



Grades 7–9

Unit 3: Guiding Questions and Assessments

Activity 3.1: Migration, Adaptation, and Changing Climates

Guiding Questions

- What are the ways that plants and animals can deal with changing climates?
- What are the conditions under which each of these ways occurs? (coping, migration, adaptation, extinction)
- What are differences between coping, migration, and adaptation?

Activity 3.2: Seasons of a Plant

Guiding Questions

- What is the difference between a biological and an environmental event?
- What is phenology?
- What natural occurrences illustrate phenology?
- What happens if phenology changes?

Assessment(s)

- Phenology Calendar
- Phenology Checklist

Activity 3.3: Preparing for Project BudBurst

Guiding Questions

- What is Project BudBurst?
- How do we identify plant species?
- What are phenophases? What is the value of recording phenophase data?

Assessment(s)

- Mystery Field Guide
- Official Field Guide
- BudBurst data collected

Activity 3.4: Seed Dispersal and Plant Migration

Guiding Questions

- How is seed dispersal vital for plant survival?
- What are the different types of seed dispersal?
- How is seed dispersal related to changing climates?
- What is assisted migration? What are goals and risks associated with assisted migration?



Assessments

- Seed dispersal worksheets and lab report
- Colored hardiness zones map

Activity 3.5: Plant Phenology Data Analysis

Guiding Questions

- What are some of the challenges of collecting long-term data sets?
- How did plant bloom time change between the 1850s and today?
- What variables can explain the differences in bloom time?
- How does plant phenology in the Concord data sets compare to current plant phenology? What does that tell us about changing climates?
- How does NASA data and satellite imagery help us understand and interpret the phenology data that we collected through Project BudBurst?
- How are plants responding to changing climates?

Assessments

- Meet the Naturalist worksheet
- Predictions worksheets
- Graphs of historical phenology data
- NASA NDVI maps and question responses

Full Unit 3 Pre- and Post-Assessments covering Activities 1 through 5