CMG GardenNotes #146

Work Sheet: Plant Structures

The objective of this work sheet is to give students experience systematically looking at plant parts and connecting what they see with print information.

1. Location of vascular bundle (xylem and phloem) tissues

a. Draw a cross section view of samples 1a, 1b, 1c, and 1d, identifying the vascular bundle (xylem and phloem). (Reference: *The Science of Gardening*, pages 31, 34 and 35)
b. Identify which one is a
   - leaf petiole
   - monocot stem
   - root
   - woody dicot stem

Sample 1A

Sample 1B

Sample 1C

Sample 1D

2. **Identify the following samples as monocot or dicot**. List characteristics used for identification. (Reference: *The Science of Gardening*, page 26)

#	Plant	Monocot/Dicot	Characteristics
a	African violet		
b	Alstroemeria		
c	Apple		
d	Asparagus		
e	Corn seed		
f	Green Onion		
g	Lettuce		
h	Peas		

3. **Flower parts**

   a. **Draw the parts of the flower**
   b. **Identify part by name** (Reference: *The Science of Gardening*, page 42)

   Stamen
   Anthers
   Filament
   Pistil
   Stigma
   Style
   Ovary
   Corolla
   Petals
   Calyx
   Sepals
   Receptacle
   Pedicel

4. Identify the plant parts as structures (roots, stems, leaf, flower, fruit, seed) or modified structures (rhizome, stolon, spur) or structural parts (leaf petiole). (Reference: *The Science of Gardening*, pages 30-49)

	Produce	Plant part			Produce	Plant Structure
a	Asparagus			d	Corn on cob	
b	Broccoli			e	Onion	
c	Celery			f	Peanut	

5. Identify the type of flower inflorescence (Reference: *The Science of Gardening*, pages 43-44)

	Produce	Inflorescence Type			Produce	Inflorescence Type
a	Flowering Onion			d	Dill	
b	Sunflower			e	Tulip	
c	Snapdragon			f	Lily	

6. Seed parts

a. Draw the parts of the monocot seed and dicot seed

b. Identify parts by name (Reference: *The Science of Gardening*, pages 48-49)

Monocot
- Cotyledon
- Endosperm
- Plumule
- Radicle
- Seed coat

Dicot
- Cotyledon
- Hypocotyl
- Plumule
- Radicle
- Seed coat

7. Annual Growth – Examine the two branch samples. Based on ***terminal bud scars (annual growth rings)***, measure the annual growth for the past three years. (Reference: *The Science of Gardening*, pages 35-36)

Sample A

New growth (season 1) _____

Previous season (season 2) _____

Season 3 _____

Sample B

New growth (season 1) _____

Previous season (season 2) _____

Season 3 _____