

Genetics and evolution digital resource examples from Teachers' Domain.

1. Common past, different paths.

www.teachersdomain.org/resource/tdc02.sci.life.cyc.embryo

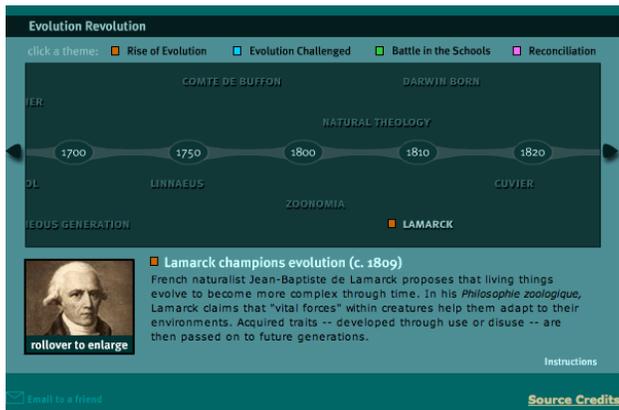
Microphotography shows four embryos inside an egg or mother's womb, capturing the shared ancestry of animals with backbones.



2. Lesson plan: History of the theory of evolution.

www.teachersdomain.org/resource/tdc02.sci.life.evo.lp_evohist

In the activities in this lesson plan, students make a comparative timeline of events in world history and evolutionary theory.

A screenshot of an interactive timeline titled "Evolution Revolution". At the top, it says "click a theme:" followed by four colored squares: orange for "Rise of Evolution", blue for "Evolution Challenged", green for "Battle in the Schools", and pink for "Reconciliation". The timeline itself is a horizontal axis with a central point at 1800. Above the axis, "COMTE DE BUFFON" is marked at 1750 and "DARWIN BORN" at 1810. Below the axis, "LINNAEUS" is marked at 1700, "ZOOLOGIA" at 1800, and "COUVIER" at 1820. A red square labeled "LAMARCK" is positioned between 1800 and 1810. Below the timeline, there is a portrait of Lamarck and a text box titled "Lamarck champions evolution (c. 1809)". The text box contains the following text: "French naturalist Jean-Baptiste de Lamarck proposes that living things evolve to become more complex through time. In his *Philosophie zoologique*, Lamarck claims that 'vital forces' within creatures help them adapt to their environments. Acquired traits -- developed through use or disuse -- are then passed on to future generations." At the bottom left, there is a "rollover to enlarge" button. At the bottom right, there is an "Instructions" link and a "Source Credits" link.

3. Inheritance of genetic disorders.

www.teachersdomain.org/resource/tdc02.sci.life.gen.lp_disorder

In this activity, students learn how mutations in a gene can cause disease, simulate the inheritance patterns of diseases caused by recessive genes, identify and research a genetic disorder, and present their findings to the class.

Lesson Plan: **Inheritance of Genetic Disorders** Recommended for: Grades 9-12

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Lesson Plan **Standards** [Print Lesson Plan](#)

Overview

In this activity, students learn how mutations in a gene can cause disease. They simulate the inheritance patterns of several different diseases caused by recessive genes. They learn how some recessive genes confer an advantage in the heterozygous state in certain environments. Finally, they identify and research five genetic disorders they would like to know more about and present their findings to the class.

Objectives

- Identify the connection between genes and disease
- Describe how a mutation in a gene can occur and how it can be passed on to offspring
- Show the inheritance patterns of different genetic disorders
- Recognize that genetic diseases may be determined by a single gene (Mendelian) or by the interaction of several genes and possibly the environment (multifactorial)
- Understand that some genetic diseases are caused by extra or missing chromosomes due to nondisjunction in meiosis I
- Research and understand five different genetic disorders and their causes

Suggested Time

- Two to three class periods.

Multimedia Resources

- [One Wrong Letter](#) QuickTime Video
- [A Mutation Story](#) QuickTime Video

Media Resources Used in this Lesson:

- [Chromosome Viewer](#) (Flash Interactive)
- [Double Immunity](#) (QuickTime Video)
- [Genetic Drift and the Founder Effect](#) (JPEG Image)
- [How Cells Divide: Mitosis vs. Meiosis](#) (Flash Interactive)
- [How Genetic Disorders Are Inherited](#) (PDF Document)
- [A Mutation Story](#) (QuickTime Video)
- [One Wrong Letter](#) (QuickTime Video)

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