



ROMEO AND JULIET

YEAR 4

SCIENCE: LIVING THINGS AND THEIR HABITATS

These sequence of lessons will cover the following national curriculum objectives:

- recognise that living things can be grouped in a variety of ways
- explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment
- recognise that environments can change and that this can sometimes pose dangers to living things.

Working scientifically:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

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SCIENCE: LIVING THINGS AND THEIR HABITATS

CONTEXT

A symbol is something that stands for more than itself...

An important symbol in Romeo and Juliet are plants, particularly roses. Herbs also play a big part in the play. Friar Laurence uses them to make medicines and it his knowledge of plants and herbs that give him the idea of creating a sleeping potion to help Juliet.

Below are some quotes from the play that reference plants.

Friar Lawrence

O, mickle is the powerful grace that lies
In herbs, plants, stones, and their true qualities;
For naught so vile that on the earth doth live
But to the earth some special good doth give,
Nor aught so good strain'd from that fair use
Revolts from true birth, stumbling on abuse:
Virtue itself turns vice, being misapplied;
And vice sometimes by action dignified.
ACT 2, SCENE 3

Friar Lawrence

"Within the infant rind of this small flower
Poison hath residence and medicine power:
For this, being smelt, with that part cheers each part;
Being tasted, slays all senses with the heart"
ACT 2, SCENE 3

Juliet

"What's in a name?
That which we call a rose
By any other name would smell as sweet."
ACT 2 SCENE 2

Juliet

This bud of love, by summer's ripening breath,
May prove a beauteous flower when next we meet
ACT 2 SCENE 2

Juliet

The roses in thy cheeks and lips shall fade
ACT 4 SCENE 1

Paris

Sweet flower, with flowers thy bridal bed I strew
ACT 5 SCENE 3

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LESSON 1:

L.I. To learn about the characteristics of a range of plants

1. The Botanical Shakespeare Illustrated Compendium (By Gerit Quealy) matches specific flora to Shakespeare's plays. Here are some plants that link to Romeo and Juliet

PLANTS ASSOCIATED WITH ROMEO AND JULIET

Bitter-sweeting (apple)	Pomegranates	Dates	Rose
Hazel-nut	Rosemary	Pear	Pink Carnation
Sycamore	Willow	Plaintain	Yew-trees

For more information, visit - www.botanicalshakespeare.com/plants-by-character

2. Task: Children to choose (or you can allocate) two-three of the plants to research (from Information sheet 1 and 2).

Children need to learn about their characteristics:

Does the plant have flowers/fruit?

Is it a tree/bush or herb?

What is it's habitat like?

Where do they grow?

3. Children to record their findings, using Worksheet 1 and share their findings to the class/small group.

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SCIENCE: LIVING THINGS AND THEIR HABITATS

LESSON 2

L.I. To recognise that living things can be grouped in a variety of ways

1. Task: Using their research from the previous lesson, children to work with a partner, or in small groups to group the plants.

Children should:

- Give each group of plants a heading
- Write an explanation as to how and why they grouped them in that way
- Re-group them, using a different criteria

2. Key questions to ask children:

Which was a more effective group of plants? Why?

How many different ways could you have grouped them?

LESSON 3

L.I. To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

1. A classification key helps to identify and unknown organism. A classification key is a set of questions that determine somethings physical characteristics. When you answer one question, it either branches off to another question or identifies the organism.
2. Show/give children the Mini beast key (Worksheet 3). Children to talk about what they can see
3. Task: Worksheet 3b: Children to use to write their own Shakesperean Plant Identification Key
4. Children to use their partners keys and check they work!

LESSON 4

L.I. To recognise that environments can change and that this can sometimes pose dangers to living things

In Italy there are 6,711 species of plants. Since the era that Romeo and Juliet was set the climate in Italy has changed significantly. In general the climate has become hotter and dryer.

Talk partners: How might the changes in climate have affected plant life?

Task: In partners, children to research and record the affects of a changing climate or human activity on living things.

Show children three pictures of things that can impact on environments (see Worksheet 4 for example: rising temperatures, deforestation, melting ice.

What impact will this have on the plants and creatures that live in these habitats?

Children to record their findings in a mind map on Worksheet 4.

Children to feedback to class

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LESSON 5

L.I. To show that environments can change and that this can sometimes pose dangers to living things

Task: To conduct an experiment to investigate how the greenhouse effect works. Children can record any aspect of the investigation using your own science investigation sheet or ours

Equipment

- 2 small plastic containers
- 2 thermometers
- White vinegar
- Water
- Baking soda
- Measuring spoons
- Timer
- Glass jars with lids

Method

1. Mix equal parts of water and vinegar together
2. Divide the water and vinegar mixture equally and pour into the 2 plastic containers
3. Place the small plastic containers into the glass jars
4. Place the thermometer next to the container in the each jar
5. Add baking soda to 1 plastic container
6. Immediately, place the lid or cover over the jar with baking soda in
7. Place the lid on the other jar and label it, 'no carbon dioxide'
8. Leave the jars for 1 hour
9. Record the temperature

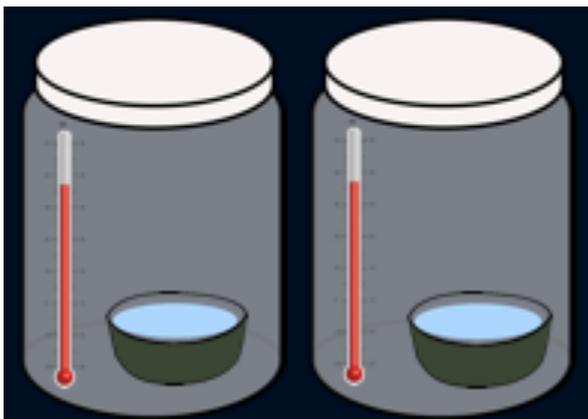


ILLUSTRATION OF EXPERIMENT

You could develop this experiment further by investigating what happens if you place a small plant in each jar, next to the container.



angelica



apple



date



hazelnut



medlar



mandrake



pear



pink carnation



plantain



pomegranate



quince



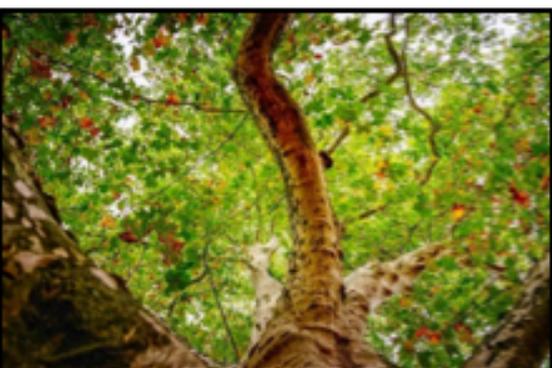
rose



rosemary



rushes



sycamore



willow

WORKSHEET 1

L.I. To learn about the characteristics of a range of plants

NAME OF PLANT:

CHARACTERISTICS:

NAME OF PLANT:

CHARACTERISTICS:



WORKSHEET 2

L.I. To recognise that living things can be grouped in a variety of ways

NAMES OF PLANTS GROUPED TOGETHER:

EXPLANATION

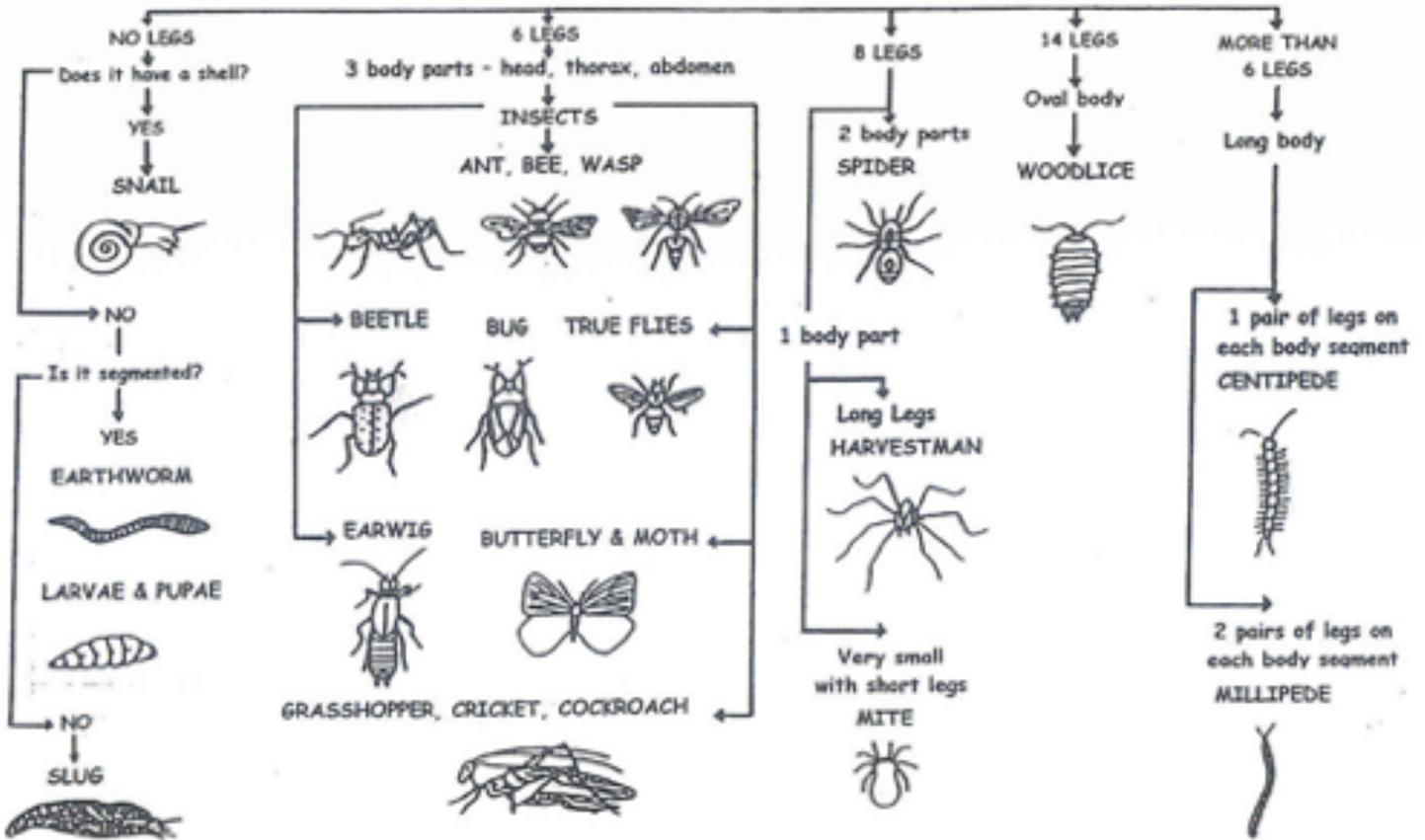
NAMES OF PLANTS GROUPED TOGETHER:

EXPLANATION

WORKSHEET 3: To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment

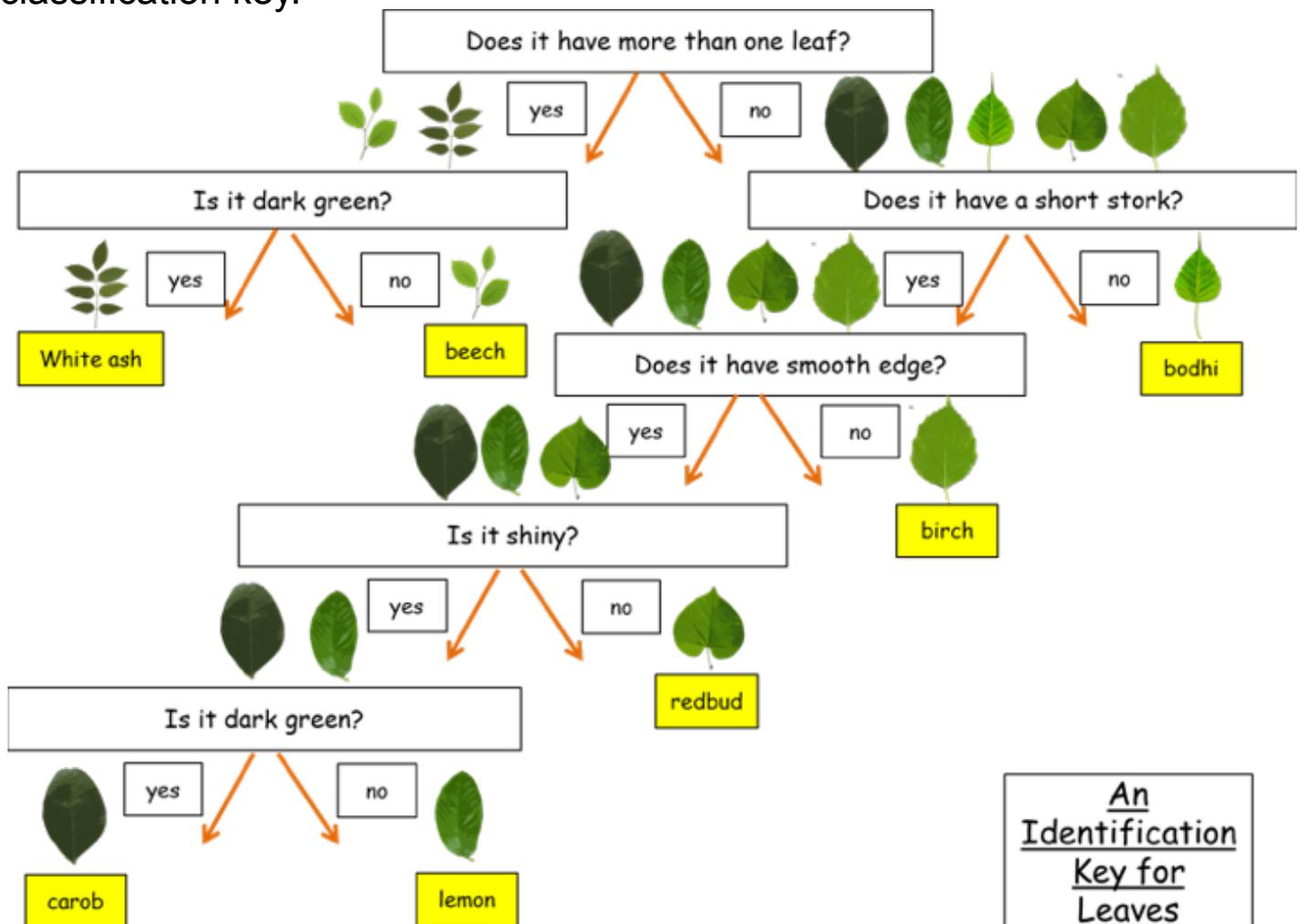
MINIBEAST KEY

How many legs does your MINIBEAST have?



MINI BEAST CLASSIFICATION KEY

EXAMPLE OF A LEAF CLASSIFICATION KEY: Below is an example of a leaf classification key.



An
Identification
Key for
Leaves

TASK: Create a classification key for one of the plants you researched in the previous lessons.

HOW TO WRITE A CLASSIFICATION KEY:

Step 1: Choose your first question. Then sort the plants into 'yes' or 'no'

Step 2: If there is more than one plant in 'yes' write a new question and sort. Do the same if there is more than one plant in 'no'

Step 3: If there is more than one plant in 'yes' write a new question and sort. Do the same if there is more than one plant in 'no'.

Step 4: Continue the process until all plants are in a group of their own and then you will have a Shakesperean Plant Identification Key!

WORKSHEET 4

L.I. To recognise that environments can change and that this can sometimes pose dangers to living things



THE TEMPERATURE IN ITALY HAS RISEN OVER THE LAST 500 YEARS AND THERE ARE LESS RAINY DAYS



DEFORESTATION



CLIMATE CHANGE MELTING ICE

SCIENCE INVESTIGATION SHEET 1

AIM: What do we want to find out? We want to find...

HYPOTHESIS: Using what you know in science, what do you think will happen?

EQUIPMENT: What equipment will we use? We will use...

VARIABLES: What could we change? We could change... We are only going to change...

SCIENCE INVESTIGATION SHEET 2

METHODOLOGY What will we do? Firstly we...Then we...

MEASURE How are we going to record our results? Results will be recorded using...
because...

FAIR TEST What will we keep the same? We will keep...

SCIENCE INVESTIGATION SHEET 3

RESULTS What has happened?

EVALUATION AND RECOMMENDATION

What happened and Why do you think this happened

What would you change or keep the same and why? If I did the experiment again, I would