



**EXPLORING PLANTS AND FUNGI
WITH EXPERIENCE-BASED ACTIVITIES
TEACHING ELEMENTARY SCIENCE USING CONCRETE MATERIALS
TO EXPLORE ABSRACT CONCEPTS**

EDUO 9519 (1-3 units)

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COURSE DESCRIPTION

“Exploring Plants and Fungi with Experience-Based Activities” emphasizes student interaction with concrete materials, encouraging hands-on exploration of concepts, constructing meaning and understanding. The students will be behaving as scientists: Exploring, comparing, measuring, observing, recording data, etc. Students will be engaged in experiments, model building, and art projects that reinforce the concepts. These interactive activities are consistent with common core standards and can easily be adapted to the needs of all students. (Most of the activities have extensions and modifications that allow the teacher to “tailor” the materials to the needs of their students.) The course is structured so that the teacher can choose the assignments they want to accomplish depending on the number of units (1, 2, or 3) they are taking, or select the assignments most appropriate for the students they are teaching.

OBJECTIVES

The teacher will:

1. Collect materials needed for interactive activities (experiments, model building, and art projects)
2. Provide opportunities for students to engage in concrete, hands-on explorations
3. Guide students in the use of “scientific method” (observing, collecting data, looking for patterns, etc.)

GRADING RUBRIC

A to A-	B+ to B-	Unacceptable/Resubmit
All assignments completed with good evidence of presented lessons(s)	Assignments completed	Assignments missing and/or incomplete
Followed directions for organization of assignment submissions	Poor organization of submissions	Unorganized submission-did not follow directions
Clear, relevant, detailed, and thoughtful reflections	Relevant reflections, but lacking detail and insight	Irrelevant or unclear reflections

ASSIGNMENTS/REQUIREMENTS

There are three kinds of assignments: Staff Training, Prerequisite Student Activities, Exploration Major Activities and Extensions.

Staff Training Assignments:

- Experience-based Teaching/Learning: Read the description of an exploratory, open-ended classroom environment and identify the steps in guiding students through an open-ended exploration
- Levels of Task Complexity: Cut out the science verbs and paste them in the correct spaces on the chart, "Scientists at Work"
- Discovery Learning: Read the four illustrated pages on Discovery Learning and answer questions about the content

Prerequisite Major Activities:

- Brainstorm words that describe the behaviors of scientists and post them on a bulletin board
- Sort and post pictures of plants and fungi in the correct category sections on a bulletin board

(Write a reflection for each of the two bulletin board activities on how well each activity went.)

Exploration Major Activities and Extensions:

There are nine major activities and seventeen extensions for teaching concepts related to botany. There are more activities provided than are needed to meet the requirements for this course. You will need to choose those activities that are appropriate for you and your students. (There are modifications suggested for some of the activities to make them more appropriate for younger or older students. Teachers are invited to contact the instructors with ideas of their own for additional modifications to accommodate the particular needs of their students.)

The chart and descriptions below lists the requirements for earning one, two, or three units.

The Staff Training Assignment and Prerequisite Student Activities are to be completed regardless of how many units are taken.

Units	One	Two	Three
Exploration Major Activities	2	4	6
Extensions	2	4	6
Reflections	2	4	6

One unit:

- Complete the staff training assignment (B1) and the prerequisite student activities
- Choose, prepare, and present any two of the major activities and two of the extension activities related to the major activities you chose for a total of four activities to complete this section
- Write a paragraph for each of the 2 *major activities* reflecting on your experience in teaching the lesson

Two units:

- Complete the staff training assignment (B1) and the prerequisite student activities
- Choose, prepare, and present any four of the major activities and four of the extension activities related to the major activities you chose for a total of eight activities to complete this section
- Write a paragraph for each of the 4 *major activities* reflecting on your experience in teaching the lesson

Three units:

- Complete the staff training assignment (B1) and the prerequisite student activities
- Choose, prepare, and present any six of the major activities and six of the extension activities related to the major activities you chose for a total of twelve activities to complete this section
- Write a paragraph for each of the 6 *major activities* reflecting on your experience in teaching the lesson

DOCUMENTATION

To document the completion of each activity submit two items:

1. A photograph showing students engaged in the activity
2. A sample of student work

(Include the appropriate number of reflections with the documentation)

Instructions for coursework submission:

When you have completed your assignments, post all coursework at one time in the Completed Coursework DropBox at the bottom of the course page. You are allowed 9 months to complete the course. If you have questions about the course, you can reach your graders by email or phone.

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For questions concerning your registration or transcripts, contact us at info@dominicanCAonline.com or see <http://dominicancaonline.com/Dominican-CA-Online-FAQ> for more information.

COURSE ASSIGNMENTS LIST

- **B1 Staff Training Assignment: Discovery Learning**
 - B1a Experience-Based Teaching/Learning
 - B1b Levels of Task Complexity
 - B1c Discovery Learning
- **B2 Prerequisite Major Activities: Class Bulletin Boards**
 - B2a Identifying the Behaviors of a Scientist – Listing “Science Verbs”
(Introduction to exploring)
 - B2b The Plant/Fungi Kingdoms, Grouping Plants and Fungi by Common Characteristics
(Introduction to the unit)
- **B3 Explorations: Major Activities and Extensions**
 - B3a Major Activity: Germination of a Lima Bean
 - B3a1 Extension: Lima Bean Cut and Paste Diagram
 - B3b Major Activity: Planting/Growing a Lima Bean Plant
 - B3b1 Extension: Watch the Bean Plant Grow
 - B3b2 Extension: Habitat Diorama: Life in a Shoebox
 - B3c Major Activity: Exploring Seed Arrangements in Fruit
 - B3c1 Extension: Outside and Inside Apple
 - B3c2 Extension: Helicopter Seeds (Seed Transportation)
 - B3c3 Extension: Creating a Paper Sunflower (With a Seed Center)
 - B3d Major Activity: Comparing Root Systems
 - B3d1 Extension: Visible Root Jar: Lima Beans,
Branching (Secondary) Roots
 - B3d2 Extension: Visible Root Jar: Radishes, Root Hairs

- B3e Major Activity: Exploring Stems and Stalks
- B3f Major Activity: Sorting Leaves – Comparing and Grouping
 - B3f1 Extension: Leaf Rubbings
 - B3f2 Extension: Leaf Family
 - B3f3 Extension: Leaf Skeletons
 - B3f4 Extension: Overlapping Fall Leaves
 - B3f5 Extension: Leaf Collage
- B3g Major Activity: Investigating the Structure of a Flower
 - B3g1 Extension: Lily from a Child’s Hand
 - B3g2 Extension: Easy Origami Flower
 - B3g3 Extension: 3-D Model of a Simple, Complete Flower
- B3h Major Activity: Fungi – Exploring Mushrooms
 - B3h1 Extension: Grid Mushroom
- B3i Major Activity: Fungi – Exploring Lichens