

# **Science: Anatomy of the Hands**

# Lesson Plan: Anatomy of Hands - Leonardo da Vinci's Study of Hands

Subject: Science

Grade Level: 3-5

Duration: 1 class period (90 minutes)

Standards: SC.3.L.14.1, SC.4.L.16.1, SC.5.L.14.2

## Objectives

- Students will learn about the anatomy of hands and explore Leonardo da Vinci's contributions to anatomy through his inventions and artwork.
- Students will be able to identify parts of the hand and understand how da Vinci's studies of anatomy influenced his inventions and art.

## Science:

- **SC.3.L.14.1:** Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.
- **SC.4.L.16.1:** Identify processes of reproduction in flowering plants, including pollination, fertilization, seed dispersal, and germination.
- **SC.5.L.14.2:** Compare and contrast the function of organs and other structures of flowering plants and how these functions apply to survival and reproduction.

## Materials

- Diagrams of the human hand
- Pictures of Leonardo da Vinci's anatomical drawings
- Images of da Vinci's inventions related to the human hand
- Pencils and paper
- Art supplies (colored pencils, markers)
- Model or 3D hand (optional)

# Exploring Anatomy and Leonardo da Vinci's Work

## Introduction (10 minutes)

- Start with a brief discussion on Leonardo da Vinci, highlighting his work as an artist, inventor, and scientist.
- Show images of his anatomical drawings of hands and explain how he studied the human body to understand how it works.

## Anatomy of the Hand (15 minutes)

- Provide students with a diagram of the human hand.
- Explain the major parts of the hand: bones (phalanges, metacarpals), muscles, tendons, and joints.
- Discuss the functions of each part (e.g., bones provide structure, muscles enable movement).

## Hands-On Activity: Drawing and Labeling (20 minutes):

- Have students draw their own hand on a piece of paper.
- Using the provided diagrams, students will label the major parts of the hand on their drawing.
- Encourage them to include bones, muscles, and joints in their labels.

## Leonardo da Vinci's Inventions and Artwork (10 minutes):

- Show images of da Vinci's inventions, focusing on those inspired by his anatomical studies (e.g., the robotic knight).
- Discuss how his understanding of the human hand helped him design these inventions.
- Highlight how his detailed artwork contributes to our understanding of anatomy

## Creative Art Project (15 minutes):

- Students will create a piece of art inspired by Leonardo da Vinci's drawings. They can choose to draw a detailed hand or invent a new machine inspired by the hand's anatomy.

- Provide art supplies and encourage creativity.

Conclusion and Discussion (10 minutes):

- Allow students to share their artwork and explain their creations.
- Discuss what they learned about the hand's anatomy and da Vinci's contributions.
- Reinforce the connection between science and art in understanding human anatomy.

## **Assessment**

- Observe students' participation in discussions and activities.
- Review their hand drawings and labels for accuracy.
- Evaluate their creative art project based on effort and understanding of the lesson.

## **Extension Activity**

- Have students research and present other inventions or artworks by Leonardo da Vinci.
- Explore the function of other body parts and how da Vinci studied them.