

Name: _____



KS3 Homework Booklet Term 6

Year 8

Homework 1	Revision for End of Year Test
Homework 2	Tree Identification Booklet
Homework 3	Bumblebee Booklet
Homework 4	Estimating plant abundance

Homework 1 – Revision for End of Year Exams

You will have 2 assessments for science, one based on working scientifically and the other based on the content from your lessons.

Paper 1: All the content from this year and some from last year could be covered but it might help you revision if you focus on:

Biology – organ systems, food chains, photosynthesis, heart and respiration, effect of drugs

Chemistry - metal reactions and properties, decomposition and energy change in reactions, acids, bases and indicators as well as particle models and describing atoms, elements, compounds, molecules and mixtures

Physics - electricity, forces, sound, states of matter and elasticity

Paper 2: Working scientifically is based on using data, naming equipment, drawing graphs, writing conclusions and the skills you have been using in science all year.

You can use KS3 revision book or BBC Bitesize, Seneca or you tube to find excellent revision resources - make sure you put in KS3 content otherwise you will get information aimed at GCSE and higher.

[KS3 Science - BBC Bitesize](#)

[Free Homework & Revision for A Level, GCSE, KS3 & KS2 \(senecalearning.com\)](#)

Homework 2 – Tree Identification Booklet

Tree Identification

Climate change, wildlife loss and pollution are very real threats and are already affecting the UK. Trees are part of the solution – a wildlife super habitat and climate superhero that can help us to save nature, people and our planet. Urban trees and woodland are areas of green cover in towns and cities. They range from street trees to trees in gardens, hedgerows and woods. They have a huge impact on local wildlife, mental and physical health, and pollution levels, while making the places we live in more beautiful.

Your homework is to investigate four different tree species.

- Find some trees, either in your garden or street or park or school. Make a note of the tree shape, estimated height and the colour/texture of bark
- Collect a sample leaf from each different tree species and draw and label the leaf shape.
- Try and identify the name of the species of tree (there are apps that can help you)

[How to Identify Trees: A Simple Guide - Woodland Trust](#)

Once you have identified the species find out some key facts about your tree species (you can use this link: [A-Z Guide - British Trees - Woodland Trust](#))

- Where are they found?
- What is their value to nature?
- What is their mythology and symbolism?
- What can the tree be used for?
- What are the threats and conservation measures?

Homework 3 –Bumblebee Booklet

There are over 250 species of bee in the UK: 25 species of bumble bee, 224 species of solitary bee and 1 honey bee species. There has been an overall decline in wild and honey bees over the past 50 years.

Bumblebees are large, furry, and charismatic four-winged insects that belong to an order called the *Hymenoptera*, which also includes sawflies, ants, and wasps. They are well-known for their meandering, 'bumbling' flight, and their distinctive buzz – which is where their Latin name *Bombus* (meaning 'booming') originates.

Produce a Bubble-Bee Booklet. This can be hand written/drawn or produced using a computer on powepoint, word or publisher

You should include:

- The anatomy of the bumblebee
- The lifecycle of a bumblebee
- Which species of bumblebee are the most common in UK?
- What has caused the population of bumblebees to decline?
- What is the impact of bumblebee declines?
- How can we help the bumblebees? (You can state one or many things for this section e.g. describe how to build a bumblebee nest or what flowers could be planted in your garden/window box or even how even how we could become a bumblebee friendly school.

Optional Practicals:

Make a bumblebee nest [make-a-bumblebee-nest.pdf \(rspb.org.uk\)](https://www.rspb.org.uk/education/primary/activities/make-a-bumblebee-nest.pdf)

Challenge Work

<https://www.youtube.com/watch?v=eC2YonTLZtA>

Explain how bumblebees use static electricity.

Homework 4-

Estimating plant abundance

A quadrat is a tool used in ecology to divide a certain area into sections so that plants within the area can be identified and counted. In theory any shape of frame can be used, but for many measurements you need to know the area of the quadrat so a square quadrat is the most popular.

Make a 1 m² quadrat by measuring 4 m of string. Cut the string. Tie knots at 1 m intervals. The knots and string ends form the quadrat corners. Alternatively, use any objects that can form four straight 1 m sides

Or you could you a smaller quadrat e.g. 0.5 m by 0.5m, this will give you a 0.25m² area quadrat.

Survey

You will need to select an area you want to investigate, this could be your garden or a park. Now select a species you want to estimate e.g. daisy, clover, dandelion

Draw a suitable table to record your results

1. Place a quadrat randomly in the field.
2. Count the number of organisms in the quadrat and record.
3. Repeat steps 1 & 2 until you reach 10 quadrats.
4. The 'total area sampled' will be area of one quadrat x 10
5. Now use this equation:

Do you think that the population number would be higher of lower if you sampled in a) August and b) October. Give a reason for your answer.