Art Integration

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The Arts in STEM: Advancing Meaningful Integration

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March 2025

For my art integration paper, I've chosen to focus on my Rube Goldberg machine lesson—a project that naturally lends itself to creativity and cross-curricular connections. Since this lesson already requires an artistic element, it provides the perfect opportunity to explore how art enhances learning.

To engage students and tap into their individual preferences, they will have the choice of creating their project using either media arts or traditional art forms. Students can design their posters digitally with Adobe Express AI or opt for paper, pencil, markers, or crayons. Giving students this choice not only sparks creativity but also allows them to work in a medium where they feel most confident. Some may even choose to combine both styles, blending traditional and digital elements to create a unique representation of their Rube Goldberg machine.

The nature of building a Rube Goldberg machine is creative by design. Students must conceptualize a complex chain reaction and determine what final task their machine will accomplish. They're challenged to think outside the box, exploring unconventional materials to build the machine. Because this process involves a lot of trial and error, students need to start with a solid foundation. Creating a detailed visual plan, a poster outlining each energy transfer, will help guide them as they build. Additionally, students will need to identify the materials required for planning purposes. By incorporating art into this stage, students gain a clearer vision and a stronger connection to their design.

This lesson also naturally integrates multiple content areas to enrich the learning experience:

- Art to create visual representations of their machines.
- Math comes into play as students learn to draw their machines to scale, using tools like protractors and rulers. Digital artists will similarly need to apply measurement skills within their software.
- Writing enhances the project, requiring students to use clear and concise language on their posters to explain their machines and the scientific principles behind them.

- Science is the core focus, as students apply their understanding of simple machines and energy transfers. Each poster will illustrate the specific simple machines used and the completed Rube Goldberg device.

By weaving together art, math, writing, and science, this lesson offers something for every learner. The variety of content areas ensures that students with different strengths and interests stay engaged and most importantly, feel successful.