



Flying Automata CORiculum

Explore the automata mechanical system while getting creative with your flying object. The Cori Flying Automata kit is the perfect project to seed curiosity, improve spatial skills, and sharpen problem solving abilities.

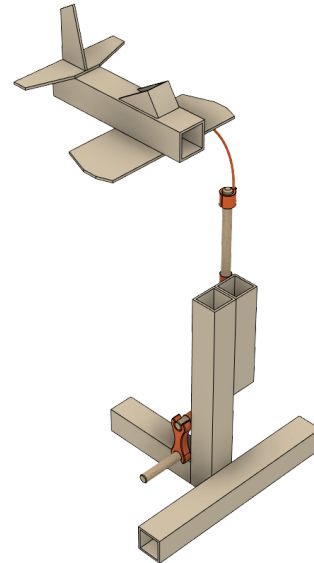
Objective:

Students will go through the Cori Design Process to design an automata mechanical system to power a flying object.

Grades Levels: 2nd - 6th Grade

Activity Duration: 1-2 hours

Build Time: 45 - 75min



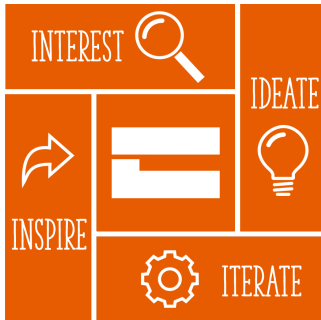
Additional Materials Recommended

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| <ul style="list-style-type: none">● Hot glue guns● Gluesticks● Scissors● Rulers | <ul style="list-style-type: none">● Pencils● Art supplies (optional) - Decorate your Flying Automata |
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Fun Facts

Automata derives from the Greek word, αὐτόματα, which means “acting of one’s own will.” French inventor Jacques de Vaucanson has often been attributed to have created the first successful automata known as the Flute Player.

Cori Design Process



The Cori Design Process (CDP) provides our learners the experience of what engineers, architects, scientists, and makers do everyday. At Cori, we thrive on structuring design challenges and projects that intentionally nurture skills (i.e. critical thinking) and build creative confidence. These CDP mentor check-ins are ready-to-go prompts to offer deeper connections with the project build. Each phase also offers ideas and solutions to help make the learning experience even more rewarding!

Phase 1: Interest

Prompt: These inventions of the past were one of the few original automata designs known in history. Research these 3 historical models to inspire your automata project.

1. Silver Swan
2. Automaton in the Form of a Monk
3. The Extraordinary Machines of Al-Jaziri



Ideas: Click on these YouTube links to learn more about the 3 automatons.

1. Silver Swan: <https://youtu.be/a3agwmbuZKM>
2. Automaton in the Form of a Monk: <https://youtu.be/jiVKnlXcDDg>
3. The Extraordinary Machines of Al-Jaziri: <https://youtu.be/ryYgUvrDcPM>

Phase 2: Ideate

Prompt: Who/what will be moving on the automata system? How can you decorate/design to enhance the moving automata?

Ideas/Solutions: Feel free to use one of the automata templates in our instructions or better yet, encourage your learner to come up with their own design. Sketch a few images before you start your build.



Phase 3: Iterate

Prompts:

1. Which shaft spins faster, the crank shaft or the main shaft?



2. If you had different size wheels, how could you make the main shaft spin faster than the crankshaft?
3. What do we call the mechanism that reduces rotational speed between two shafts?

Answers:

1. They spin with the same speed
2. Make the main shaft wheel smaller than the crankshaft wheel.
3. We call the mechanism that reduces rotational speed between two shafts gears.

Phase 4: Inspire

Prompt: With the leftover Cori Beams or other craft materials, let's inspire future Cori Automata builders with the variety of objects that can fly. Our goal is to have over 100 different designs to show the creativity of this project. Share your projects on multiple social media platforms using our hashtag #CoriCreate.



Ideas: Here are just some of the many other flying objects that you can build with leftover Cori Beams and other craft materials that you have available.

Butterfly	Rockets	Birds
Helicopter	UFO	Hang Glider
Bumble Bee	Bat	Hot Air Balloon

Contact us at support@coricreate.com if you have any questions or comments.



www.coricreate.com

