

DAWOOD PUBLIC SCHOOL

GARDENING

Course Outline – 2019-20

Grade VIII

AUGUST-OCTOBER

Seasonal; Review - Late Summer (monsoon) to Autumn

| Area of Study | Learning Objectives and Skill Development |
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| <p>Understanding Soil and Land</p> <ul style="list-style-type: none"> • Composition of Fertile Soil • Focus on loamy soil <ul style="list-style-type: none"> ➤ humus (organic matter) ➤ sand ➤ silt ➤ clay • Basic concept of soil pH <ul style="list-style-type: none"> ➤ effect of soil pH on the growth of plants ➤ factors affecting pH levels in soil <ul style="list-style-type: none"> ○ climate ○ temperature ○ water sources ○ fertilizers ➤ soil pH can be changed according to requirement of plant • Focus on Organic Fertilizers <ul style="list-style-type: none"> ➤ manure ➤ compost • Basic Concept of Seed Bed • Focus on flat bed <ul style="list-style-type: none"> ➤ weed removal ➤ fresh and nutritious soil ➤ even soil surface ➤ good drainage <p>Basic Concepts of Sowing</p> <ul style="list-style-type: none"> • Focus on Seed Sowing • Row Method • Sowing Radish <ul style="list-style-type: none"> ➤ soil preparation; radish is sown in loamy soil, rich with compost and manure ➤ seeds to seed distance should be ½ inch ➤ depth of seed should be an inch deep ➤ row to row distance should be 12 inches apart ➤ soil pH should be 6.0 to 7.0 ➤ first saplings sprout within 15-20 days of sowing ➤ temperature should be 50-65 F | <ul style="list-style-type: none"> • Identify fertile soil on the basis of: <ul style="list-style-type: none"> ➤ organic content ➤ well aerated ➤ well drained ➤ soil texture • Name the features for loamy soil. • Differentiate between ‘sand’, ‘silt’ and ‘clay’. • Develop awareness about soil pH. • Discuss how pH level of soil may affect plant growth. • Differentiate between ‘acidic soil’ and ‘alkaline soil’. • Experience the use of pH meter to measure soil pH. • Discuss how different cities may have differing pH levels of soil. • Differentiate between ‘compost’ and ‘manure’. • Develop awareness about the importance of ‘seed bed’ for ‘land preparation’ before sowing. • Discuss the need for seed bed preparation. • Develop awareness about yield productivity. • Experience the use of following tools and material required for preparing seed bed: <ul style="list-style-type: none"> ➤ hoe ➤ spade ➤ shovel ➤ organic fertilizers ➤ water • Experience the row method for sowing radish. • Develop awareness about soil conditions for sowing of radish. • State the ideal temperature for sowing radish. • State the ideal pH level for sowing radish. • Develop awareness about fruit tree plantation. • Discuss the benefits of having a fruit tree in the garden. • Experience the handling and plantation of: <ul style="list-style-type: none"> ➤ papaya tree ➤ plantation through transplanting papaya saplings • Develop awareness about the importance of papaya tree and its fruit. |

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| <p>➤ requires full 6 hours of sunlight</p> <p>Basic Concept of Planting Fruit Tree</p> <ul style="list-style-type: none"> • Focus on Papaya Tree • Factors to be considered for planting a fruit tree: <ul style="list-style-type: none"> ➤ soil preparation ➤ digging the soil and preparing a hole ➤ placement of the tree sapling ➤ filling ➤ watering <ul style="list-style-type: none"> ○ pipes or large watering cans should be used so water can penetrate deep till the roots ➤ Maintenance <ul style="list-style-type: none"> ○ keep adding manure once a month ○ monitor tree's health for 15 days <p>Garden Plants</p> <p>Recognize common Garden Plants</p> <ul style="list-style-type: none"> ➤ Tree – Sesbania Grandiflora (Humming Bird Tree) ➤ Plant –Dracaena reflexa (Song of India) | <ul style="list-style-type: none"> • Experience the use of following tools and material required for planting a fruit tree: <ul style="list-style-type: none"> ➤ hoe ➤ spade ➤ watering can • Develop awareness about garden plants and trees. |
| <p>Practical:</p> <ul style="list-style-type: none"> ➤ Seed Bed Preparation ➤ Testing Soil pH ➤ Sowing Radish ➤ Fruit Tree Plantation (Papaya) <p>Gardening terms:</p> <p>Loamy – a combination of soil composed of even amount of sand, silt and clay</p> <p>Manure –undigested waste product (dung) of plant matter obtained from cattle, buffalo and yak</p> <p>Compost – decomposed organic material such as (fruit and vegetable peels) used as a fertilizer for growing plants</p> <p>Drainage – to drain excess amount of water</p> <p>Seed Bed – a bed of fine soil in which seedlings are germinated</p> <p>Weed – a wild plant growing where it is not wanted and in competition with cultivated plants</p> <p>Transplanting –to remove a plant from the ground or from a pot and re-plant it at another place</p> <p>Sapling – young tree</p> <p>IT Links for Reference:</p> <p>Seed Bed Preparation https://www.youtube.com/watch?v=zJzuVQ2Ei7c</p> <p>Testing Soil pH https://www.gemplers.com/tech/iusingphmeter.htm http://homeguides.sfgate.com/test-soil-ph-digital-ph-meter-71906.html https://www.youtube.com/watch?v=yg_9GvZDLr8 https://www.youtube.com/watch?v=pqG83tuNwv4 https://www.youtube.com/watch?v=Go_ieveKUU</p> <p>Sowing Radish https://www.youtube.com/watch?v=kAatGbQa7u4 https://www.youtube.com/watch?v=4d3Tx054-U8</p> | |

<https://www.youtube.com/watch?v=D1zpTXt6aJA&t=1>

Fruit Tree Plantation (Papaya)

<https://www.youtube.com/watch?v=2VbRhetzTto>

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

NOVEMBER- JANUARY

Seasonal Review - Late Autumn to Winter

| Area of Study | Learning Objectives and Skill Development |
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| <p>Focus on Transplantation</p> <ul style="list-style-type: none"> • Recapitulation of the need for transplantation: <ul style="list-style-type: none"> ➤ for preserving the stronger sapling ➤ for growth of healthy plant ➤ for equal spacing to allow development of mature plant • Cauliflower as a Winter Vegetable • Procedure for Transplantation <p>Cauliflower as Winter Vegetable</p> <ul style="list-style-type: none"> • Sprouts in three colours. <ul style="list-style-type: none"> ➤ white ➤ green • Both green and white cauliflower grows in Pakistan. • After sowing, first sprout appears within 20-25 days. • After first sprout, sapling is ready for transplant within 10-12 days. • Ready sapling grows to a height of 4-5 inches with 5-6 leaves each. <p>Focus on Harvesting</p> <ul style="list-style-type: none"> • Focus on herbs. • Recognise herbs: <ul style="list-style-type: none"> ➤ coriander ➤ mint ➤ basil ➤ parsley ➤ thyme • Uses of herbs <ul style="list-style-type: none"> ➤ culinary ➤ medicinal ➤ fragrance • Post harvest management. <p>Basket Preparation</p> <ul style="list-style-type: none"> • Focus on vegetable basket <ul style="list-style-type: none"> ➤ vegetables ➤ herbs <ul style="list-style-type: none"> ○ name tags | <ul style="list-style-type: none"> • Differentiate between ‘growing from seeds’ and ‘transplantation’. • Discuss the need for transplantation. • Discuss which types of plants can be transplanted. • Discuss the benefits of transplantation. • Identify the cauliflower saplings which are ready for transplantation on the basis of: <ul style="list-style-type: none"> ➤ plant health ➤ height ➤ number of leaves • Experience the use of the following tools for transplantation: <ul style="list-style-type: none"> ➤ hoe ➤ spade • Experience the transplantation of cauliflower saplings. • Discuss the difference between ‘cabbage’ and ‘cauliflower’. • Differentiate between the usage of cabbage and cauliflower. • Develop awareness of the similarities and differences between cauliflower and broccoli. • State the two colours which a cauliflower plant may grow as. • Discuss the growth process of a cauliflower plant. • Experience the row method of transplanting cauliflower. • Name some other plant which may undergo a transplanting process. • Differentiate between, ‘coriander’ and ‘parsley’. • Identify the herbs among leafy plants. • State some uses of herbs. • Develop awareness about harvesting the following herbs: <ul style="list-style-type: none"> ➤ mint ➤ coriander ➤ basil ➤ parsley ➤ thyme |

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| <ul style="list-style-type: none"> ○ banana leaves ○ ribbons ○ thread /jute <p>Winter Flowers</p> <ul style="list-style-type: none"> ● Observation of Plantation <ul style="list-style-type: none"> ➤ rose ➤ marigold ➤ petunia ➤ pansy ➤ dahlia ➤ zinnia ➤ stock ● Sowing of stock as a Winter Flower <p>Focus on sowing flowers</p> <ul style="list-style-type: none"> ● Sowing of stock <p>Garden Plants</p> <ul style="list-style-type: none"> ● Recognise common garden plants <ul style="list-style-type: none"> ➤ Tree – Alstonia ➤ Plant –Dracaena Reflexa (Song of Jamaica) | <ul style="list-style-type: none"> ● Discuss the benefits of using herbs. ● State some usage of mint and coriander. ● Recognize the tools for harvesting herbs: <ul style="list-style-type: none"> ➤ safety scissors ➤ pruner ● Develop awareness about preparing and presenting a vegetable basket. ● Discuss the possible events which may use a vegetable or fruit basket. ● Recognize the material required for tagging and decorating a vegetable or fruit basket. ● Name and identify some winter flowers. ● Recapitulate the process of sowing pansy. ● Identify stock seeds on the basis of: <ul style="list-style-type: none"> ➤ color ➤ size ➤ shape ● Experience the method of sowing stock in a pot. |
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Practical:

- Transplantation of Cauliflower Saplings
- Harvesting Herbs
- Basket Preparation
- Sowing Stock

Gardening Terms:

Harvest – when vegetables or herbs are ready to be taken out from the soil or plant

Post harvest –handling of harvested vegetables and fruits after harvest; includes cleaning, sorting and storing

Translated Terms :

Cauliflower – ‘Phool Gobi’

Coriander – ‘Dhania

Mint – ‘Podina’

Basil – ‘Niaz Bou’

Parsley – ‘Ajmoda’

IT Links for Reference:

Transplanting Cauliflower Saplings

<https://www.youtube.com/watch?v=fYTO7dX13sl>

<https://www.youtube.com/watch?v=gDQp02U95P8>

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

Harvesting Herbs

<https://www.youtube.com/watch?v=W0u8d-8wMIM>

https://www.youtube.com/watch?v=w6K_ylyHC28

<https://www.youtube.com/watch?v=LvQPoeTmyA8>

<https://www.youtube.com/watch?v=kmMz8IYqkco>

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

<https://www.youtube.com/watch?v=9rSW8pRCeUg>

Sowing Stock

<https://www.youtube.com/watch?v=u02mh-Q6WX0>

<https://www.youtube.com/watch?v=Y85eGRmsQZk>

FEBURARY-APRIL

Seasonal Review - Late Winter to Spring

| Area of Study | Learning Objectives and Skill Development |
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| <p>Drip Irrigation – benefits.</p> <ul style="list-style-type: none">• Water efficiency.• Reduce evaporation:<ul style="list-style-type: none">➤ plastic bottles as drippers <p>Focus on Summer Vegetables</p> <ul style="list-style-type: none">• Sowing Bitter Gourds <p>Spring Fruits and Vegetables</p> <ul style="list-style-type: none">• Creepers and Climbers<ul style="list-style-type: none">➤ sponge gourd➤ bitter gourd➤ apple gourd➤ bottle gourd➤ pumpkin➤ cucumber➤ melon➤ watermelon➤ strawberries• Plants<ul style="list-style-type: none">➤ Egg plant➤ Okra (lady finger)➤ Green Chili➤ Tomato• Trees<ul style="list-style-type: none">➤ Mango➤ Papaya➤ Mud Apple➤ Grewia➤ Black plum | <ul style="list-style-type: none">• Develop awareness about the importance of drip irrigation system.• Discuss the role of drip irrigation in modern farming.• Develop awareness about the benefits of drip irrigation.• Identify the following common trees:<ul style="list-style-type: none">➤ neem➤ grewia➤ flame tree➤ bottle brush➤ peepal➤ mulberry➤ plumeria➤ lignum• Develop awareness of spring vegetables and fruits.• Differentiate between creepers, climbers and plants.• Name some spring fruits that grow on creepers.• Differentiate between ‘plants’ and trees. |

Practical:

- Drip Irrigation
- Sowing Bitter Gourd

Gardening Terms:

Landscaping – aesthetically appealing arrangement of plants, flowers and rocks etc in a garden

Creepers – plant vines which crawl along the surface of the soil

Climbers – plant vines that climb up against available vertical support

Nutrient – important substance for life and growth

Spring vegetable- vegetables grown in spring season

Translated Terms:

Sponge Gourd – ‘turaee’

Bottle Gourd – ‘loki’

Bitter Gourd – ‘karela’

Pumpkin – ‘kuddoo’

Egg plant – ‘baingun’

Cucumber – ‘kheera’

Okra (lady finger) – ‘bhindi’

Apple Gourd – ‘tinday’

Mango – ‘aam’

Melon – ‘kharbooza’

Watermelon – ‘tarbooz’

Papaya – ‘Papita’

Mud Apple – ‘chikoo’

Grewia – ‘falsa’

Chili – ‘hari mirch’

Tomato – ‘tamater’

Black Plum – ‘jamun’

IT Links for Reference:

Drip Irrigation

<https://www.youtube.com/watch?v=dfu2-l6IG0A>

<https://www.youtube.com/watch?v=-GIK8uUkrp8>

<https://www.youtube.com/watch?v=1qeTXrj4qgE>

<https://www.youtube.com/watch?v=NQZzGn4UOHo>

Sowing Bitter Gourd

<https://www.youtube.com/watch?v=PTmIWwQYY1I>

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

<https://www.youtube.com/watch?v=qM0gsD14fAA>