

06/10/20

The living world of plants



*You can either play a video of me saying the morning verse (labelled **Greeting and Morning Verse**), or you can say it by yourself.*

Good morning everyone,

Let us now light a candle and cross our hands over our hearts and say the Morning Verse.

Morning verse

**I look into the world
In which the sun is shining
In which the stars are sparkling
In which the stones repose**

**Where living plants are growing
Where sentient beasts are living
Where human souls on earth
Give dwelling to the spirit.**

**I look into the soul,
That lives within my being
The World Creator weaves
In sunlight and in soul light,
In world space there without
In soul depths here within.**

Before we start today, I would like you to go outside and find your chosen plant. This time I would like you to carefully observe the leaves – look at the shape, colour and its veins.

After your nature observation I would like you to practice a long jump as well Greek wrestling, you will need a partner for both activities. In the long jump, your partner will mark where you land, and in wrestling, your partner will be your opponent. You can spend about 10 - 15 minutes on both practices.

When you go outside, and before you start, I would like you to say the following verse. Practice saying it with grace and confidence in your voice.

*The most important thing in the Olympic Games
is not to win, but to take part, just as the most
important thing in life is not the triumph, but the struggle.
The essential thing is not to have conquered,
but to have fought well.*

Once you are finished with a long jump and wrestling, you can return to your desk and repeat the following tongue twister.

*Higglety, pigglety, pop!
The dog has eaten the mop;
The cat's in a flurry,
The pig's in a hurry,
Higglety, pigglety, pop!*

Read the tongue twister a few times and then try to say it from memory. Once you are confident say it fast 3 times.

Now, you can open your spelling book and in your most beautiful running writing and by using your fountain pen (or a grey led) copy the spelling list twice. Do not forget to include the date and make sure all the letters are in lower case. Also try to look, cover, copy and then check your spelling.

Week 1 Spelling list

blossoms
disperse
produce
reproduce
minerals
dissolved

leaf **filament**
leaves **germinate**

Now I would like you to locate all your spelling words in the word search below.

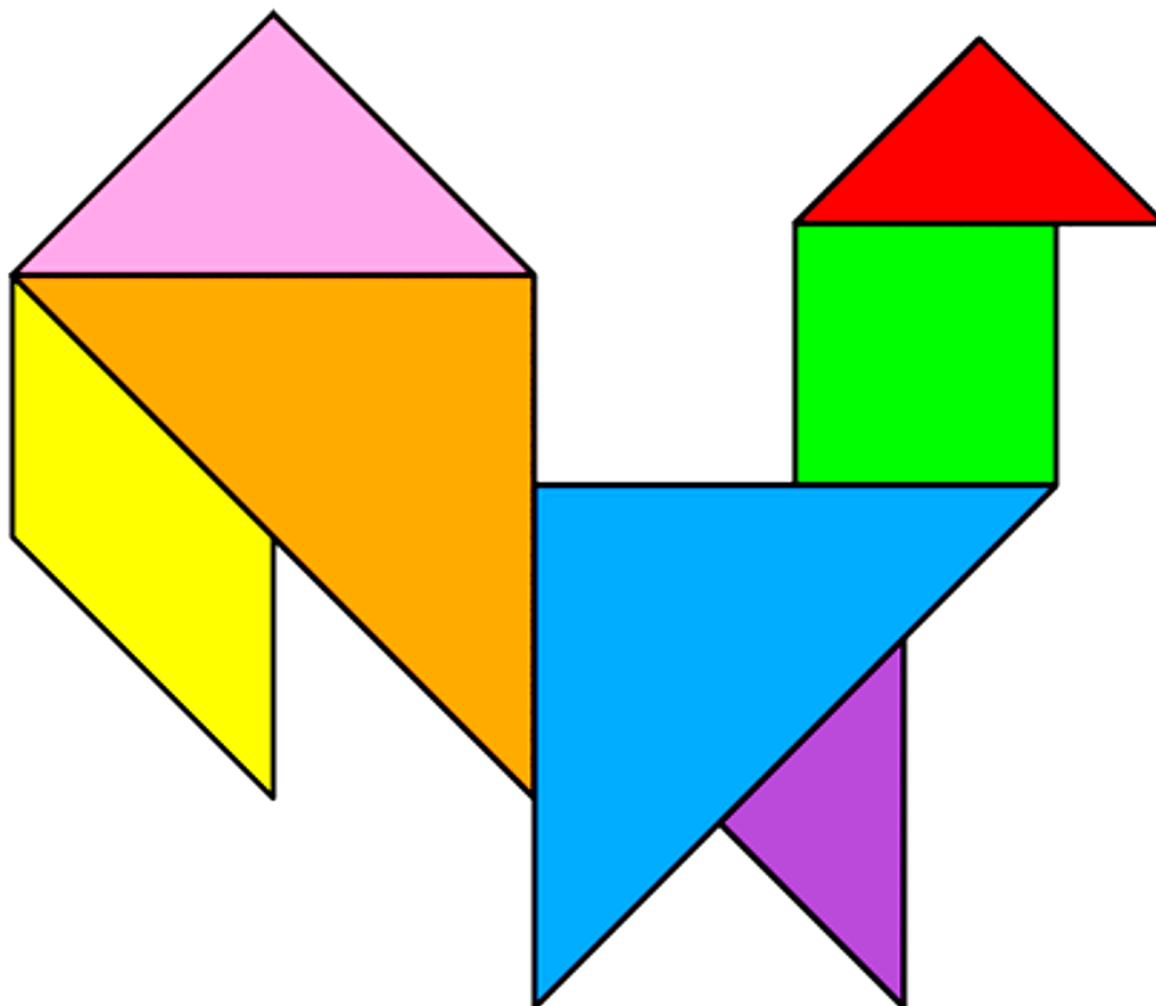
Q	A	B	K	G	D	A	D	S	R	Z	E	S	B	K
S	S	D	J	E	E	I	M	E	V	U	C	X	L	T
B	E	P	L	X	S	R	C	D	R	I	U	X	O	J
N	M	Q	T	P	S	U	M	E	D	X	D	T	S	Y
N	U	X	E	T	D	Y	G	I	V	M	O	L	S	E
W	B	R	U	O	N	E	W	E	N	J	R	Y	O	L
G	S	Z	R	V	X	E	T	J	J	A	P	J	M	L
E	E	P	N	J	F	W	M	S	J	V	T	E	S	S
O	E	X	E	O	K	Q	O	A	E	Q	V	E	E	I
R	S	L	A	R	E	N	I	M	L	W	Q	V	D	Z
L	E	A	F	L	N	N	Z	M	S	I	A	I	J	V
H	A	K	Y	U	O	H	B	C	N	E	F	N	Y	A
L	D	M	M	X	J	A	L	P	L	P	L	Y	C	M
Y	G	D	I	S	S	O	L	V	E	D	B	H	T	L
T	O	G	G	R	B	H	Y	P	U	T	P	R	P	L

DISSOLVED
LEAF
PRODUCE

BLOSSOMS
FILAMENT
LEAVES
REPRODUCE

DISPERSE
GERMINATE
MINERALS

The solution for yesterday's Tangram puzzle:



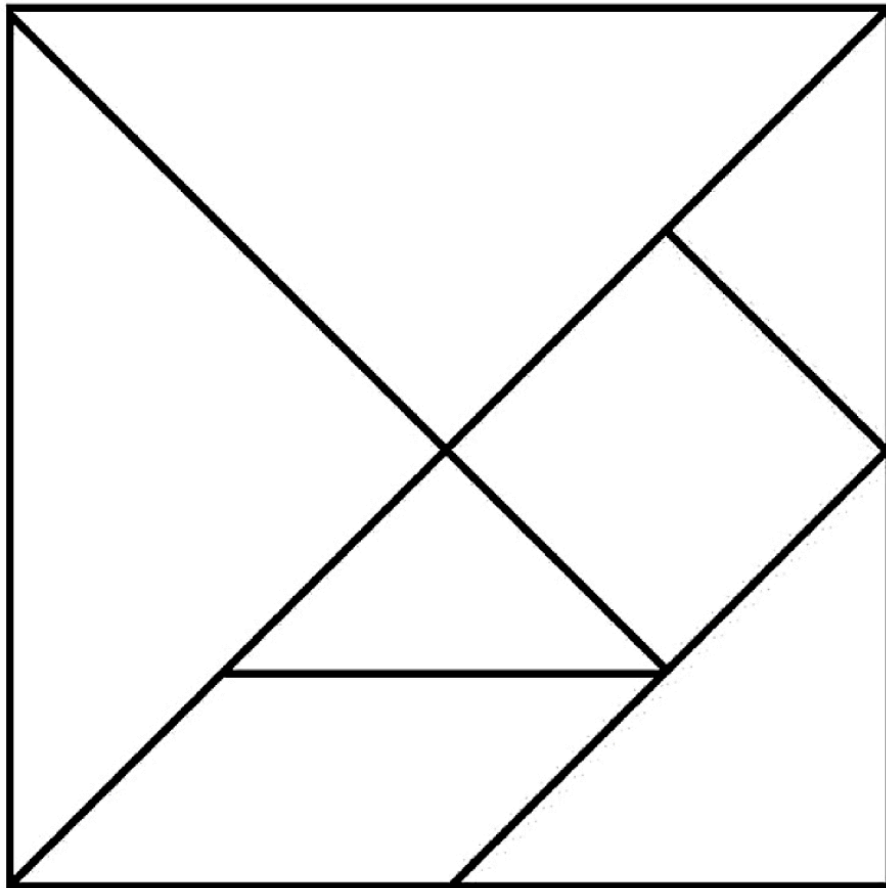
Tangram puzzle

How to use the Tangram puzzle

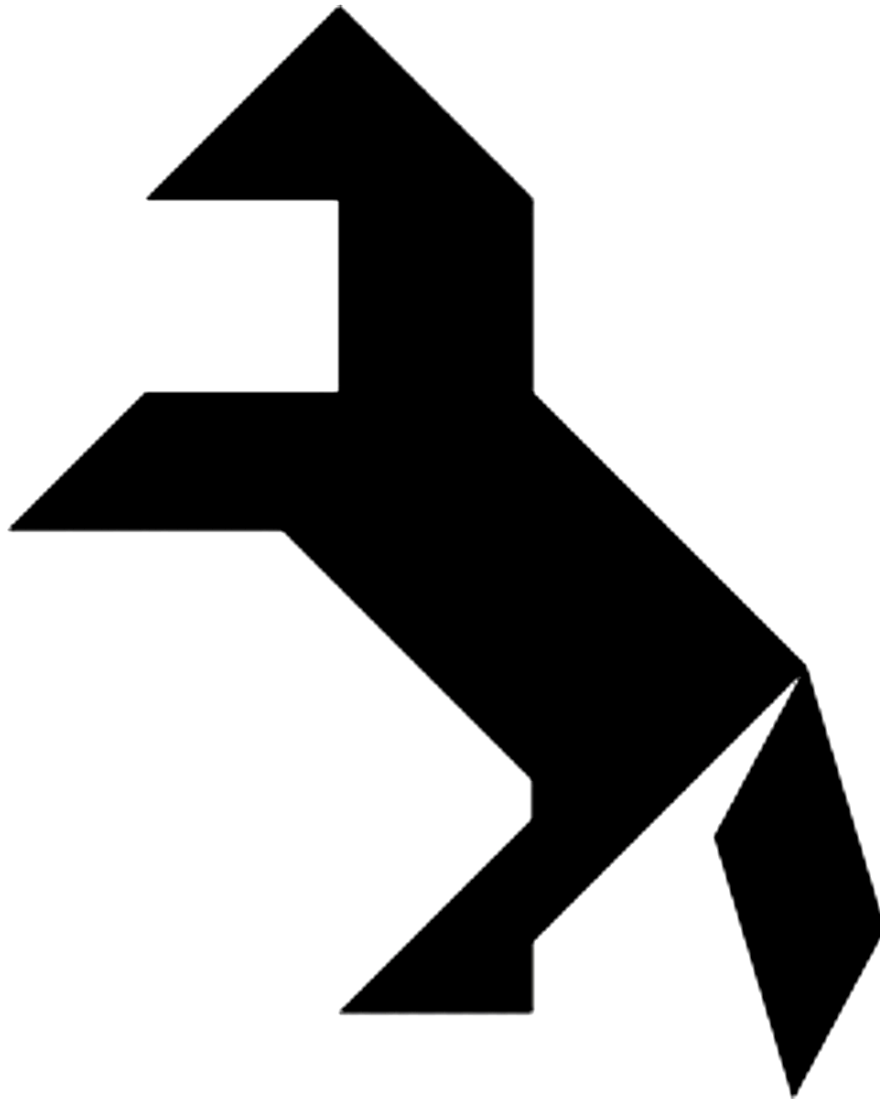
Firstly, cut out all the 7 shapes along the lines.

When using the tangram to create pictures:

1. The pieces must all be connected.
2. They must be flat.
3. No pieces may overlap.
4. The pieces may also be rotated and/or flipped to form the shape.
5. All seven pieces must be used.
6. Each completed **puzzle** must contain all seven pieces



The picture you will need to create today, will be a horse. Make sure you follow all the rules listed above.



Once finished, you can open your purple maths practice book. Below you will find a maths warm-up sheet which includes exercises of variable difficulty. The ones at the top are the easiest while the bottom ones are the most challenging. You do not have to solve them all, but make sure you challenge yourself.

Quick maths

- 1 ... + ... + ... = 66 (provide 2 options)
 - 2 How many 22's are there in 66?
 - 3 ... x ... = 150
 - 4 I doubled the number, added 9 and got 21. What was the number?
 - 5 Tom cycled to his friend's house. He left home at 8.30 am, cycled for 45 minutes, spent 1.5 hours at his friend's and cycled back. What time was he back home?
 - 6 36 apples were divided equally between 9 children. How many apples did each child get?
-
- 7 What is one fifteenth of 75?
 - 8 Half of 178 =
 - 9 $12.73 \text{ m} - 3.66 \text{ m} - 0.57 \text{ m} =$ (You can use a decimal place value chart to help you along)
 - 10 $746 - \dots = 284$
 - 11 ... + 75 + ... = 216
 - 12 ... x 16 x ... = 480
 - 13 What is two sixths of 180?
 - 14 Tom was planning to concrete his driveway which was 2.5 m wide and 12 metres long. Each square meter needed 40 kg of concrete. How much concrete did Tom need to order? (Please note that 1000 kg is 1 ton)
 - 15 $\frac{1}{6}$ of 240 =
 - 16 I tripled the number, took away 18 and got 81. What was the number?
 - 17 35 times 4 times 2 take away 10 then divide by 3. What is the answer?
 - 18 $7764 - 3217 + 92 - 362 =$
-
- 19 $\frac{8}{32} - \frac{1}{8} =$ (simplify, then convert to decimals and subtract them)
 - 20 Michael wanted to drain his swimming pool so he could fix some cracks. The swimming pool contained 54 000 litres of water. How long would it take him if Tom could drain 300 litres in 1 minute?
 - 21 Subtract the following decimals $17.35 - 7.042 =$ (you can use the decimal place value chart to help you along)
 - 22 Convert $\frac{9}{3}$ to a mixed number fraction and simplify if possible.
 - 23 Can 12.6 m of rope be divided equally between 6 people?

- 24 Jenny wanted to paint 2 bedroom walls which were 2.1 m by 4.8 m and 2.1 m by 5 m. Her tin of paint had enough paint to cover 20 square meters of surface. Will Jenny be able to paint her bedroom wall with one tin of paint?

Now you can have a 5-minute break.

I would like you to spend the next 5 minutes retelling to one of your parents what you heard yesterday. Use the summary below to help you along.

- *Flowers that follow the sun*
- *Flowers that stand upright and the ones that need to hold on to something else.*
- *Lower flowering plants with simple leaves*
- *Higher flowering plants with complicated leaves*
- *Two types of veins*
- *Main differences between the lower and higher flowering plants (shapes of flowers, leaves, roots)*

*As you have heard yesterday, there are two main types of leaves in the plant kingdom. If you look carefully at any leaf, you will notice they all have veins. These veins are like highways delivering supplies – water and nutrients from the roots. They also provide support for the leaves (just like a skeleton in animals and humans). The arrangement of veins in a leaf is called **Venation**.*

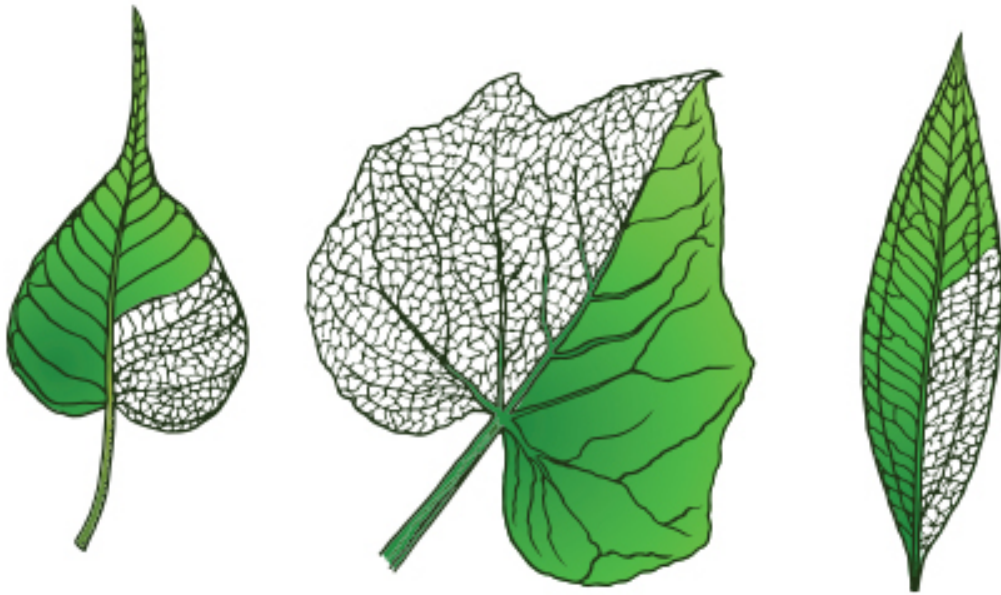
There are two main types of venation in plants:

Parallel and Reticulate

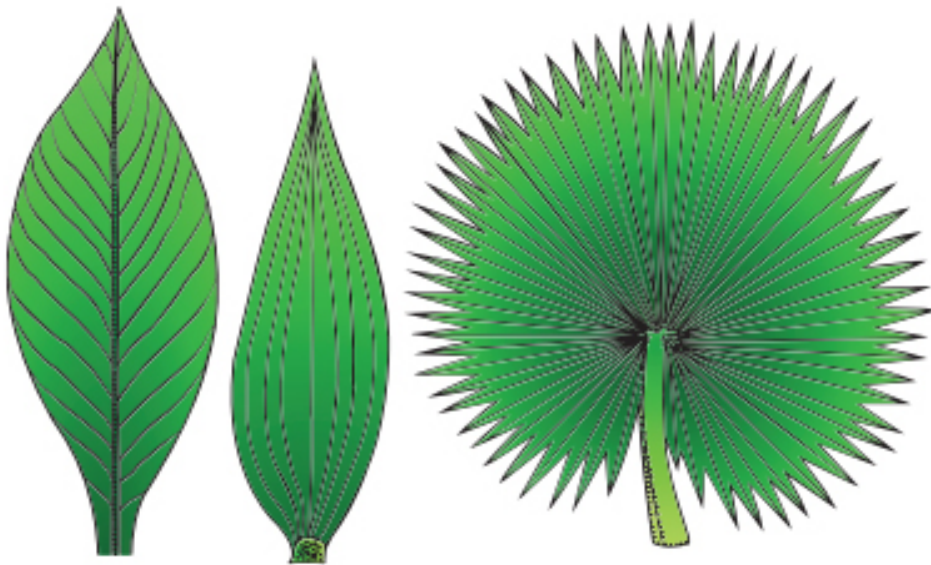
Parallel venation – all the veins are parallel to each other.

Reticulate venation – the pattern of the veins resembles a net.

Below you can see various examples of both types of venation.

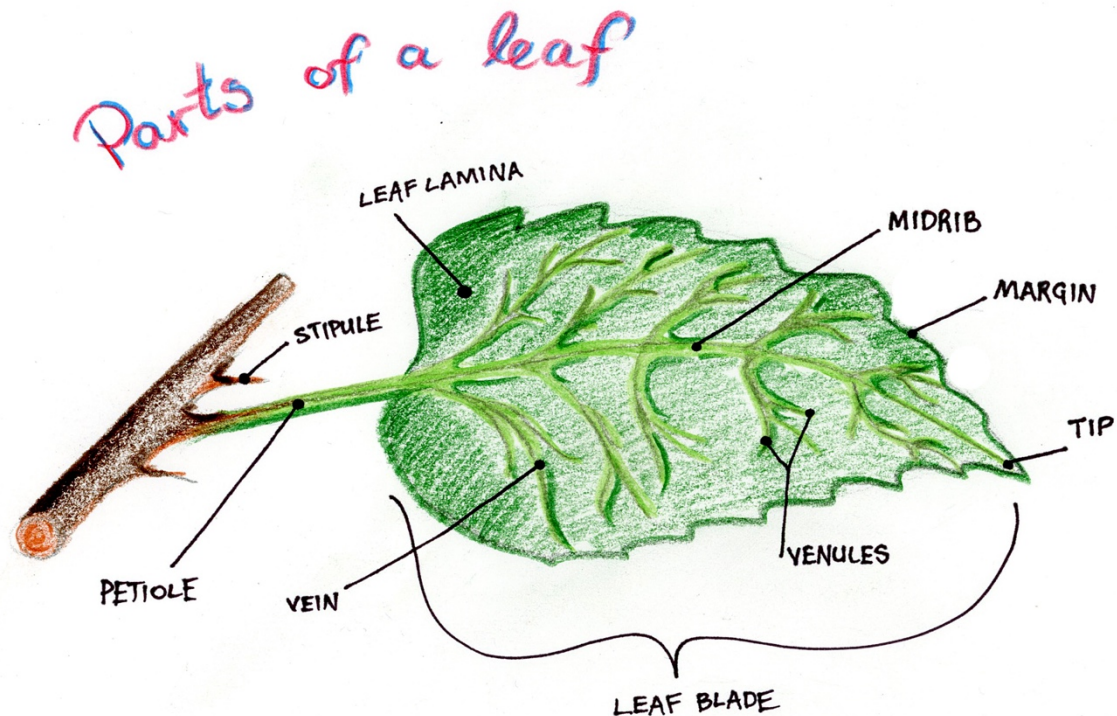


Types of reticulate venation



Types of parallel venation

Every leaf can be broken down into separate parts.



Your first task will be to draw both of the above drawings and label all the parts.

Firstly, I would like you to write the following in your Main lesson book:

There are two types of leaves - with parallel veins and with reticulate (net-like) veins

After that, you can draw the first diagram in your book. Make sure you label both types of leaves.

Once finished, you can move on to drawing the leaf and its parts. Be as detailed as you can, include the heading and all the labels.

For your second task, I would like you to go outside and pick no less than **eight different** leaves and bring them back to your desk. I would like you to study them carefully (use a magnifying glass if you have one).

After studying all the leaves, write *Leaves from my garden* at the top or in the middle of the following page and do a detailed drawing of each of those leaves. Make sure your drawings are not too small – they all need to fit evenly onto one page. Once finished, I would like you to label them accordingly – decide whether they have **parallel** or **reticular venation**.

Your final task will be to add a sentence or two to the description of your plant that you have chosen earlier to observe. This time, describe its leaves. You can include parts of leaves from the diagram above in your description.

Example:

My plant has leaves that are heart-shaped with veins and venules covering its surface like a net and the margin has forward pointing teeth. Leaf lamina is dark green.

Once finished, you can pack everything away and play the recording named **The Blossom**, otherwise, read the story attached below.

The blossom

The plants that are like children before they go to school — mosses, ferns, algae — are all plants without blossoms. And the plants that have flowers — tulips, violets, daffodils, roses — they are all like school-children. In the beauty of the blossoms, in the scent, it is like seeing what it means to learn, to make the inner light work in you. Just as it is not always easy to learn, to remember, to think, so it is not so easy for plants to bear blossoms. In fact, the flowering plants must prepare themselves before they can bear blossoms. A flowering plant — a rose, or a wild plant, the buttercup, for example — grows and grows for quite some time, while there are still only green leaves visible.

With the buttercup the leaves change even as the plant grows. The first leaves, that are near the ground, near the earth, are large, but later on the leaves that develop higher up, are smaller and finer. But they are still just green leaves.

Then a wonderful thing happens: the buttercup stops growing taller, it grows special little green leaves that are quite different from the green leaves that came before, and these little green leaves stand close together and stick together, so that they form a little green shell. If you take a knife and open that little shell just as it has formed, you would find nothing in it. But if you wait a little while, a few more days, then this little shell opens up to reveal a lovely yellow blossom! And the little shell is now like a cup, which holds up the petals. These little green leaves which make a shell at first, and then a cup, are together called the calyx

which means cup. And the little leaves themselves are called sepals.

The sepals, that together form the calyx, are at first like hands in prayer, and then they are like hands holding a precious gift, and that is the flower.

The coloured leaves of the flower are called petals. But the gift that the calyx has received is not only these lovely, coloured petals it has also received something else. In the very middle, in the centre of the petals, standing straight up, there is something that looks like the sceptre of a king, or queen — it is called the pistil.

In olden times a king not only held this golden rod, the sceptre, in his right hand, but in his left hand he held a golden ball, an orb. When a king sat on his throne at the coronation, he held the sceptre in one hand, and the orb in the other — a rod and a ball.

If you look a bit closer at the sceptre that stands in the middle of the flower, you will see that, further down, it widens out and looks like an orb. In the plant it is one thing, the upper part is like a scepter, the lower part is like an orb. But, in botany they are not called sceptre and orb. The upper, rod-like, sceptre part is called the pistil and the little ball, the lower part, which is like an orb, is called the ovary.

This is not all that the calyx holds up, however. It holds up the petals, the pistil and ovary (which are really one), but it also holds up something else. Around the proud royal sceptre and orb — around the pistil and ovary — in a circle, like a crown, there stand fine stalks known as stamens. The stamens have little golden heads and these golden heads are made up of a fine golden dust, called pollen.

You recall that at the beginning of this book, you learned that the plants are children of sun and earth, and in every part of a flowering plant there is something that is given by the earth, and something that is given by the sun. You can easily see that the green pistil and the round ovary (itself like

a little earth) are the gift of the earth. And the stamens, standing in a circle, with the golden pollen, are the gift of the sun.

What a wonderful gift the calyx hold up: the petals, the pistil and ovary, and the stamens with their golden pollen.

Now I would like you to cross your hands over your heart and say this verse to end the Main Lesson:

*Kind hearts are gardens
Kind thoughts are roots
Kind words are blossoms
Kind deeds are fruits.
Blessings on our meal.*

Now you may blow out the candle.

Enjoy your morning tea.