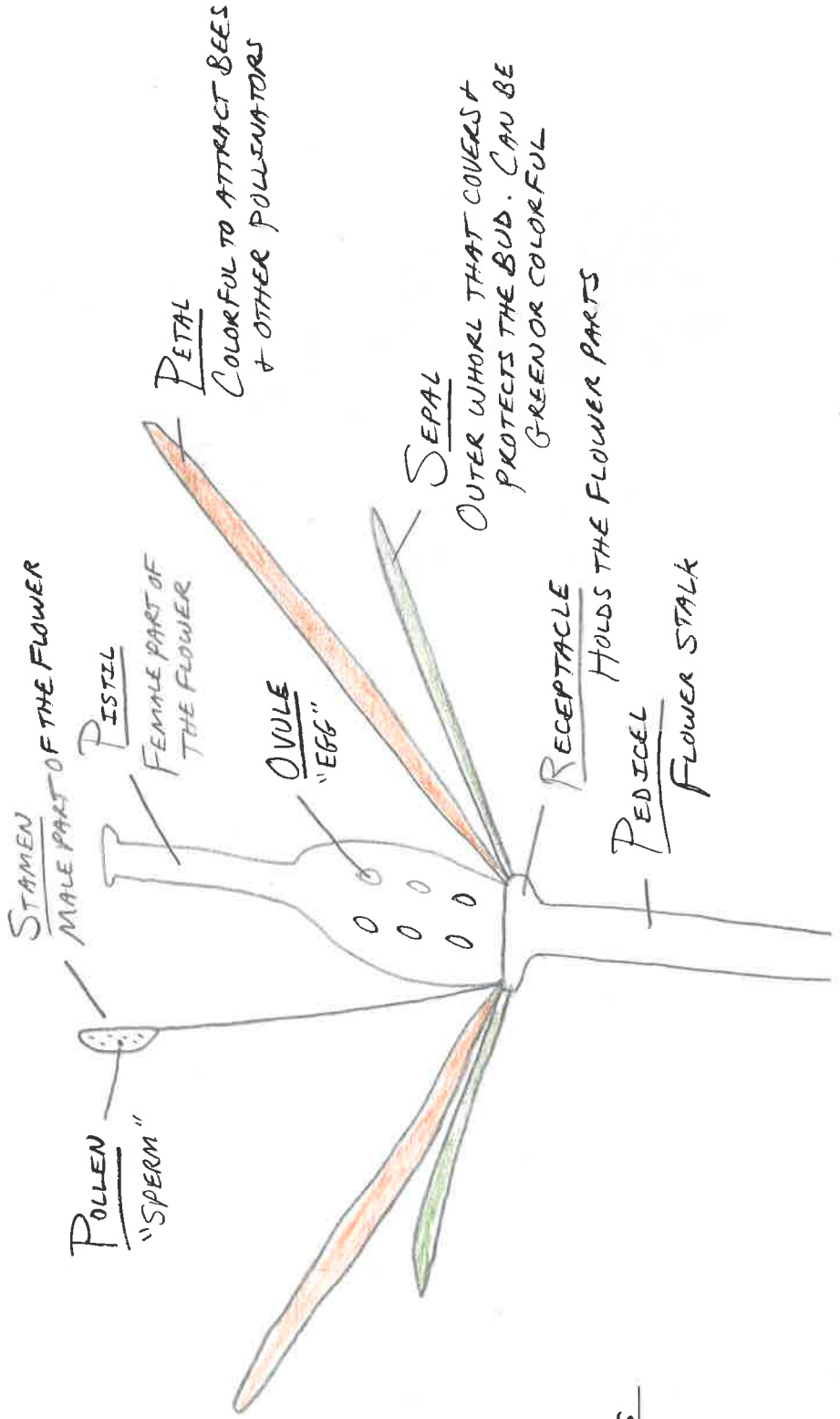




APPLE FLOWER

FLOWER STRUCTURE

Flowers are the reproductive ORGANS in angiosperms for SEXUAL reproduction.
 Similar to human reproduction in which EGG and SPERM fuse, sexual reproduction
 in flowers requires the fusion of POLLEN (male sex cell) and OVULE (female sex cell).
 The resulting offspring is an EMBRYO located inside a SEED contained within a FRUIT.

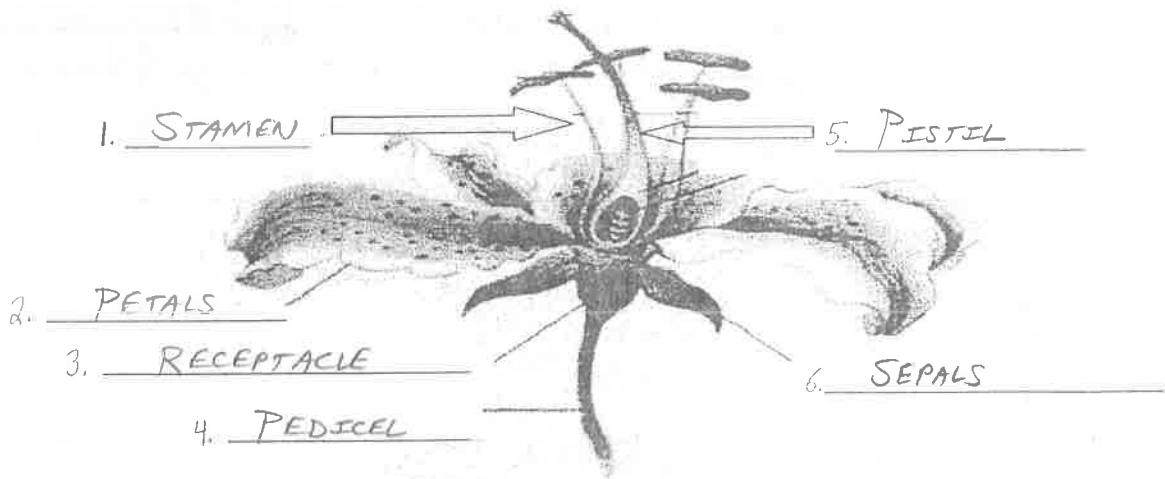


CALYX = All the SEPALS

COROLLA = All the PETALS

ACTIVITY: Flower Practice

Label the following parts on the plant diagram - pedicel, receptacle, sepals, petals, stamen, pistil.



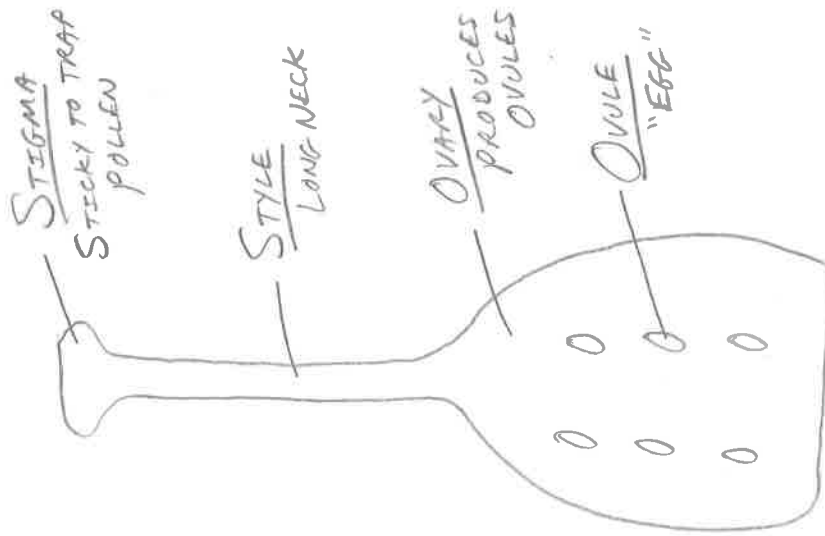
Complete the following passage using the word bank.

sepals	corolla	pedicel	petal
receptacle	small	stamen	calyx
pistil	pollen	green	

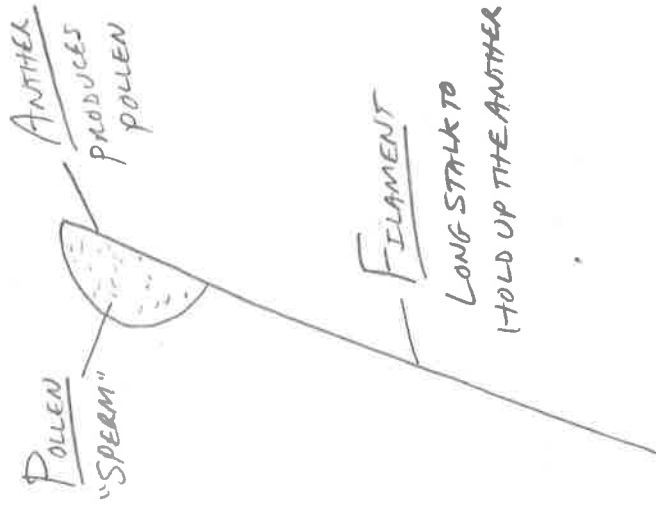
The flower begins with the stalk, which is called the PEDICEL. At the end of the flower stalk, there is cup like structure known as the RECEPTACLE, which holds the rest of the flower parts. Until the flower bud opens, the bud is covered and protected by the SEPALS. The sepals are often SMALL and GREEN but the size and color can vary. In some flowers, sepals and petals can look exactly alike. Collectively the sepals are known as the CALYX. The next flower part, the PETAL, is showier. These tend to be larger and more colorful. These colors are used to attract birds and insects. Collectively the petals are known as the COROLLA. In the center of the plant, the female reproductive structure, the PISTIL, contains the egg cells. Lastly, the male reproductive structure, the STAMEN, surrounds the pistil. The male reproductive structure contains the male sex cells, the POLLEN.

FLOWER STRUCTURE (Part 2)

PISTIL



STAMEN



PERFECT FLOWERS

Contain Both pistil and stamen on the same Flower.



STAMEN

PISTIL

IMPERFECT FLOWERS

Contain EITHER pistil or stamen but NOT both.

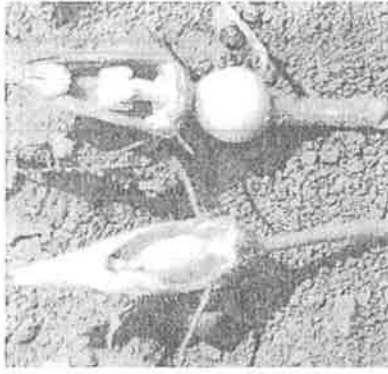
Ex. PUMPKINS



MALE flower



FEMALE flower

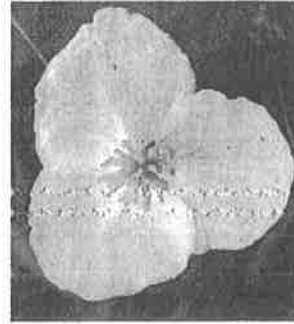


MALE

FEMALE

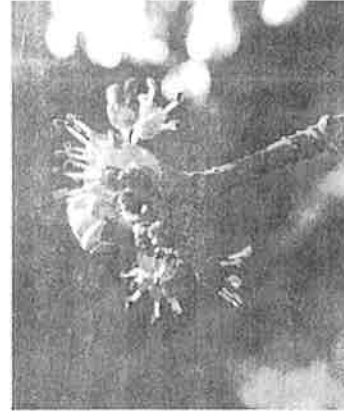
STAMINATE FLOWERS

Male flowers containing only STAMEN



Arrowhead

Red maple



PISTILLATE FLOWERS

Female flowers containing only PISTILS



Arrowhead

Red maple

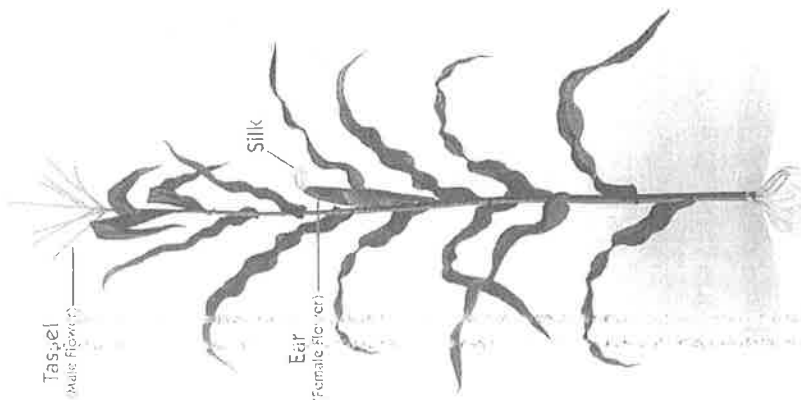


~ ONE ~ HOUSE

MONOECIOUS PLANT

- Has male & female flowers on the SAME plant.

Ex. Pumpkin, CORN, OAK



CORN PLANT



Bur Oak Flowers



Bur Oak Fruit (Acorn)

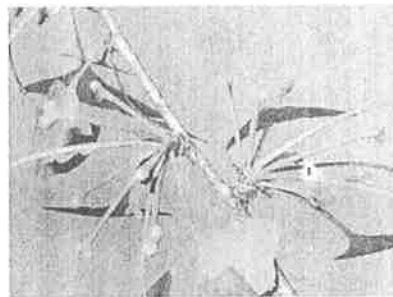
~ TWO ~ HOUSES

DIOECIOUS PLANT

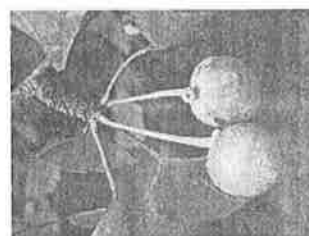
- Has male & female flowers

on SEPARATE plants.

Ex. Red maple, GINKGO



Ginkgo male



Ginkgo fruit



Ginkgo female

ANNUALS

Flowering plants that complete their lifecycle in ONE growing season.

The plant grows, BLOOMS, sets

SEED, and DIES in one year.

The seeds can be HARVESTED and planted the following spring.



ZINNIA



PANSIES



GERANIUM

PLANT LIFECYCLES

PERENNIALS

Flowering plants that live MORE than two growing seasons. Perennials can survive WINTER in a DORMANT state and grow NEW flowers next season.

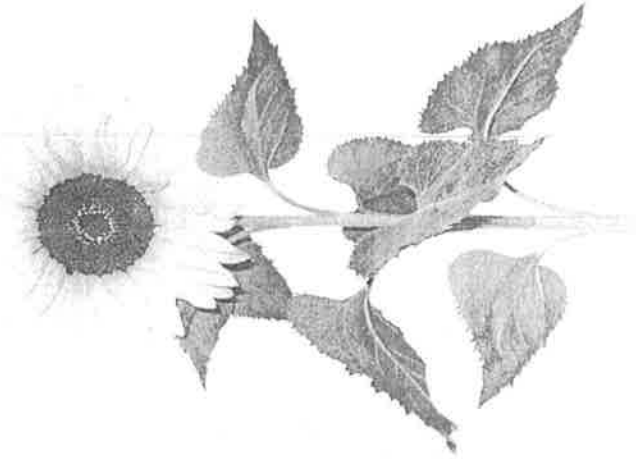


DAISIES



CONE FLOWERS

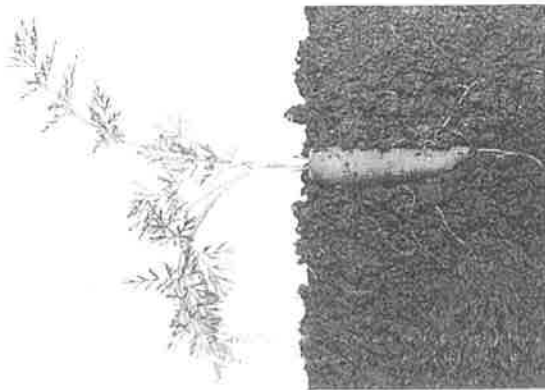
Annual sunflower



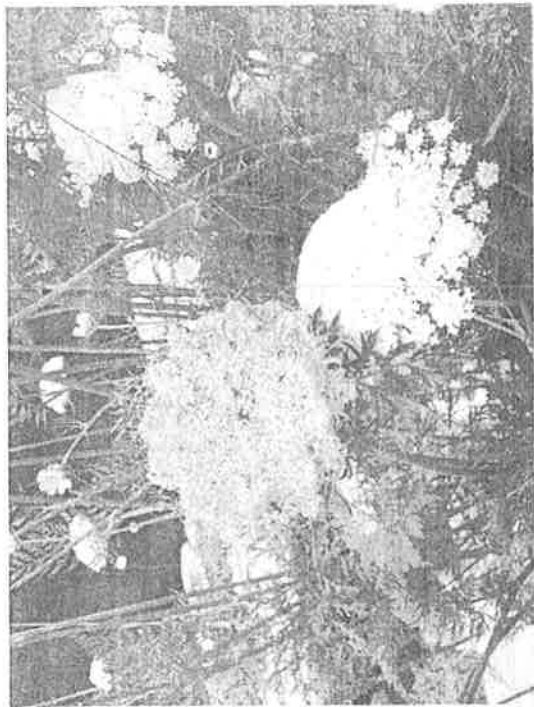
BIENNIALS

These plants live Two years. In the FIRST year, vegetative structures grow such as LEAVES and STEMS. During winter, these structures DIE BACK to the ground, and the roots stay DORMANT. In the SECOND growing season, the plant grows FLOWERS, sets seed, and then dies. These seeds can be HARVESTED.

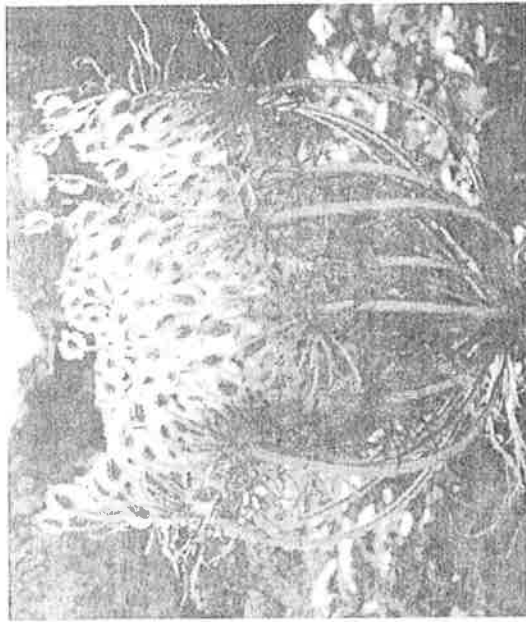
Many TAPROOT vegetables like CARROTS are biennials and the roots are harvested after the FIRST year.



End of FIRST year growth
yields TAPROOT



SECOND year of growth: plant uses up
food in taproot to produce FLOWERS



Flowers are FERTILIZED
and plant goes to SEED



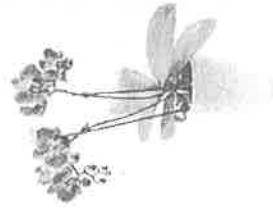
SELF-POLLINATION

A flower pollinates ITSELF or another flower on the SAME plant.

ADVANTAGES: 1. Saves POLLEN
2. Increases pollination RATE



Ex. Sunflower



Orchid

POLLINATION

Pollination is the TRANSFER of pollen from ANTHER to STIGMA.
Pollen is carried by WIND, INSECTS, BEES, and BATS.



CROSS

CROSS-POLLINATION

A flower pollinates a flower on a DIFFERENT plant of the same species

ADVANTAGES: 1. Diversity
2. Hybrid VIGOR

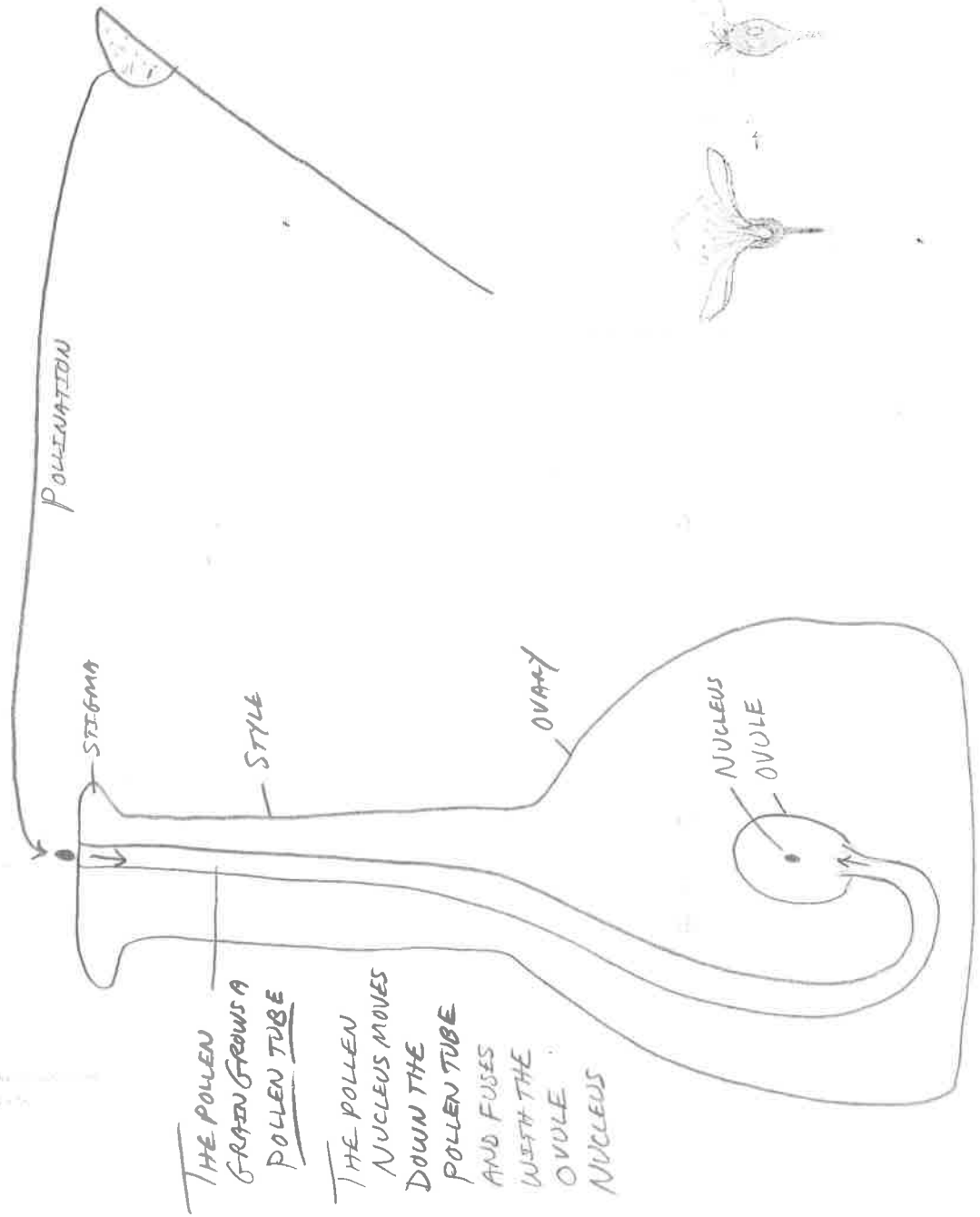


Ex. Apple tree



Blueberries

FERTILIZATION - The FUSION of POLLEN and OVULE



THE POLLEN
GRAIN GROWS A
POLLEN TUBE

THE POLLEN
NUCLEUS MOVES
DOWN THE
POLLEN TUBE
AND FUSES
WITH THE
OVULE
NUCLEUS

AFTER FERTILIZATION:

The ovule becomes a SEED

The ovary becomes a FRUIT



FRUITS

Fruits are the product of SEXUAL reproduction in flowering plants and are designed to help DISPERSE the seeds. Some fruits are EDIBLE, some are WIND dispersed, and others CLING to animals with their burrs.

2 MAJOR TYPES OF FRUIT: (1) FLESHY FRUITS

A. SIMPLE FRUITS

Develop from a flower with ONE pistil

Ex. CHERRY blossom



ONE pistil



B. AGGREGATE FRUITS

Develop from a flower with MANY pistils

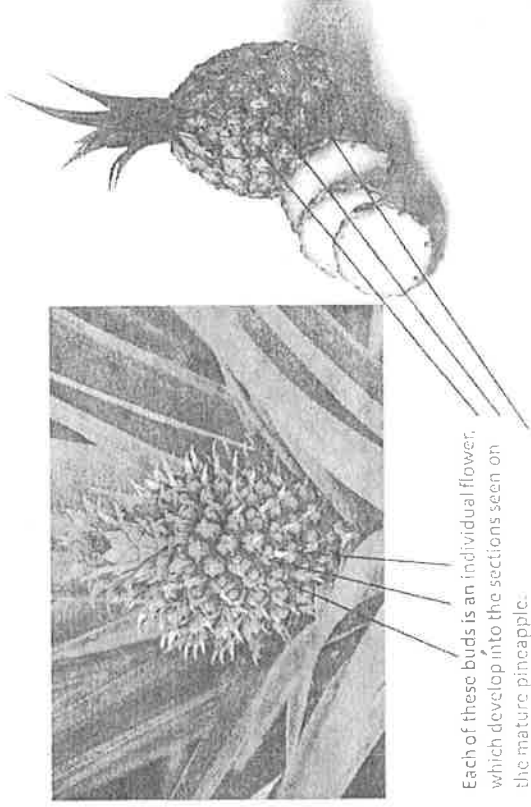
Ex. RASPBERRY flower



MANY pistils

C. MULTIPLE FRUITS - Develop from many SEPARATE flowers (an inflorescence) on the same stalk. The OVARY walls thicken and fuse together to form the fruit

Ex. PINEAPPLE



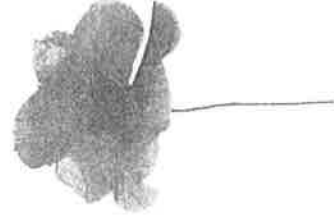
(2) DRY FRUITS

Some dry fruits SPLIT open when ripe to release their seeds and some do NOT split open



A. SPLIT

MILKWEED



POPPIES

B. DON'T SPLIT



ACORN

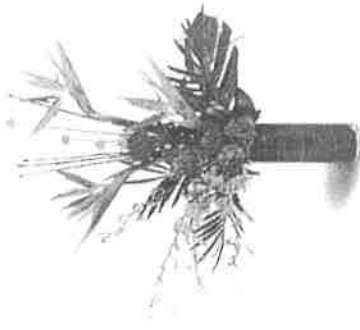


MAPLE KEYS

Image from wikipedia.com, shared under the Creative Commons Attribution-Share Alike 3.0 Unported License (http://commons.wikimedia.org/wiki/File:Pineapple_flower_in_Thailand.jpg)

What is Floral Design?

Floral design is the ORGANIZATION of PLANT materials, accessories, and CONTAINERS into an appealing ARRANGEMENT.



MATERIALS USED IN FLORAL DESIGN:

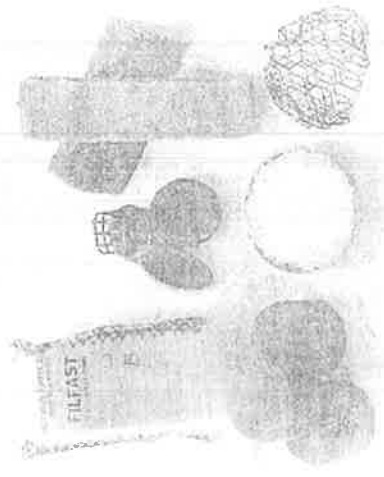
1. CUTTING TOOLS



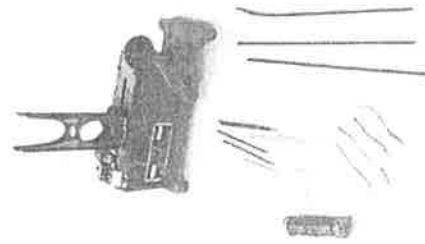
3. ADHESIVES



4. STEM SUPPORT



2. WIRING



CONTAINERS

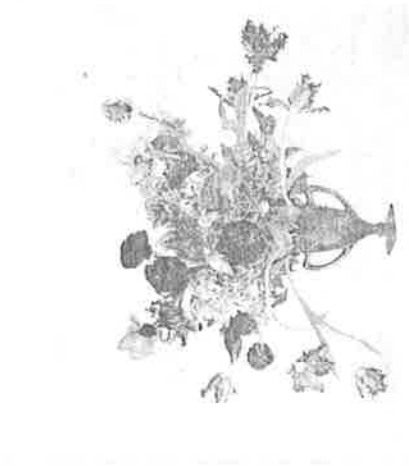
The requirements for a container are:

- Contribute to the THEME of the arrangement
- Hold the stem SUPPORT material
- Hold WATER
- Not distract from the ARRANGEMENT

Type	Description	Typical shape
Vases	The height of the container is greater than its width. It is not pedestal but is used for vertical designs.	
Boyles	The width of the container is greater than the height. It is often used for table arrangements.	
Pedestals	The container is elevated on a base that may be short- or long-stemmed. It is useful when a tall arrangement is needed yet the mass of a vase container is not desired.	
Baskets	The styles and materials vary, and they are used for both vertical and horizontal designs. The designs are usually informal in style.	
Novelty	These are limitless in possibilities. Care should be taken to assure that they do not overpower the design.	



NOVELTY
"Western Wedding"



PEDESTAL
"Georgia on My Mind"

CARE OF CUT FLOWERS

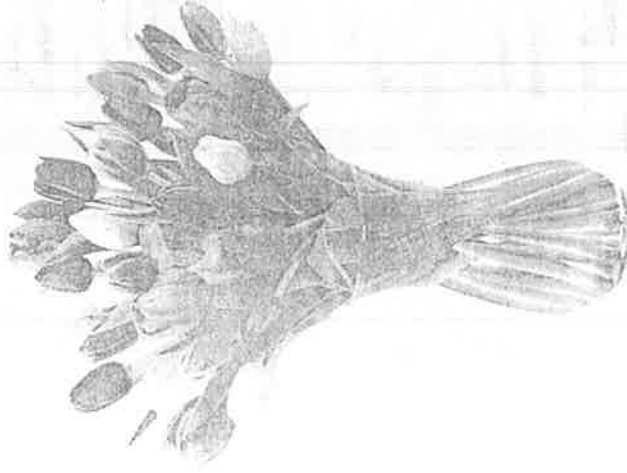
When cut flowers ARRIVE at the floral shop they should:

1. Have the BASE of the stems CUT to expose fresh VASCULAR tissue
2. Be put in warm WATER in a bucket about 1/3 full until the flowers are TURGID (not wilted). After a few HOURS the flowers should then be moved to the COOLER and kept at 36 to 40 °F. This cool temperature SLOWS metabolism and prevents DECAY
3. Be given PRESERVATIVE in the water



What's in the preservative packet?

- SUGAR - For quick ENERGY for the flowers
- ACIDIFIER - To lower the pH of the water
- BLEACH - To KILL any bacteria
- STEM UNPLUGGERS - To keep the vascular tissue OPEN



Principles of Form – Arrangement Flowers

There are 4 basic types of ARRANGEMENT flowers used in floral design:

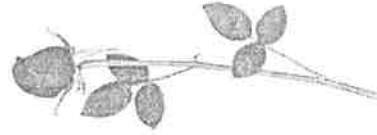
Type	Typical shape	Flower examples	Nonflower examples
Line • Thin • Vertical • Tapered • Used to create the basic shape of the arrangement • Most effective at outer edges of the arrangement		Gladioli, lilies, alstroemeria, larkspur, delphinium, snapdragons, flowers with long, thin stems and large, pointed petals, such as lily of the valley, and roses with long, thin stems.	Cactus, scotch broom, corn, spoked candle, eucalyptus,
Mass • Rounded • Used at the center of the arrangement		Open tulip and lily, ranunculus, carnation,	Christmas ornaments (mistletoe balls), pine cones, seed pods, fruit
Form • Uncommon shapes • Unusual silhouettes • Seldom mixed with other form materials		Orchids, iris, tulip, ranunculus,	Figurines, candles, doll, wood, certain fruits
Filler • Used to fill in between line and mass materials • Often has many blossoms or small leaves on a single stem		Baby's breath, spray roses, hydrangea, ranunculus,	Assorted foliage, such as moss, ferns, and leaves

(1) LINE FLOWERS

These are TALL spikes of flowers. They create the outline or basic SHAPE of an arrangement, and establish the HEIGHT.

Ex. SNAPDRAGON

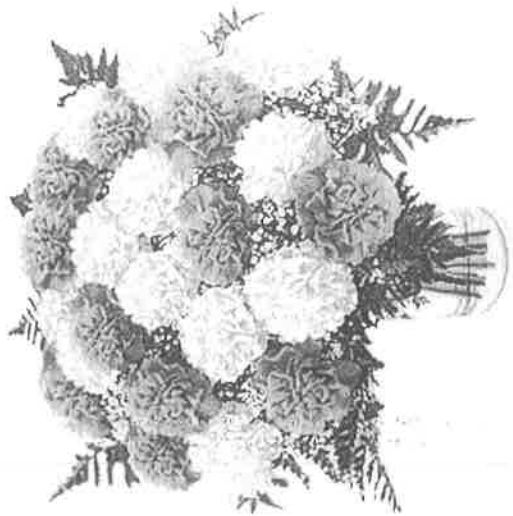
LONG-STEMMED ROSE



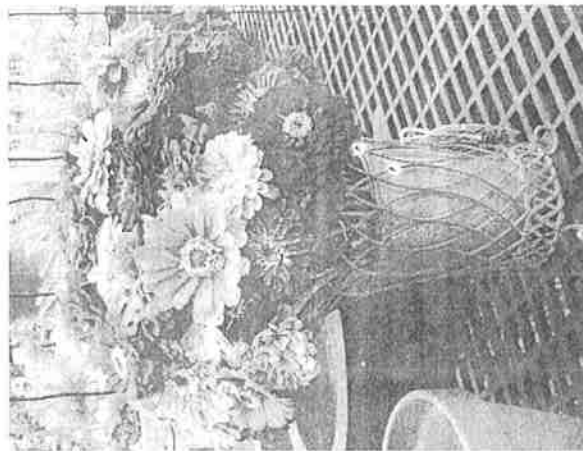
(2) MASS FLOWERS

- The flower head is on the TERMINAL end of the stem. These flowers draw ATTENTION toward the focal point and add MASS to the arrangement. They are also used to COVER floral foam and to fill in EMPTY spaces.

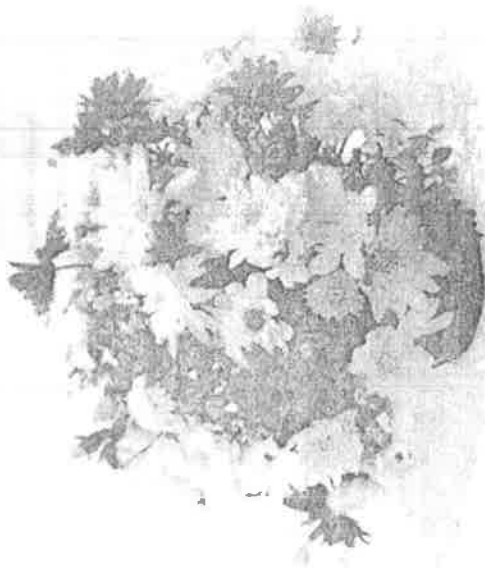
Ex. CARNATIONS



ZINNIA



CHRYSANTHEMUMS (MUMS)



(3) Form FLOWERS - Unique in shape or color. These create the Focal point of the arrangement to Attract the viewers attention

Ex. ORCHID

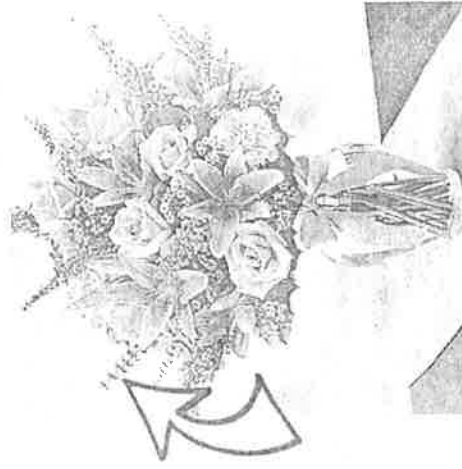
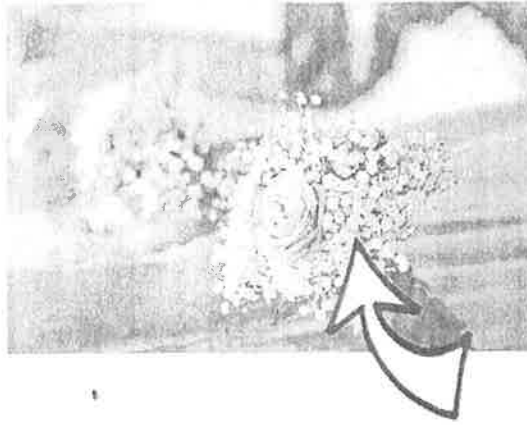
BIRD OF PARADISE



(4) Filler FLOWERS - Small SPRAYS of flowers. These are used to Fill empty spaces, Accent the other flowers, and COVER the mechanics of the arrangement including the foam, WIRES, and ties

Ex. BABIES' BREATH

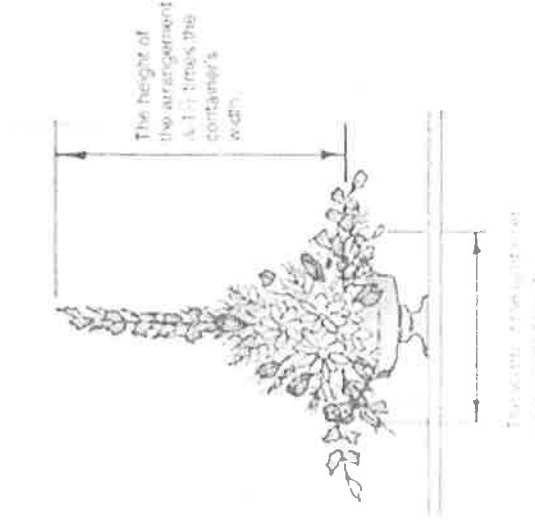
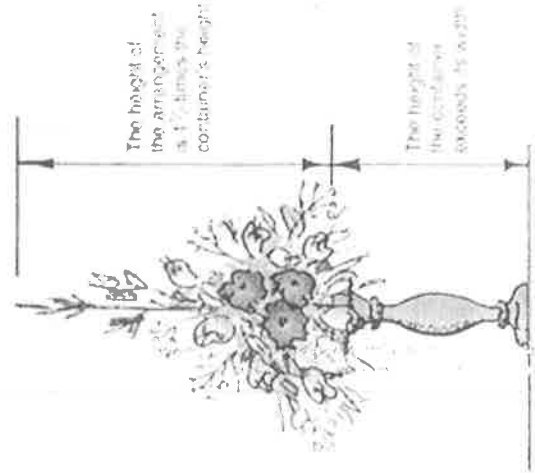
HEATHER



Simplicity

Themes should be UNCOMPLICATED with a focal point. Colors should be LIMITED to a few that CONTRAST or blend harmoniously. Avoid using too MANY types of flowers and be sure the CONTAINER doesn't attract too much attention.

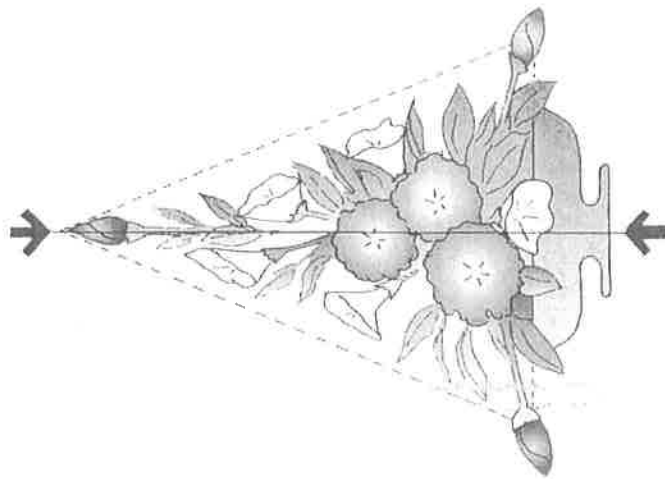
Scale & Proportion



- A. If the container is TALLER than it is wide, the arrangement should be 1.5 to 2.5 the container's HEIGHT. If the container is WIDER than it is tall, the arrangement should be 1.5 to 2.5 taller than the container's WIDTH.
- B. The SMALLEST flowers should be at the EDGE of the design, and the LARGEST flowers at the focal point
- C. Make the SIZE of the arrangement appropriate to the usage. For example, a DINNER table arrangement should not BLOCK the view.

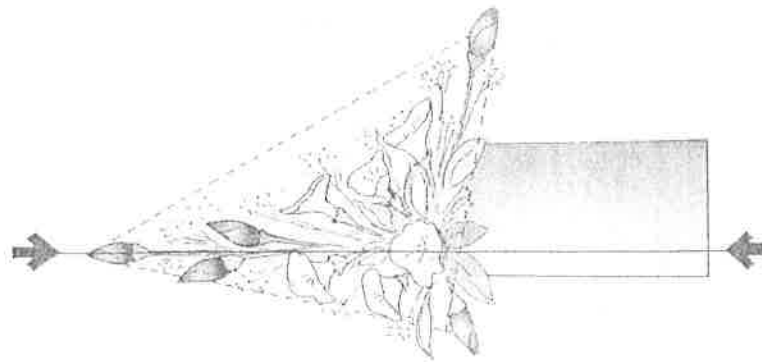
BALANCE

The viewer should sense the SAME amount of IMPORTANCE on each SIDE of the center although the center MAY or may NOT be the midpoint of the container.



SYMMETRICAL

It is bisected by a LINE (axis) running from the vertical TIP through the BASE of the container, with flowers & foliage in almost exactly the SAME places on OPPOSITE sides



NOT ASYMMETRICAL

Also has an axis but it may NOT bisect the container EQUALLY. The sides are NOT a mirror image

PATTERNS OF ARRANGEMENT

LINES OF FLORAL ARRANGEMENT



Right angle



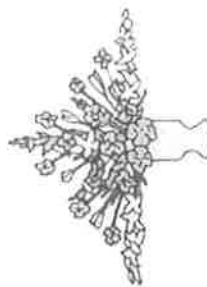
Round



Crescent



Diagonal



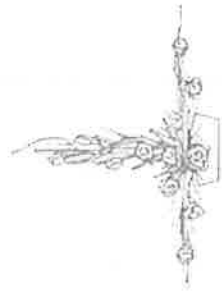
Equilateral triangle



Fan



Oval



Inverted-T



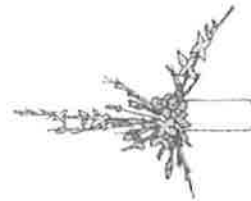
Vertical



Hogarth curve



Horizontal

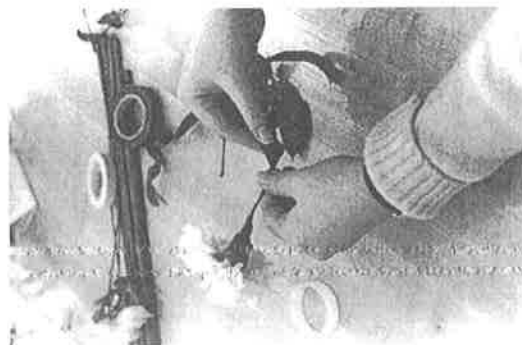


Asymmetrical triangle

What do you think? Which line or pattern APPEALS to your eye? In which SETTINGS might you use some of these different arrangements?

Wiring Flowers

It is COMMON practice to wire certain Flowers and foliage prior to their use in designs. The wire must not SHOW after the flowers are arranged, so it is CONCEALED with foliage and floral TAPE.



FLOWERS ARE WIRED TO:

- Support WEAK stems
- Hold stems in a certain POSITION
- Extend stem LENGTH
- REPLACE bulky stems in corsages

Floral tape is APPLIED after the flower has been WIRED. It is STRETCHED tightly for a secure fit.

Wiring technique	Example of flowers
Wire inserted at hollow stem.	Bulb flowers such as tulips, daffodils, hyacinths, and gladioli.
Wire in the calyx and around the stem.	Roses, carnations, large mums.
Wire looped through the neck of a blossom and around a wad of moistened cotton.	Tubular, fragile flowers such as stephanotis.
Wire through the calyx and the ends bent to form a replacement stem.	Flowers with a thick, strong calyx such as carnations and roses.
Wire through the calyx, formed into a hook, and pulled back to center.	Flowers with weak stems and flattened heads such as daisies, pom poms, mums, and black-eyed susans.

QUESTIONS TO ASK YOUR FLORAL CLIENTS

These questions will help you CREATE the best possible arrangement based on you client's NEEDS and preferences:

- ✓ What is the occasion or PURPOSE of the arrangement?
- ✓ Do you have a preferred flower TYPE or style?
- ✓ What COLORS would you like?
- ✓ What will the SETTING of the arrangement be? (i.e. prom dress, colored TABLE cloth, entrance foyer)
- ✓ Do you want the arrangement to be visible on all SIDES or just one?
- ✓ If the arrangement is a CORSAGE or BOUTONNIERE, how tall is the wearer & do they have any ALLERGIES?

