# Principles of Agricultural Science – Plant Scope and Sequence

## Virtual Prior to BriefCASE

| Day | Time | Discussion Items | Activity and Deliverables<br>*Check-Off Item |
|---|---|---|---|
| Orientation | Virtual<br>(Pre CI) | • General Session<br>• Introduction of Host<br>• Introduction of Lead Teachers<br>• CASE Institute Expectations | • CASE Curriculum Access (MyCASE)<br>• Google Classroom Access |
| Pre-CI | Complete prior to CI | | • Opening & Day 1 Participant Preparation |

## Virtual During CI

| Day | Time | Discussion Items | Activity and Deliverables<br>*Check-Off Item |
|---|---|---|---|
| Day 1<br>(Virtual) | 9:00 – 11:00<br>Syncrhonous | Unit 1 Worlds of Opportunity<br>• Lesson 1.1 A World Without Enough Plants<br>Unit 2 Mineral Soils<br>• Lesson 2.1 Understanding Soil Properties | • Activity 1.1.2 Agriscience Notebook<br>• Project 1.1.4 Producers Management Guide<br>• Activity 2.1.1 Testing the Feel for Soil* |
| | 11:00 – 1:00<br>Asyncronous | Lunch and Host Logistics<br>• Graphical Analysis Installation and Go Direct Practice<br>• Prep samples for afternoon activities, including 2.1.5 | |

| Day | Time | Discussion Items | Activity and Deliverables<br>**Check-Off Item* |
|---|---|---|---|
| | 1:00 – 3:00<br>Synchronous | • Lesson 2.1 continued | • Activity 2.1.5 Organic Matter's Influence*<br>• Activity 2.1.6 Water Colors<br>• Project 2.1.7 Predicting Soil Characteristics |
| | 3:00 – 4:00<br>Asynchronous | Pre-read Teacher Notes for the following day (Lessons 2.2-3.2)<br>Day 2 Participant Prep | |
| Day 2<br>(Virtual) | 9:00 – 11:00<br>Syncrhonous | • Lesson 2.2 Soil Chemistry | • 2.2.1 What is the pH Problem |
| | 11:00 – 1:00<br>Asyncronous | Lunch<br>• Go Direct temperature and $CO_2$ gas sensor practice<br>• Prep for Activity 2.2.2, Activity 6.3.1, and Activity 4.2.4 | |
| | 1:00 – 3:00<br>Synchronous | Unit 3 Soilless Systems<br>• Lesson 3.1 Mixing Media<br>• Lesson 3.2 Hydroponics | • Activity 2.2.2 Correction of a pH Problem*<br>• Activity 3.1.1 Sorting out Potting Soil<br>• Project 3.2.3 If You Build It, They Will Grow<br>• Activity 6.3.1 Plant Pigments* |
| | 3:00 – 4:00<br>Asynchronous | Pre-read Teacher Notes for the following day (Lessons 4.1-4.2)<br>Day 3 Participant Prep | |
| Day 3<br>(Virtual) | 9:00 – 11:00<br>Syncrhonous | Unity 4 Anatomy and Physiology<br>• Lesson 4.1 Cells: Life's Smallest Units | • Activity 4.1.2 Examining Cells<br>• Activity 4.1.3 Bound Together<br>• Activity 4.1.4 Cellular Respiration* |
| | 11:00 – 1:00<br>Asyncronous | Lunch<br>• Go Direct gas pressure sensor practice<br>• Prep for Activity 4.2.4 | |
| | 1:00 – 3:00<br>Synchronous | • Lesson 4.2 The Radicle Root | • Activity 4.2.3 The Root Cell Differentiation<br>• Activity 4.2.4 Just Passing Through* |
| | 3:00 – 4:00<br>Asynchronous | Pre-read Teacher Notes for the following day (Lessons 4.3-4.4)<br>Day 4 Participant Prep | |

| Day | Time | Discussion Items | Activity and Deliverables<br>**Check-Off Item* |
|---|---|---|---|
| Day 4 (Virtual) | 9:00 – 11:00 Syncrhonous | • Lesson 4.3 Stems, Stalks, and Trunks | • Activity 4.3.1 Examining Stems*<br>• Activity 4.3.2 Dependable Meristems<br>• Project 4.3.3 The Life of a Tree |
| | 11:00 – 1:00 Asyncronous | Lunch<br>• Complete morning APPs and Activity 6.3.1<br>• Prep for afternoon APPs, including Activity 4.4.2 | |
| | 1:00 – 3:00 Synchronous | • Lesson 4.4 Leave it to Leaves | • Activity 4.4.2 Sugar Factory*<br>• Project 4.4.1 Lewis and Clark Flora Journal |
| | 3:00 – 4:00 Asynchronous | Pre-read Teacher Notes for the following day (Lessons 4.5-6.2)<br>Day 5 Participant Prep | |
| Day 5 (Virtual) | 9:00 – 11:00 Syncrhonous | • Lesson 4.5 Flower Power<br><br>Unit 5 Taxonomy<br>• Lesson 5.1 Sorting Out Plants | • Activity 4.5.2 Flower Concept Map<br>• Project 4.5.4 Flowers to Fruits<br>• Activity 5.1.2 Taxonomic Classificatin<br>• Activity 5.1.3 Dissecting a Name |
| | 11:00 – 1:00 Asyncronous | Lunch<br>• Rapitest Soil Test Kit Review | |
| | 1:00 – 3:00 Synchronous | Unit 6 Growth Requirements<br>• Lesson 6.1 Plant Food<br>• Lesson 6.2 All Wet | • Activity 6.1.1 In Search of NPK*<br>• Activity 6.1.4 Mighty Micronutrients<br>• Activity 6.2.2 Translocation and Transpiration |
| | 3:00 – 4:00 Asynchronous | Pre-read Teacher Notes for the following day (Lessons 6.3-7.1)<br>Day 6 Participant Prep<br>Prepare seeds for Activity 7.3.2 (germinate seeds) and prepare cultures for Activity 8.2.2 | |
| Day 6 (Virtual) | 9:00 – 11:00 Syncrhonous | • Lesson 6.2 All Wet continued<br>• Lesson 6.3 Lighting it Up | • Activity 6.3.1 Plant Pigments*<br>• Project 6.3.2 Bright Lights<br>• Activity 6.3.3 Dissecting a Rainbow |
| | 11:00 – 1:00 Asyncronous | Lunch<br>• Complete morning APPs<br>• Prep for afternoon APPs | |

| Day | Time | Discussion Items | Activity and Deliverables<br>**Check-Off Item* |
|---|---|---|---|
| | 1:00 – 3:00<br>Synchronous | • Lesson 6.4Chilly Lilies<br>Unit 7 Plant Reproduction<br>• Lesson 7.1 Plant Genetics | • Problem 6.4.2 Forecasting Harvest<br>• Activity 7.1.1 A Closer Look at Mitosis* |
| | 3:00 – 4:00<br>Asynchronous | Pre-read Teacher Notes for the following day (Lessons 7.2-7.4)<br>Day 7 Participant Prep | |
| Day 7<br>(Virtual) | 9:00 – 11:00<br>Syncrhonous | • Lesson 7.1 Plant Genetics continued | • Activity 7.1.2 Splitting Genes<br>• Activity 7.1.3 Mendel's Genetic Studies* |
| | 11:00 – 1:00<br>Asyncronous | Lunch<br>• Complete morning APPs<br>• Prep for afternoon APPs | |
| | 1:00 – 3:00<br>Synchronous | • Lesson 7.2 Pollination and Dispersion<br>• Lesson 7.3 Kernals of Life<br>• Lesson 7.4 Plant Multiplication | • Activity 7.2.1 An Egg is Not Enough<br>• Activity 7.3.2 Seed Structures and Enzymes |
| | 3:00 – 4:00<br>Asynchronous | Find asexual propagation demonstration video(s) to use for each method in Lesson 7.4<br>Day 8 Participant Preparation | |
| Day 8<br>(Virtual) | 9:00 – 11:00<br>Syncrhonous | Unity 8 Environmental Factors<br>• Lesson 8.1 Pesky Bugs and Plants<br>• Lesson 8.2 Diving into diseases | • Problem 8.1.2 Crop Science<br>• Activity 8.2.2 Spying on Bacteria* |
| | 11:00 – 1:00<br>Asyncronous | Lunch<br>• Complete morning APPs<br>• Prep for afternoon APPs<br>• Project 1.1.4 Producer's Management Guide | |
| | 1:00 – 3:00<br>Synchronous | Unit 9 Plant Use<br>• Lesson 9.1 Tools of Pland Production<br>• Lesson 9.2 Planting the Seeds of Fortune | • Problem 9.2.2 School Farm Proposal* |
| | 3:00 – 4:00<br>Asynchronous | | |