



**Recommended Grades:** 9-12

**In this lesson students will:**

- Observe
- Monitor
- Build
- Collaborate
- Think critically

**Subjects:**

- Biology
  - Animal Science
  - Biodiversity
  - Botany
- Environmental Science
- Art
  - Industrial Arts
  - Horticulture



Smithsonian Gardens' Butterfly Habitat Garden outside the National Museum of Natural History

**National Standards**

- NSTA National Science Education Standards (9-12)
  - [LS4.C: Adaptation](#)
  - [ETS1.B: Developing Possible Solutions](#)
- Common Core
  - [CCSS.ELA-LITERACY.RST.11-12.9](#)

**Introduction**

'Cultivating Habitat' was created with a variety of educational resources from Smithsonian Gardens' team of horticulturists; it pertains to sustainable wildlife habitats. The main focus of these lessons is for students to find connections between the natural world, biodiversity, and art. The field of horticulture provides an interesting opportunity to combine art and science in the garden. Students are asked to utilize their knowledge of art, design, and science to positively impact the biodiversity of a local green space.

The lessons begin with a scientific experiment on biodiversity using a plot sampling technique. This experiment may act as a base from which to launch into designing a butterfly or pollinator garden in an effort to create a biodiverse and sustainable wildlife habitat garden. A window garden is also appropriate. If a physical green space is not available for the designing and building of a garden, the garden-design process will still engage students' knowledge of these issues. Lastly, students will engage in a hands-on construction project in which they will build a Bluebird nest-box with a green roof.