2023

Elementary Students Designing Math Learning Slideshows with NoCode NoCost Programming Tools

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Empowering Young Mathematicians with Usable Math

PRESENTERS:



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MassCUE Fall Conference 2023

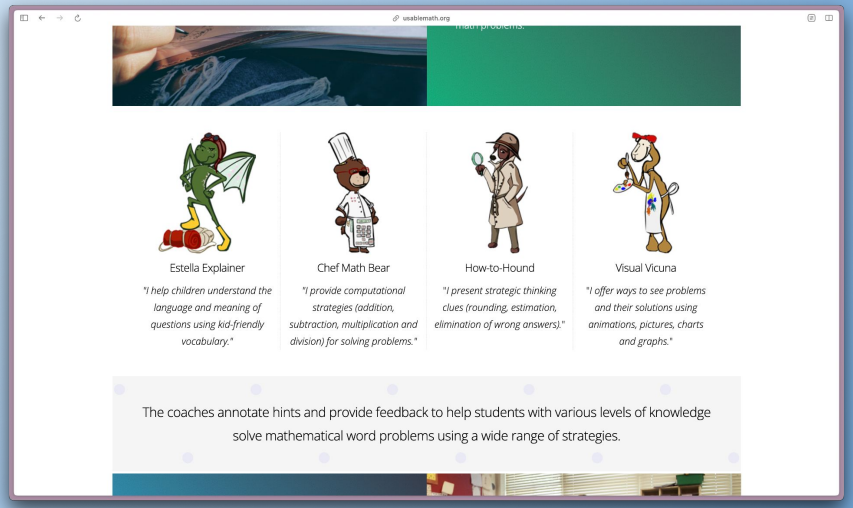
USABLE MATH UsableMath.org

University of Massachusetts Amherst

October 18, 2023

Introducing Usable Math

- **Free & Accessible:** An OER platform tailored for elementary kids, educators, caregivers and families.
- **Interactive Problem Solving:** Engages students in grades 3-6 in math problem solving and design thinking.
- **Four Virtual Coaches:** Estella Explainer, Chef Math Bear, How-to-Hound & Visual Vicuna offer diverse problem-solving strategies through words, images, animations, and more.
- **Encouragement & Motivation:** After every problem a feedback slide builds children's learning and confidence while fostering curiosity about **maths**.
- **Multiple Modes of Learning**: 17 modules explore essential math concepts and 3 new modules integrate storytelling, history, and science learning.



Math Learning in Action

Click to watch video on Youtube

Standards-based Math Word Problems

Last month, 3801 people ate at Tony's Pizza. This month, 2765 people ate at Tony's Pizza. How many more people ate at Tony's Pizza last month than this month?

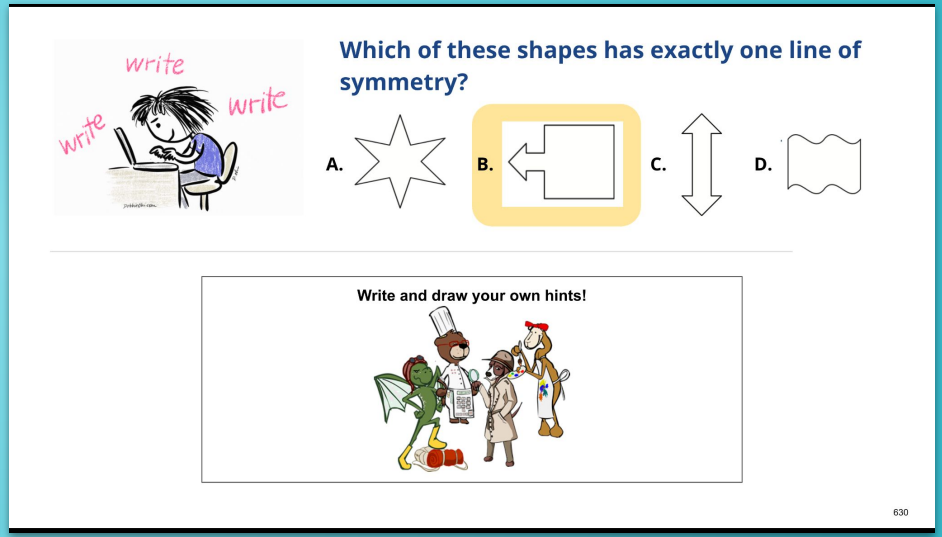
199

Click to watch video

Explore Math Concept Modules

Math Modules on UsableMath.org

Math Design Invitations



Usable Math design invitations encourage kids to design their own math word problems.

Unveiling Student-Created Math Masterpieces

Mahir has 5 courts. Each court has 13 basketballs. How many basketballs does Mahir have in all?

Click to see full slideshow

Unveiling Student-Created Math Masterpieces

Mahir has 5 courts. Each court has 13 basketballs. How many basketballs does Mahir have in all?

Choose an answer and see if you are correct.

A.66

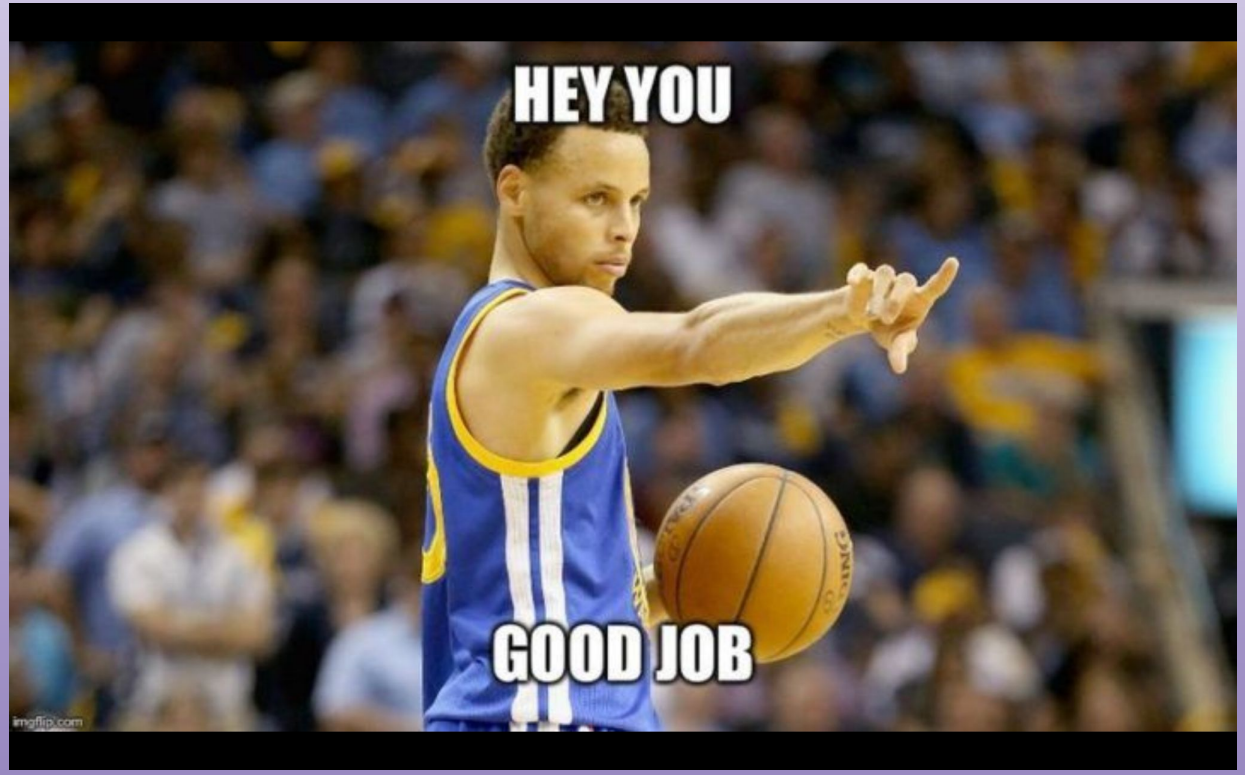
B.29

C.65

D.55

Click to see full slideshow

Unveiling Student-Created Math Masterpieces



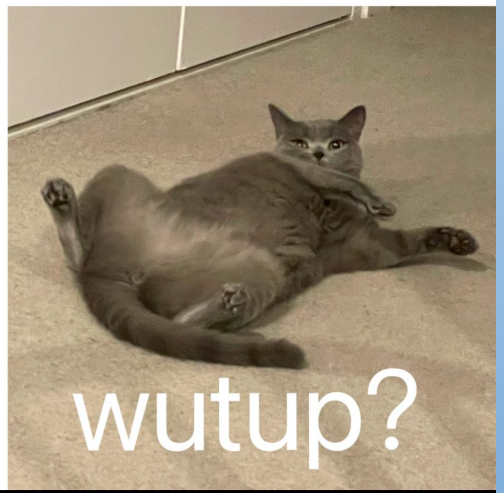
Click to see full slideshow

Unveiling Student-Created Math Masterpieces

There are 1,215 cats in the pet store. 20 people came to get 6 cats each. How many cats are left?

CLUE: Multiply 6 times 20

CLUE.1,215 - the answer from 20 times 6



Click to see full slideshow

Unveiling Student-Created Math Masterpieces

John loves action figures. He goes to the store to get some more. 1 figure costs $23.76 If he buys 9 of them how much money did he spend?

A. $197.67 **B. $207.93** **C. $213.84** **D. $234.65**

There are equal groups of $23.76 line up your place value on a piece of paper and do the multiplication.

when you are done with the problem go to the next slide to see the answer.

Math Story

Clara has 8 boxes. Each box has 27 paint bottles inside. How many paint bottles in all?

CLUE:

The Problem Is

27x8=.....

Math Story #2

Wednesday has 36 piranhas in one bag,and she has 67 and 36 more in the other. How many does she have in all?

Wednesday

NoCode Revolution - Easy, efficient, and empowering!

- **Defining NoCode:** Google Slides as a NoCode “vehicle” for math design.
- **NoCode Tools:** Promote creative thinking by students because they can design and build easily and quickly.
- **Tailored for Young Learners:** Simple-to-use tools specifically suitable and designed for elementary kids' use.
- **Simplicity & Speed:** NoCode tools streamline the creation process, making it more accessible for “thought-to-word” manifestations.
- **Empowering Young Learners:** Google Slides invite children to become “citizen developers” propelling their learning experiences and building confidence with technology.

Strategies for Using NoCode Tools with Students

Ideas for educators, caregivers, tutors, families, parents and students:

- Give students the choice to work alone or with a partner or group.
- Show what other students have done as examples.
- Publish everything students do so everyone can help each other think about and expand their ideas.
- Follow a writing and design process fit for young learners.
- Collaborate and converse with students as they design, create and co-create.

Usable Math Research Publications

- Gattupalli, S., Edwards, S.A, Maloy, R. W., & Rancourt, M. (2023, October). Designing for Learning: Key Decisions for an Open Online Math Tutor for Elementary Students. *Digital Experiences in Mathematics Education*. https://doi.org/10.1007/s40751-023-00128-3.

- Maloy, R. W., Gattupalli, S., & Edwards, S. A. (2023). Developing Usable Math Online Tutor for Elementary Math Learners with NoCode Tools. Scholarworks@UMass.

- Gattupalli, S., Maloy, R. W., Edwards, S., & Gearty, A. (2023). Prompt Literacy for STEM Educators. Enhance your Teaching and Learning with Generative AI.

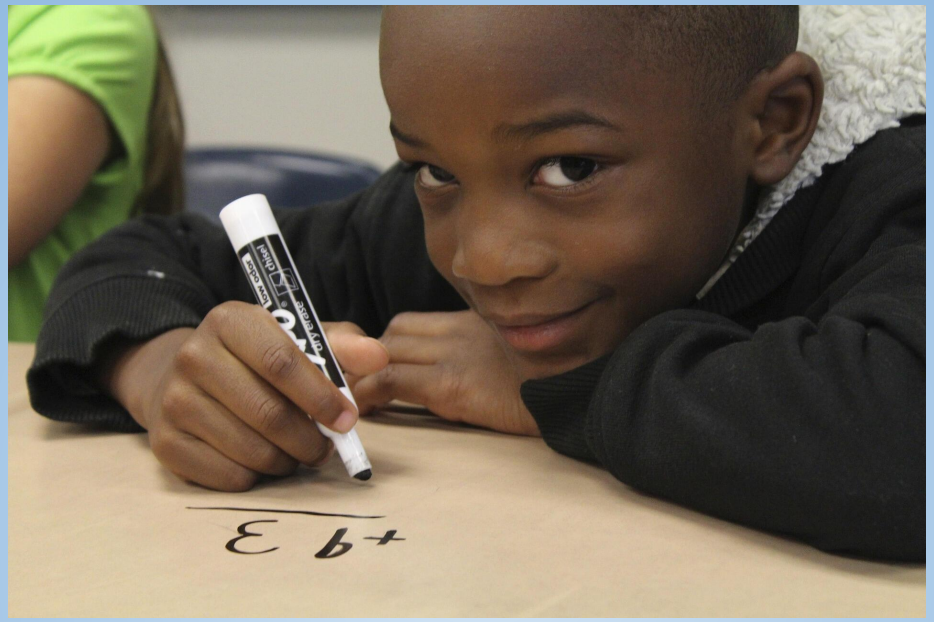
- Gattupalli, S., Maloy, R. W., & Edwards, S. A. (2023). Prompt Literacy: A Pivotal Educational Skill in the Age of AI.

- Gattupalli, S., Maloy, R. W., & Edwards, S. (2023). Comparing Teacher-Written and AI-Generated Math Problem Solving Strategies for Elementary School Students: Implications for Classroom Learning. https://doi.org/10.7275/8sgx-xj08

- Usable Math Blog. (2023, August 9). Blending Gardens and geometry: Socio-Cultural Approaches in math ed. Usable Math Blog.

- Making Math Usable for Young Learners. Guest post on Rachelle Dené Poth's EdTech blog *Learning as I go: Experiences, Reflections, Lessons Learned*. January, 2023.

Source: Usable Math Research



Q&A

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