

## **Becoming da Vinci (Grades 1-5)**

### **LESSON DESCRIPTION**

This lesson introduces students to the famous artist-inventor, Leonardo da Vinci. During this hands-on lesson, students will jump into the world of da Vinci as they try writing in mirror script, examine the feathers of birds, learn to make egg tempera paint, and much more!

### **SC VISUAL ARTS STANDARDS**

#### **First Grade**

- VA1-1.1 Use his or her own ideas in the creation of works of visual art.
- VA1-1.3 Use a variety of materials, techniques, and processes to create works of visual art.
- VA1-1.4 Use all art materials and tools in a safe and responsible manner.
- VA1-3.1 Recognize and describe the content in a work of visual art.
- VA1-3.2 Select and use subject matter, symbols, and ideas to communicate meaning through his or her artworks.
- VA1-3.3 Discuss the ways that choices of subject matter, symbols, and ideas combine to communicate meaning in his or her works of visual art.
- VA1-4.1 Identify works of visual art as belonging to a particular time, culture, and place.
- VA1-5.1 Identify some of the purposes for the creation of works of visual art.
- VA1-6.1 Identify similarities and connections between the visual arts and other subjects in the school curriculum.

#### **Second Grade**

- VA2-1.1 Identify the materials, techniques, and processes used in a variety of artworks.
- VA2-1.3 Use and combine a variety of materials, techniques, and processes to create works of visual art.
- VA2-1.4 Use all art materials and tools in a safe and responsible manner.
- VA2-3.1 Describe the content in a work of visual art.
- VA2-3.2 Select and use subject matter, symbols, and ideas to communicate meaning through his or her artworks.

- VA2-3.3 Discuss the ways that choices of subject matter, symbols, and ideas combine to communicate meaning in his or her works of visual art.
- VA2-4.1 Identify and discuss specific works of visual art as belonging to a particular time, culture, and place.
- VA2-5.1 Identify purposes for the creation of works of visual art.
- VA2-6.1 Identify similarities and connections between the visual arts and other subjects in the school curriculum.

### **Third Grade**

- VA3-1.1 Use his or her own ideas in creating works of visual art.
- VA3-1.2 Identify and describe the materials, techniques, and processes used in a variety of artworks.
- VA3-1.3 Use and combine a variety of materials, techniques, and processes to create works of visual art.
- VA3-1.5 Use all art materials and tools in a safe and responsible manner.
- VA3-3.1 Recognize and describe the content in a work of visual art.
- VA3-3.2 Select and use subject matter, symbols, and ideas to communicate meaning through his or her artworks.
- VA3-4.2 Discuss specific works of visual art in relationship to the technologies, tools, and materials used by the artists.
- VA3-5.1 Identify purposes for the creation of works of visual art.
- VA3-6.1 Identify similarities and connections between the visual arts and other subjects in the school curriculum.

### **Fourth Grade**

- VA4-1.1 Identify the materials, techniques, and processes used in a variety of artworks.
- VA4-1.3 Use a variety of media, techniques, and processes to create works of visual art.
- VA4-1.5 Use all art materials and tools in a safe and responsible manner.
- VA4-3.1 Identify and describe the content in a work of visual art.
- VA4-3.2 Select and use subject matter, symbols, ideas, and the elements and principles of design to communicate meaning through his or her art-making.

- VA4-3.3 Discuss the ways that choices of subject matter, symbols, and ideas combine to communicate meaning in his or her works of visual art.
- VA4-4.1 Identify and discuss specific works of visual art as belonging to a particular time, culture, and place.
- VA4-5.1 Identify and discuss some of the purposes for the creation of works of visual art.
- VA4-6.1 Identify similarities and connections between the visual arts and other subjects in the school curriculum.

## **Fifth Grade**

- VA5-1.1 Identify the materials, techniques, and processes used in a variety of artworks.
- VA5-1.3 Use a variety of materials, techniques, and processes to create artworks.
- VA5-1.4 Select and use the most effective materials, techniques, and processes to communicate his or her ideas, experiences, and stories through works of visual art.
- VA5-3.1 Identify and describe the content in a work of visual art.
- VA5-3.2 Select and use subject matter, symbols, ideas, and the elements and principles of design to communicate meaning through his or her art-making.
- VA5-3.3 Discuss the ways that choices of subject matter, symbols, and ideas combine to communicate meaning in his or her works of visual art.
- VA5-4.1 Identify specific artworks and styles as belonging to particular artists, cultures, periods, and places.
- VA5-5.1 Identify and discuss purposes for the creation of works of visual art.
- VA5-6.1 Identify connections between the visual arts and content areas across the curriculum.

## **Becoming Da Vinci (Grades 6-12)**

### **LESSON DESCRIPTION:**

Look at the world through the eyes of Leonardo da Vinci—the intriguing Renaissance man. In hands-on stations, students will extend their learning about Da Vinci’s

inventions and artistic style as they practice scientific drawings, bridge building, and more. (The extended unit is a focus on Da Vinci as an engineer.)

## STATE STANDARDS:

### *Sixth Grade*

- **SCIENCE-Standard 6.S.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content. (EXTENDED UNIT)
  - 6.S.1A.1 Ask questions to (1) generate hypotheses for scientific investigations, (2) refine models, explanations, or designs, or (3) extend the results of investigations or challenge claims.
  - 6.S.1A.5 Use mathematical and computational thinking to (1) use and manipulate appropriate metric units, (2) collect and analyze data, (3) express relationships between variables for models and investigations, or (4) use grade-level appropriate statistics to analyze data.
- **SCIENCE-Standard 6.P.3:** The student will demonstrate an understanding of the properties of energy, the transfer and conservation of energy, and the relationship between energy and forces. (EXTENDED UNIT)
  - 6.P.3A.2 Develop and use models to exemplify the conservation of energy as it is transformed from kinetic to potential (gravitational and elastic) and vice versa.
- **SS-Standard 6-6:** The student will demonstrate an understanding of the impact of the Renaissance, the Reformation, and the Age of Exploration on Europe and the rest of the world.
  - 6-6.1 Summarize the contributions of the Italian Renaissance, including the importance of Florence, the influence of humanism and the accomplishments of the Italians in art, music, literature, and architecture.
  - 6-6.2 Identify key figures of the Renaissance and the Reformation and their contributions (e.g., Leonardo da Vinci, Michelangelo, Johannes Gutenberg, John Calvin, and Martin Luther).

### *Seventh Grade*

- **SCIENCE-Standard 7.S.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content. (EXTENDED UNIT)

- 7.S.1A.1 Ask questions to (1) generate hypotheses for scientific investigations, (2) refine models, explanations, or designs, or (3) extend the results of investigations or challenge claims.
- 7.S.1A.5 Use mathematical and computational thinking to (1) use and manipulate appropriate metric units, (2) collect and analyze data, (3) express relationships between variables for models and investigations, or (4) use grade-level appropriate statistics to analyze data.
- **SCIENCE-Standard 7.P.2:** The student will demonstrate an understanding of the structure and properties of matter and that matter is conserved as it undergoes changes. (EXTENDED UNIT)
  - 7.P.2B.1 Analyze and interpret data to describe substances using physical properties (including state, boiling/melting point, density, conductivity, color, hardness, and magnetic properties) and chemical properties (the ability to burn or rust).

### ***Eighth Grade***

- **SCIENCE-Standard 8.S.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content. (EXTENDED UNIT)
  - 8.S.1A.1 Ask questions to (1) generate hypotheses for scientific investigations, (2) refine models, explanations, or designs, or (3) extend the results of investigations or challenge claims.
  - 8.S.1A.5 Use mathematical and computational thinking to (1) use and manipulate appropriate metric units, (2) collect and analyze data, (3) express relationships between variables for models and investigations, or (4) use grade-level appropriate statistics to analyze data.
- **SCIENCE-Standard 8.P.2:** The student will demonstrate an understanding of the effects of forces on the motion and stability of an object. (EXTENDED UNIT)
  - 8.P.2A.1 Plan and conduct controlled scientific investigations to test how varying the amount of force or mass of an object affects the motion (speed and direction), shape, or orientation of an object.
  - 8.P.2A.3 Construct explanations for the relationship between the mass of an object and the concept of inertia (Newton's First Law of Motion).

### ***High School***

- **SCIENCE-Standard H.C.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content. (EXTENDED UNIT)

- H.C.1A.1 Ask questions to (1) generate hypotheses for scientific investigations, (2) refine models, explanations, or designs, or (3) extend the results of investigations or challenge scientific arguments or claims.
- H.C.1A.5 Use mathematical and computational thinking to (1) use and manipulate appropriate metric units, (2) express relationships between variables for models and investigations, and (3) use grade-level appropriate statistics to analyze data.
- **SCIENCE-Standard H.P.1:** The student will use the science and engineering practices, including the processes and skills of scientific inquiry, to develop understandings of science content. (EXTENDED UNIT)
  - H.P.1A.1 Ask questions to (1) generate hypotheses for scientific investigations, (2) refine models, explanations, or designs, or (3) extend the results of investigations or challenge scientific arguments or claims.
  - H.P.1A.5 Use mathematical and computational thinking to (1) use and manipulate appropriate English and metric units, (2) express relationships between variables for models and investigations, or (3) use grade-level appropriate statistics to analyze data.
- **SS-Standard MWH-1:** The student will demonstrate an understanding of the major factors that facilitated exchanges among groups of people and how exchanges influenced those people in the fourteenth and fifteenth centuries.
  - MWH-1.2 Explain the impact of the Crusades and the Renaissance on European exploration, including the significance of humanism, the revival of learning, and the transfer of knowledge about sailing and ancient philosophy from the Arabs to the Europeans.

## SC VISUAL ARTS STANDARDS:

### *Sixth Grade:*

- VA6-1.1 Identify the materials, techniques, and processes used in a variety of artworks.
- VA6-1.4 Use art materials and tools in a safe and responsible manner.
- VA6-3.1 Identify and describe the content in works of visual art.
- VA6-4.1 Identify artworks from various cultures and recognize ways in which those works were influenced by man-made and natural factors.
- VA6-5.1 Compare various purposes for the creation of works of visual art.

### *Seventh Grade:*

- VA7-1.1 Identify the materials, techniques, and processes used in a variety of artworks.
- VA7-1.4 Use art materials and tools in a safe and responsible manner.
- VA7-3.1 Compare and contrast the content in two works of visual art.
- VA7-4.1 Identify artworks from various cultures and recognize ways in which those works were influenced by man-made and natural factors.
- VA7-5.1 Compare various purposes for the creation of works of visual art.

***Eighth Grade:***

- VA8-1.1 Identify the materials, techniques, and processes used in a variety of artworks.
- VA8-1.4 Use art materials and tools in a safe and responsible manner.
- VA8-3.1 Compare and contrast the content in several works of visual art.
- VA8-4.1 Identify artworks from various cultures and recognize ways in which these works were influenced by man-made and natural factors.
- VA8-5.1 Compare various purposes for the creation of works of visual art.

***High School:***

- VAH-1.1 Recognize and analyze the similarities and differences among the materials, techniques, and processes in works of visual art.
- VAH-1.5 Use a variety of art materials, tools, and equipment in a skillful, safe, and responsible manner.
- VAH4-2.1 Recognize, describe, and analyze the elements and principles of design and other compositional structures and strategies used in the visual arts to communicate ideas.
- VAH-3.1 Explore the sources of the subject matter and the ideas in variety of works of visual art.
- VAH-4.1 Describe ways that the subject matter, symbols, ideas, and technologies in various artworks are related to history and culture.
- VAH-4.2 Identify specific artworks as belonging to a particular culture or historical period and explain the characteristics that led him or her to make that identification.
- VAH-4.5 Apply a knowledge of art history, various cultures, and technologies in the creation of original artworks.

