

# Lab: Peppered Moth Simulation

## BIOLOGY: CHAPTER 10-PRINCIPLES OF EVOLUTION

### Objectives:

- Describe the importance of coloration in avoiding predation
- Relate environmental change to changes in organisms
- Explain how natural selection causes populations to change

### Materials

- 8½" x 11" sheet dark background
- 8½" x 11" sheet light background
- Forceps
- Clock with second hand
- 30 light circles (made with hole punch)
- 30 dark circles (made with hole punch)



**Purpose:** In this lab, you will simulate how predators locate prey in different environments. You will analyze how color affects and organism's ability to survive in certain environments.

**Background:** The usual form of the peppered moth *Biston betularia* in northern Europe has a light "peppered" pattern of coloration. The moth rests on tree branches and its color pattern **camouflages** it against predatory attack. The camouflage only works against the right background: birds are more likely to eat poorly camouflaged moths, which therefore have a lower **fitness**.

The light coloration of tree branches is mainly caused by lichens that grow there. Smoke pollution in the industrial revolution in the UK killed these lichens near to industrial areas, leaving tree branches black. At about this time, around 1830, a '**melanic**' form of the peppered moth becomes increasingly common in contemporary moth collections. The melanic form is camouflaged on dark tree branches. Through the 19th century, the melanic form increased in frequency until, near industrial regions, it was the normal type of the moth. The increase was almost certainly driven by natural selection.

The moths satisfy all four conditions for natural selection:

- they reproduce;
- their color pattern is inherited;
- there is variation in their color patterns;
- the different forms have different fitnesses.

Before you begin the lab, complete the hypothesis below:

**Hypothesis:** If the color of the prey matches the background color then

# Peppered Moth Lab Answer Key

**Towle, Albert Towle**



**Peppered Moth Lab Answer Key:**

Writing Undergraduate Lab Reports Christopher S. Lobban, María Schefter, 2017-07-27 A practical guide to writing impactful lab reports for science undergraduates through the use of model outlines and annotated publications     **Inquiry Skills Development** Holt Rinehart & Winston, 1998-01-27     *Modern Biology* Towle, Albert Towle, 1991     **The Software Encyclopedia** , 1988

## **Peppered Moth Lab Answer Key** Book Review: Unveiling the Power of Words

In a world driven by information and connectivity, the ability of words has become more evident than ever. They have the capacity to inspire, provoke, and ignite change. Such may be the essence of the book **Peppered Moth Lab Answer Key**, a literary masterpiece that delves deep into the significance of words and their effect on our lives. Written by a renowned author, this captivating work takes readers on a transformative journey, unraveling the secrets and potential behind every word. In this review, we shall explore the book's key themes, examine its writing style, and analyze its overall effect on readers.

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