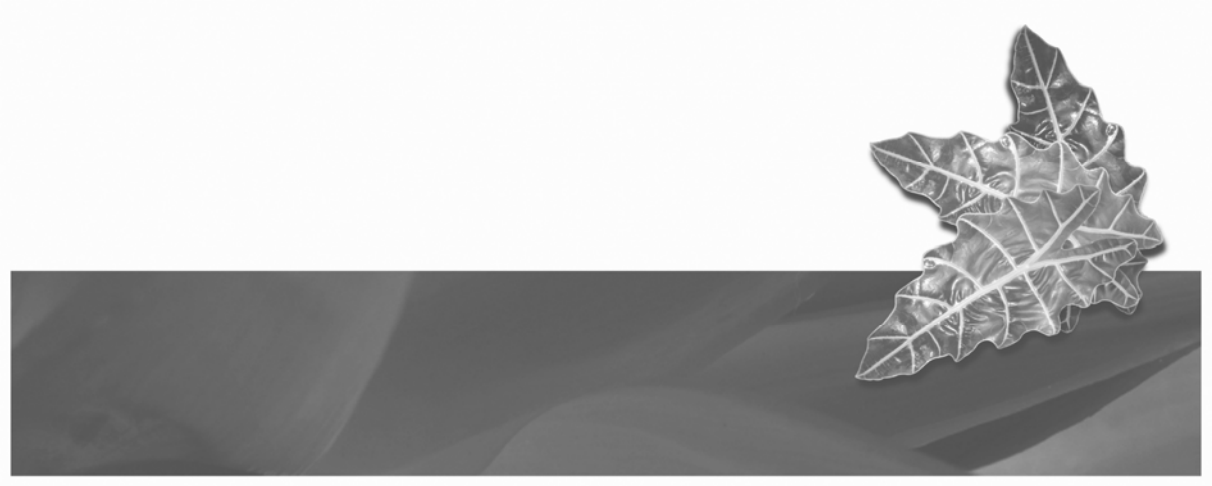
Introduction

This booklet outlines activities carried out at Birmingham Botanical Gardens that can help with the teaching of Geography at Key Stages 1 & 2.

The Gardens lends itself to the study of plants and environments with four glasshouses representing different climatic regions: tropical, sub-tropical, Mediterranean and desert. In addition, other environments such as alpine can be found outdoors.

You may wish to use these activities in the context of looking at plants and climates representative of a particular country or region. The most popular places to have been studied at the Gardens are St.Lucia, Jamaica, India and Pakistan.

Much of the work carried out at the Gardens is also cross-curricular in nature. So, even though the main objective may be to study Geography, there are many opportunities to include aspects of Science, English, History, Music, ICT, Education for Sustainable Development, Citizenship and Multicultural issues.



Description of Activities

What is each environment like?

Depending on age and ability, pupils can compare each climate using their senses and describe what each environment feels like. This can be done orally, using word/picture activity sheets, prompt lists of words or pupils write down their own descriptive words.

The next stage is to measure and record environmental factors such as temperature, humidity, rainfall and soil moisture using a range of scientific equipment.

The data can then be presented and compared in a variety of ways back at school possibly with the help of ICT.

Where in the world can we see these environments?

For each environment, pupils plot onto a map of the world, the countries of origin they find using information from the plant labels.

Can we look at a particular locality?

The plants and environments can be used to illustrate the climate and vegetation typical of various countries and regions from around the world including St. Lucia, Jamaica, India and Pakistan.

How are the plants arranged?

Looking at the arrangement of plants in the greenhouse is an ideal way of stimulating map work. This can be by locating the position of plants and marking them onto a plan or alternatively finding particular plants, which have been marked on a plan. Plans of the glasshouses with grids on them are available for work using co-ordinates.

How are the plants adapted to their environment? (Science link)

Basic understanding of plant adaptations can be developed through fun activities such as pupils imagining they are explorers. Observational awareness is heightened by pupils being allowed hands-on experience of plants in the glasshouses. Reporting back can be oral or by the use of an Explorers Diary. Another activity involves pupils filling in a Plant Passport so that the plant can be moved from one country to another.

How are plants used by people?

A range of activities is available for pupils to record food and/or economic plants which they find in any one particular environment. It is an ideal starting point for raising development issues. The cultural use of plants can be explored through handling sessions. These use artefacts from around the world such as musical instruments.

A wide collection of items is available for matching activities and simple picture sheets can be used to help younger pupils to identify key plants and products. A novel way into this topic is to use stories such as *Handa's Surprise* and through role-play to develop an understanding of our relationship with plants.

An interesting exercise is to ask pupils to imagine that they are marooned in a certain environment such as a desert. Can they find, for example, anything to eat or drink or materials to build a shelter? Ideas can be recorded either orally, using tape recorders or using a Survivor's Diary.

Another activity, called 'Starting the Day', takes everyday items used in the morning, examines their plant ingredients and where they come from.

Pupils can record not only the plant's name, but also the product, part of the plant used, country of origin and climate required. The location of these plants can be used to develop map skills.

What issues of sustainable development are raised?

There are many opportunities for debate on issues of sustainable development. All the activities described previously can be used as the starting point for raising questions about people, places and plants.

Resources

Scientific equipment such as thermometer, hygrometers, soil moisture meters and rain gauges are available.

Numerous worksheets, help sheets, background information leaflets and posters are available, including trails to help interpret the desert and tropical environments.

To get the most out of your visit, planning is essential and the Centre staff are always available to help you.

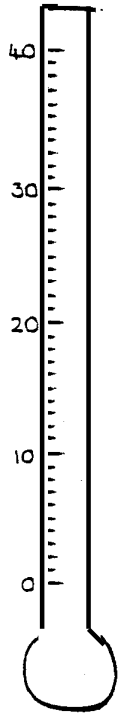
In the glasshouses

It feels

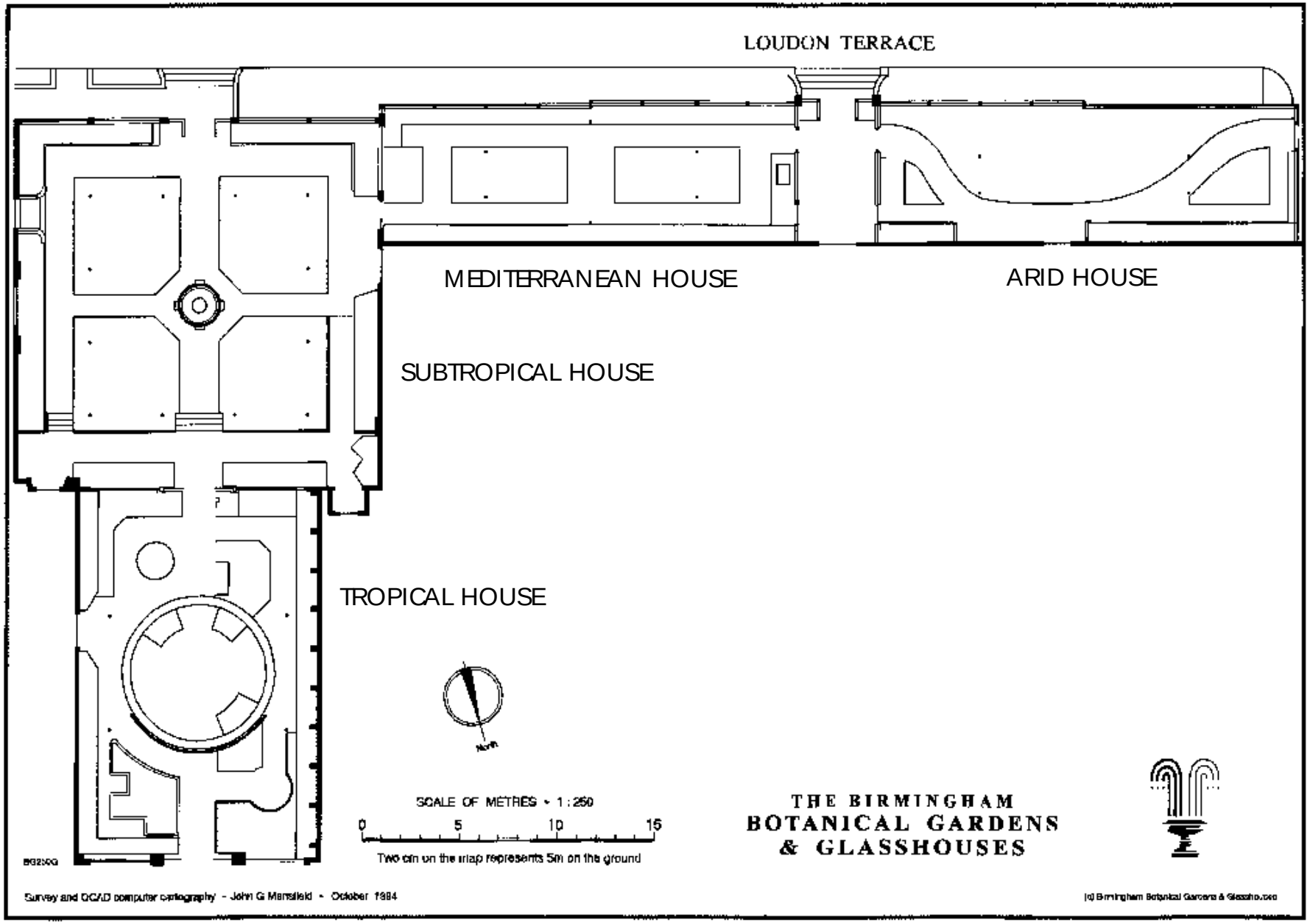
it smells

the colours are

the temperature



the plants


LOUDON TERRACE
MEDITERRANEAN HOUSE
ARID HOUSE
SUBTROPICAL HOUSE
TROPICAL HOUSE
North
SCALE OF METRES • 1:250
0 5 10 15
Two cm on the map represents 5m on the ground
THE BIRMINGHAM
BOTANICAL GARDENS
& GLASSHOUSES
Survey and OCAD computer cartography - John G Mansfield • October 1994
(c) Birmingham Botanical Gardens & Glasshouses

Your name: _____

Ring the words which could be used to describe the place you are in.

<u>The climate is:</u>

tropical sub tropical Mediterranean desert

<u>I think that it is:</u>

hot cold sticky crowded empty

green colourful dry wet

damp comfortable uncomfortable

noisy quiet beautiful ugly

friendly unfriendly bright dark

interesting boring

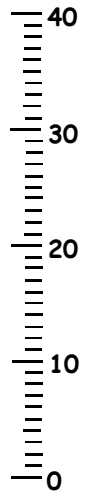
<u>Can you think of any other words?</u>

_____

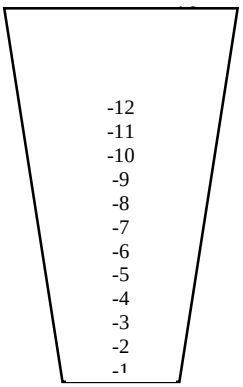
_____

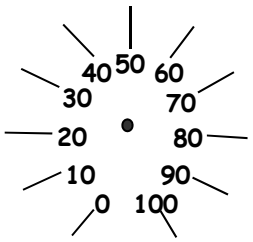
_____

temperature (° C)



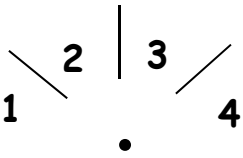
rainfall (mm)



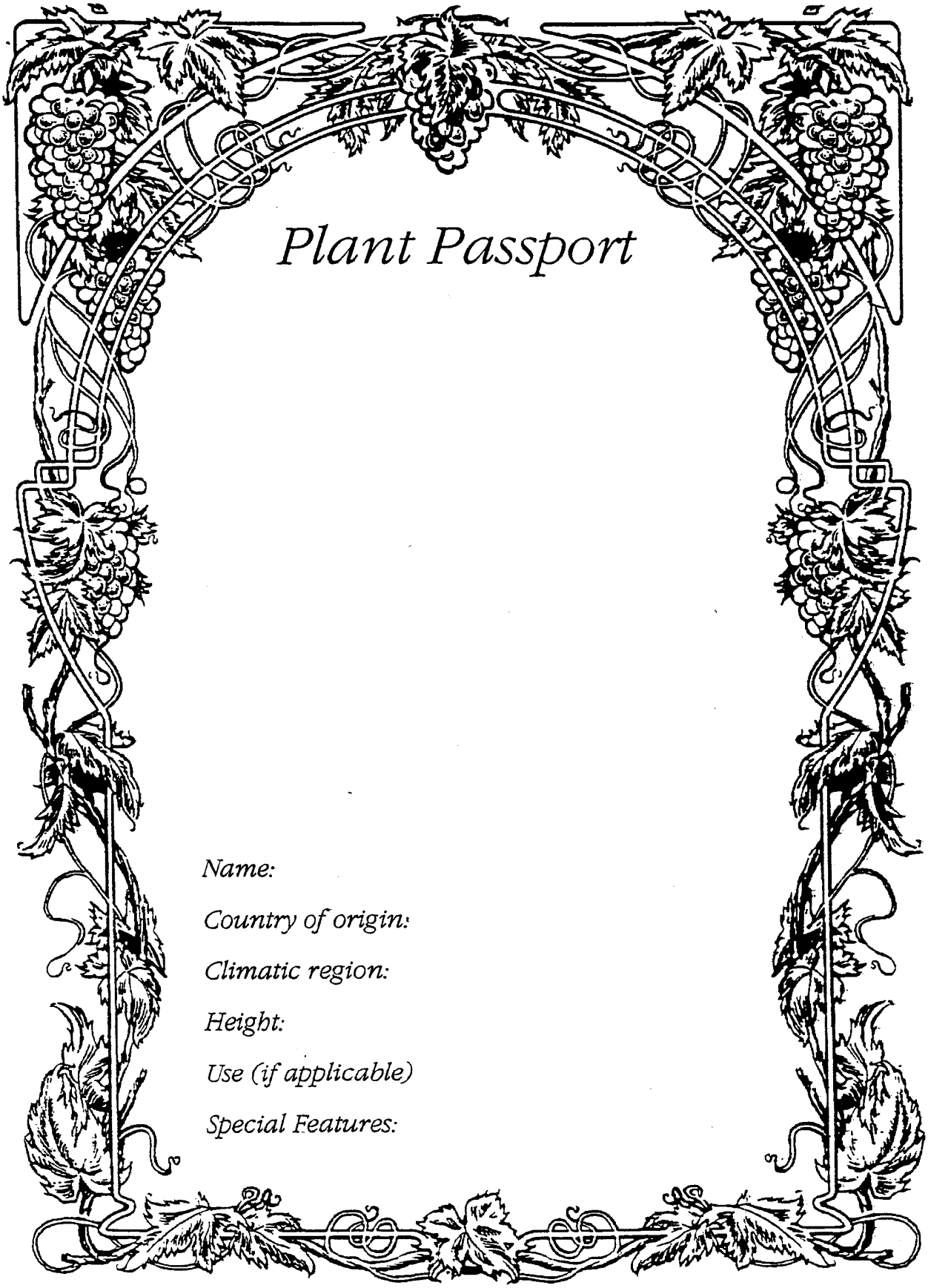


humidity (%)

soil moisture



dry wet-



Plant Passport

Name:

Country of origin:

Climatic region:

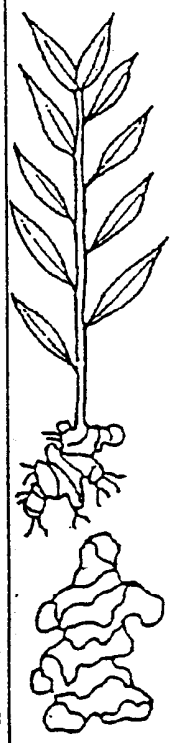
Height:

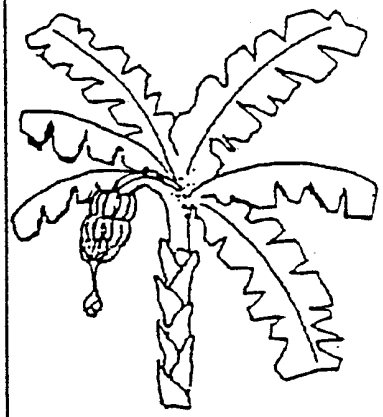
Use (if applicable)

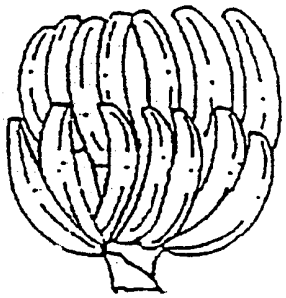
Special Features:

TROPICAL FOOD CROPS

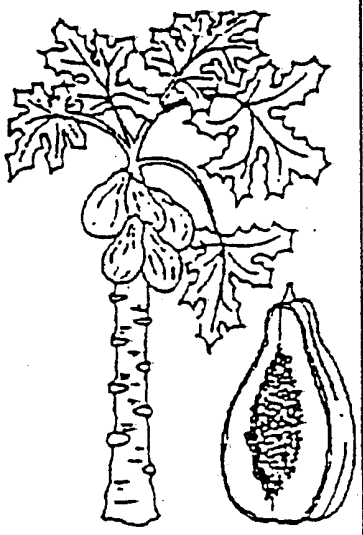
Can you find and label these crops using the names below:

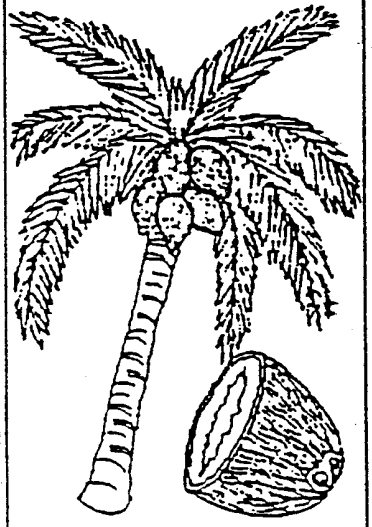


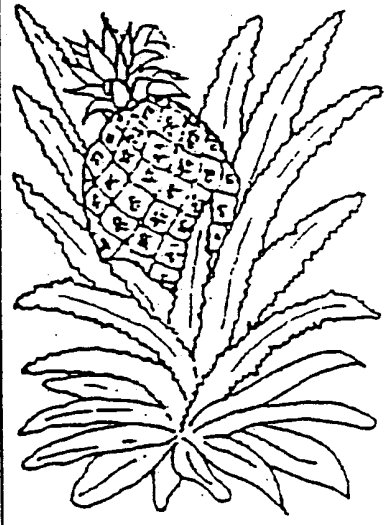




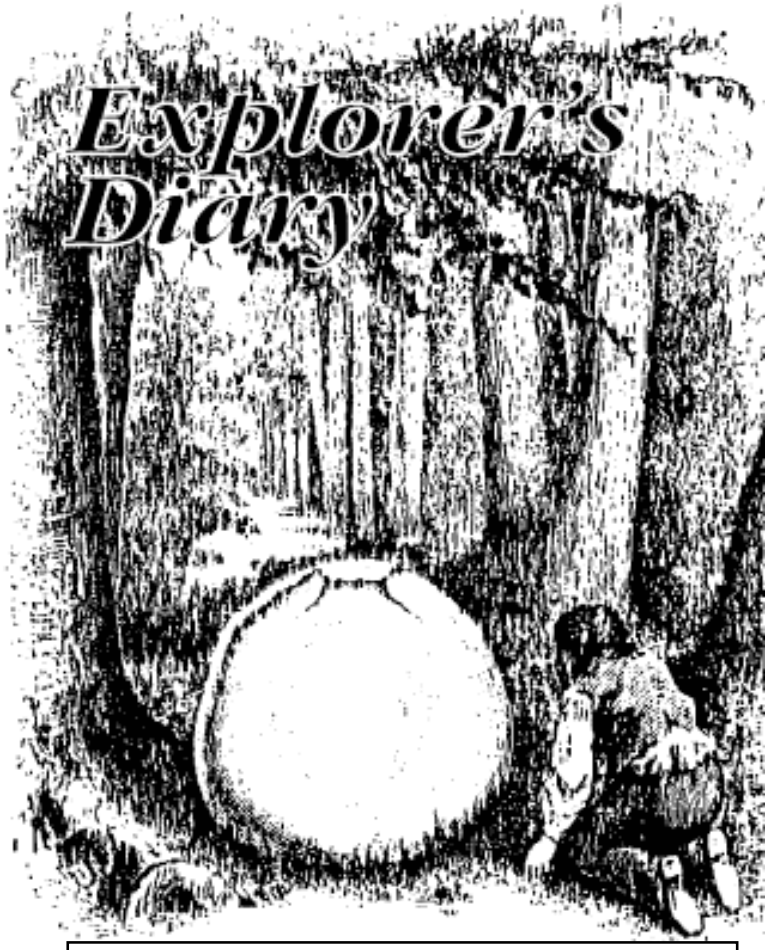
paw paw
banana
sugar cane
coconut
ginger
pineapple
coffee







A Strange Plant:



Written by:

Date: