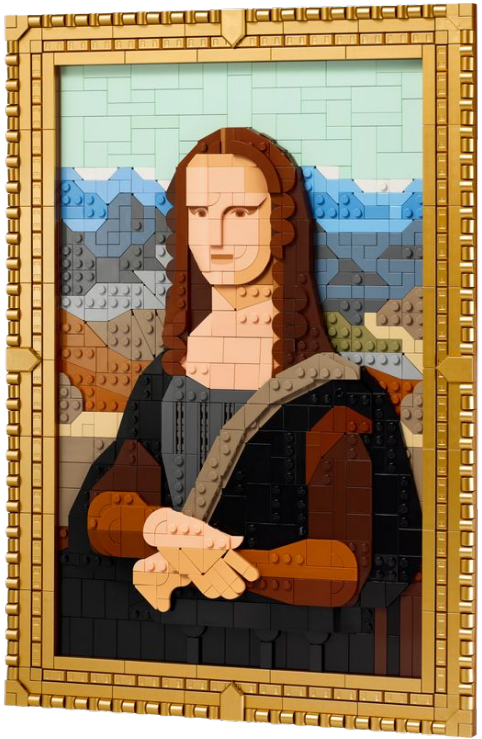
Art: Da Vinci's Designs LEGO-Based Lesson



Lesson Plan to accompany a "Flying Machine" set. Or can be used and adapted for other needs. Digital instructions for this set can be found on the resources page of LEGO©.com found at https://www.lego.com/en-gb/service/building-instructions

Learning Objectives for All Students:

Cognitive Objectives (Knowledge and Understanding):

- Students will be able to identify at least two key design principles from Da Vinci's sketches (e.g., observation, use of mechanical advantage).
- Students will collaboratively build a functional or non-functional LEGO model based on a Da Vinci machine sketch (e.g., a simple bridge, a flying machine component).
- Students will explain how their model demonstrates Da Vinci's use of observation from the natural world.
- LEGO Model Focus: A simplified working model or artistic interpretation of a design from Leonardo da Vinci's notebooks.

Affective Objectives (Attitudes and Values):

- Appreciate the importance of friendship and teamwork.
- Demonstrate an understanding of courage in the face of fear.
- Express their feelings about the choices characters make and why.
- Value the role of communication in solving problems.

Psychomotor Objectives (Skills):

- Participate actively in the lesson activities and discussions.
- Collaborate with others to build the brick-models.
- Communicate their ideas and thoughts effectively.

Remember to:

- **Adapt** these objectives to the specific needs and abilities of your students.
- **Clearly communicate** the learning objectives to the children at the beginning of the lesson.
- **Use a variety of assessment methods** to evaluate whether the objectives have been met (e.g., observation, discussion, creative expression).

By setting clear learning objectives, you can ensure that your "Da Vinci" lesson is engaging, meaningful, and impactful for all your school students.

Welcome Introduction:

Introduction and Check-In (10 minutes)

- **Objective:** Establish a structured start, clarify objectives, and perform an emotional check-in to gauge readiness.

Activity: "Invention Inspiration" Starter (7 minutes):

- Display an image of a famous Da Vinci sketch (e.g., the Ornithopter or a gear mechanism).
- State the objectives clearly.
- **"LEGO Goals" Activity:** Ask each student to build a small, simple LEGO piece representing one part of their mind that's ready to *create* and one part that needs *help* focusing, setting a positive and focused tone.

‘Da Vinci’ Building Task:

Social Communication & Collaborative Building (20-30 minutes)

Objective: Enhance communication, foster a supportive learning community, and promote collaboration through structured roles. This phase involves practical techniques used to enhance communication skills and forms the core focus of the learning pedagogy.

Activity: Collaborative Design & Build (20 minutes):

- Students work in small groups of three, rotating the roles of **Builder, Engineer, and Supplier**.
- Provide each group with a drawing or simplified instructions for one of Da Vinci's basic machines or architectural concepts.

The **Engineer** describes the parts needed for the **Supplier** to find and gives directions to the **Builder** on assembly, fostering purposeful collaboration and communication skills.

Observe and Support: Circulate, offering guidance and encouragement. Highlight examples of good communication and teamwork, and ask groups to explain what they are building.

‘Da Vinci Learning’ Task:

Objective: Link the LEGO model (the material-product) to the desired learning aims and narratives.

Activity: Telling the Tale (15 minutes):

- Groups present their completed Da Vinci LEGO model.
- Students must explain the **function** of the original Da Vinci design and then describe how their **model's construction (choice of bricks, connections, structure)** reflects the principles of art, engineering, and observation used by Da Vinci.
- **Group Discussion:** The class discusses the differences between the abstract model from the Art lesson and this functional/structural model, reinforcing the idea of *metacognitive process* through the creations.

- Emphasis is placed on using descriptive language (adjectives and adverbs) to describe the parts of the model, reinforcing vocabulary related to character and setting.

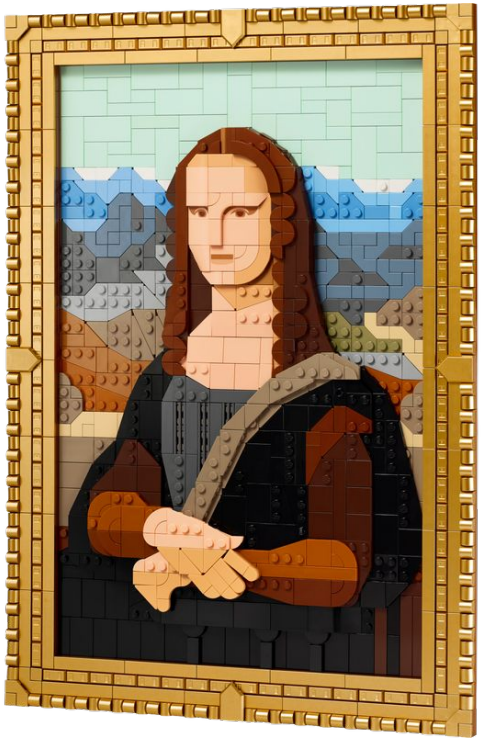
Evaluations and Reflection of Learning:

Discussion and Creative Expression (10 minutes)

Objective: Assess, evaluate, and reflect on the impact of the learning, focusing on the academic and the informal/emotive aspects.

Activity: Learning Target & Process Evaluation:

- **Assessing Learning Targets (Formative):** Use a quick "Ticket Out the Door" prompt: "What is one thing you observed in nature today that Da Vinci would have sketched for a new design?".
- **Reflect and Apply:** Students journal their thoughts on how the **structured roles (Builder/Engineer/Supplier)** helped (or hindered) their ability to understand and execute the engineering design, promoting personal introspection and insight.



Plenary and Finish:

Review and Conclusion (5 minutes)

- **Review Key Concepts:** Briefly summarise the main points of the lesson, reinforcing the themes of courage, friendship, and problem-solving.
- **Take-Home Activity (Optional):** Suggest that they continue to build their own invention or drawn design at home with their LEGO bricks.

Adaptations:

- **Younger Children:** Use simpler language, shorter building tasks, and focus more on the visual and storytelling aspects. You may choose to use a single, simpler set.
- **Older Children:** Encourage deeper discussions about character motivations and artistic themes. Challenge them to add their own creative elements to the sets they build, or to build something doesn't have a specific LEGO set.
- **Time:** Adjust the time allocated to each phase based on the needs and engagement of your students.

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