

# LESSON PLAN: THE CODEX ON THE FLIGHT OF BIRDS

<b>Date:</b>	<b>Class:</b>	<b>Unit:</b>
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<b>LESSON TOPIC:</b>	Leonardo da Vinci's <i>Codex on the Flight of Birds</i> with <i>Smack Dab in the Middle of Maybe</i>
<b>AIM:</b>	In the novel <i>Smack Dab in the Middle of Maybe</i> , Mama uses Leonardo da Vinci's <i>Codex on the Flight of Birds</i> as a reference when creating a bird design for a tombstone. Full of da Vinci's drawings and notes, the <i>Codex</i> actually foreshadows the devices and principles of mechanical flight. In this lesson, students will find out more about the influence of the <i>Codex</i> on modern flight. Like Mama in the novel, they will also use it as a reference to create their own artistic designs.
<b>OBJECTIVES:</b>	Students will be able to: <ul style="list-style-type: none"><li>• Identify Leonardo da Vinci as a Renaissance artist, architect, and inventor.</li><li>• Recognize some of da Vinci's most famous artwork.</li><li>• Define "mirror script" and recognize how Leonardo da Vinci used it.</li><li>• Identify the significance of da Vinci's <i>Codex on the Flight of Birds</i> in regards to devices and principles of mechanical flight.</li><li>• Create an original design incorporating birds.</li></ul>
<b>GET STARTED/ DO-NOW:</b>	<ol style="list-style-type: none"><li>1. Using a projector or smartboard, introduce the students to Leonardo da Vinci with this video: <a href="https://www.youtube.com/watch?v=Rm0qsZPJnc8">https://www.youtube.com/watch?v=Rm0qsZPJnc8</a></li><li>2. Show the class images of some of Leonardo's most famous artwork. Paintings that may be included: <i>Mona Lisa</i>, <i>The Last Supper</i>, and <i>Lady with an Ermine</i>. Explain the paintings to the students. Ask them to identify which they like best and why.</li></ol>
<b>MINI-LESSON:</b>	Leonardo da Vinci also created the <i>Codex on the Flight of Birds</i> . It is made up of 18 folios (two-sided pages) and written in the artist's famous "mirror" script. It is a collection of notes and sketches that foreshadows devices and principles of mechanical flight by exploring bird flight and behavior. The <i>Codex</i> was created between 1505 and 1506, when da Vinci also painted the "Mona Lisa."

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	<ol style="list-style-type: none"> <li>1. Introduce the students to da Vinci's <i>Codex on the Flight of Birds</i>. Using a projector or smartboard, show them the videos entitled "Leonardo's Flight" and "Leonardo da Vinci's Codex on the Flight of Birds" by the Smithsonian institute on this page: <a href="https://airandspace.si.edu/exhibitions/codex/">https://airandspace.si.edu/exhibitions/codex/</a></li> <li>2. Based on the information provided in the videos, discuss how da Vinci's bird studies informed his drawings for a machine for mechanical flight. Further Resource: <a href="https://www.airspacemag.com/history-of-flight/leonardo-da-vinci-birdwatcher-26505261/">https://www.airspacemag.com/history-of-flight/leonardo-da-vinci-birdwatcher-26505261/</a></li> </ol>
<b>MAIN ACTIVITY:</b>	<ol style="list-style-type: none"> <li>1. As a class, read the passage about Mama using the Codex found on page 49 of <i>Smack Dab in the Middle of Maybe: Soon as Grandma told Mama that the cancer had come back, that there wasn't any hope, Mama and Daddy stopped spending ten-dollar bills. Mama put every ten dollar bill they came across in a Mason jar on the kitchen counter. She liked to have her money where she could see it. She got me to count out the bills every Friday morning at the kitchen table. She sat across from me, a copy of Leonardo da Vinci's Codex on the Flight of Birds propped open beside her, doing drawing after drawing of birds and head stone designs. Later, after she welded little models of the headstone parts, she sat there and tested them to make sure they lined up just right to catch the morning light.</i></li> <li>2. In the book, Mama works on a design for a tombstone. She uses Leonardo da Vinci's "Codex of Birds" as a reference. As a class, brainstorm other objects that might incorporate birds in the design.</li> <li>3. Provide each student with a copy of the Codex of Birds - Samples Handout. These birds are based on some of the birds in the <i>Codex</i>. Instruct the students design another object of their choice using the supplies provided. The design must include one or more of the birds.</li> <li>4. Have each student present his/her design to the class.</li> </ol>
<b>CONCLUDING ACTIVITY</b>	<p>A Renaissance person can be described as someone who has a wide range of abilities and interests, especially in the arts and sciences. Ask the students why they think Leonardo da Vinci is often called a true Renaissance person.</p>

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<b>EXTENSIONS:</b>	<p>Research and write a report about the life and accomplishments of Leonardo da Vinci.</p> <p>Find out more about da Vinci's notes in the <i>Codex</i>. How do they compare with what we know about flight today?</p> <p>Create your own codex similar to da Vinci's by drawing birds from life.</p>
<b>CHECK FOR UNDERSTANDING:</b>	Students write a short report about what they learned about Leonardo da Vinci and the <i>Codex on the Flight of Birds</i> .
<b>MATERIALS:</b>	<p><i>Smack Dab in the Middle of Maybe</i> by Jo Hackl</p> <p>Computer and projector or smartboard for video presentation</p> <p>Drawing paper</p> <p>Codex of Birds - Samples Handout</p> <p>Paper, pencils, markers, colored pencils, watercolors, or other media for creating designs</p>
<b>TECHNOLOGY:</b>	Watch videos online.
<b>COMMON CORE STANDARDS:</b>	<p>CCSS.ELA-LITERACY.RI.6-8.7</p> <p>CCSS.ELA-LITERACY.SL.6-8.1</p> <p>CCSS.ELA-LITERACY.SL.6-8.2</p> <p>CCSS.ELA-LITERACY.SL.6-8.5</p> <p>CCSS.ELA-LITERACY.RH.6-8.2</p> <p>CCSS.ELA-LITERACY.RH.6-8.4</p> <p>CCSS.ELA-LITERACY.RH.6-8.5</p>