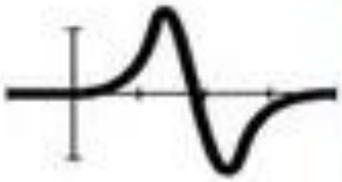
The **MATHEMATICAL**

sciences particulary exhibit

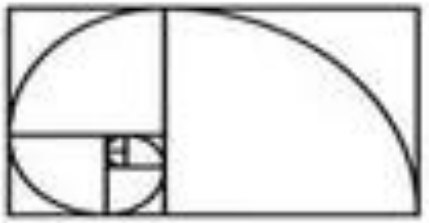


ORDER, SYMMETRY, and **LIMITATION;**

and these are the

GREATEST

form of



BEAUTIFUL.

- Aristotle

Teaching Math in Your Interior Design Program

AGENDA

- **Engaging Generation Z students**
- **Tips for teaching basic math skills**
- **Integrating math concepts into your interior design lessons**
- **Free resources**

Why is Math So Important?

Let's say that Jack runs a successful interior design business. A customer wants a special type of marble flooring for a foyer in a new house. The area is 20 x 30 feet. If the math is not right, 1) he could run short and not have enough to complete the job or 2) have too much and will lose revenue.

20 x 30' = 600 square feet - needed

20 x 25' = 500 square feet (need 100 more)

20 x 35' = 700 square feet (100 too much)

If the tile is $25 per square foot, 100 extra sq. feet would result in spending $2500 more than needed.


Interior design
MISTAKES

Articles on Math in Interior Design

- The Importance of Math In Design, You Need to Know. (2022, May 10). Sortra https://www.sortra.com/the-importance-of-math-in-design-you-need-to-know/
- Better Design through Mathematical Principles. (2020, July 9). PixTeller. https://pixteller.com/blog/better-design-through-mathematical-principles-141
- 5 Ways Geometry is Used in Interior Design. (2016, July 18). Ldb-Interior-Design. https://www.ldbdesign.com/post/2016-07-18-5-ways-geometry-is-used-in-interior-design
- Proportionately Yours – The Math of Interior Design. (2021). Srivastava. https://www.synergyce.com/proportionately-yours-the-math-of-Interior-design.php

Teaching Generation Z

What Do They Need to Know?

- Basics
  - Decimals
  - Fractions
  - Ratios
  - Percentages
  - Measurement
  - Conversions

Learning by Generation..

Silents	Baby Boomers	Generation X	Generation Y	Generation Z
Born 1925-1945	Born 1946-1964	Born 1965-1981	Born 1982-1995	Born 1996-2009
a.k.a. Traditionalists Veterans Builders	a.k.a. Boomers Me Generation	a.k.a. Gen X Latch-Key Kids MTV Generation 13th Generation	a.k.a. Gen Y Millennials Echo Boomers	a.k.a. iGeneration (iGen) Post-Millennials Centennials
Telephone	TV	PC	Internet	iPhone, Social Media
Largely disengaged from technology	Early IT adopters	Digital immigrants	Digital natives	Technoholics
Face-to-face	Face-to-face; telephone or email if required	Text messaging or email	Online/social media and text messaging	Visual communication using technology
Teach Me Prefer a structured "command and control" oriented learning, classroom lectures, books and on-the-job training	**In Person** Prefer classroom setting with in-class participation; will use technology and may prefer books to reading online	**Learn by Doing** Prefer self-directed learning and freedom to figure things out on own; computer before books	**Short and Sweet** Thrive on flexibility and space to explore; favor on-demand, highly personalized and interactive training	**Get it Now. Do it Now. Learn it Now.** Want to learn on their own terms; prefer visual and interactive, bite-sized and hands-on learning; use of technology and social media is a given

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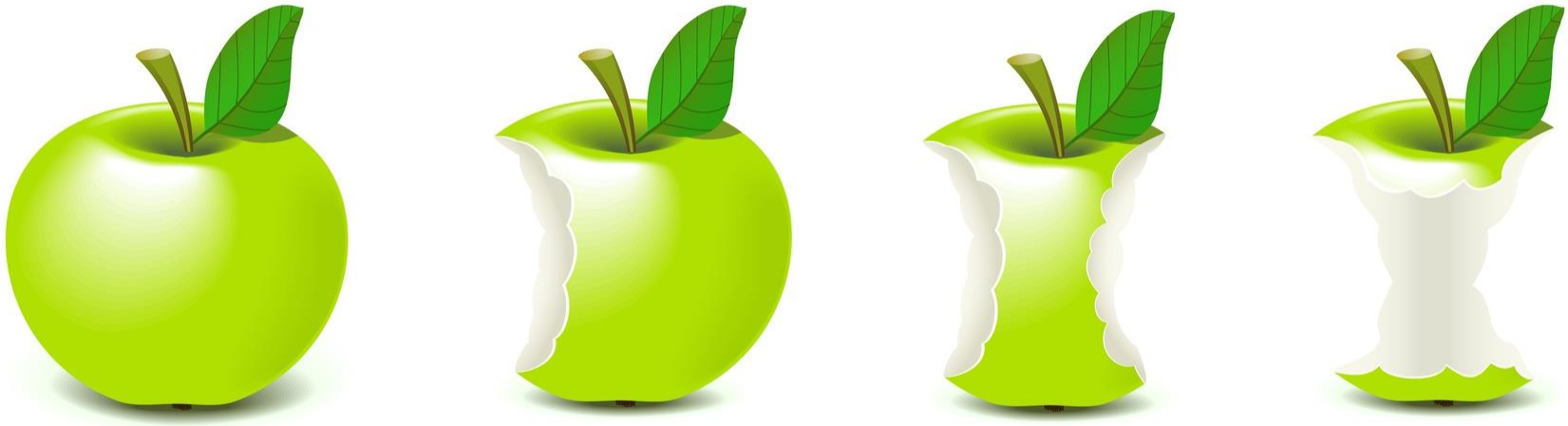
https://www.linkedin.com/pulse/learning-from-gen-z-training-todays-workforce-jackie-peer/

How Do We Teach? Bite Sized Chunks



https://blog.tcea.org/generation-z-snackable-content/

Bite Sized Chunks – Here's More..

Overcoming the Most Common Mistake Educators Make Leading Generation Z
https://growingleaders.com/overcoming-the-most-common-mistake-educators-make-leading-generation-z/

Teachers Meet Generation Z
https://www.hollyclark.org/2019/04/30/teachers-meet-generation-z/

Learning From Gen Z - Training For Today's Workforce
https://www.linkedin.com/pulse/learning-from-gen-z-training-todays-workforce-jackie-peer/

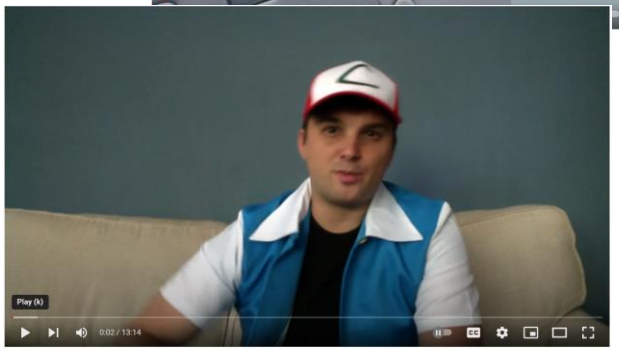
How Do We Teach?

kpkpkp.com

4 Innovative Ways to Teach with Video Games – Leila Meyer

Resources for Gamifying Math

Introduction to Gamification



PokéMath - Gotta Solve 'Em All! Pokemon Gamification of Math Class

Introduction to Gamification in the Math Classroom

https://www.youtube.com/watch?v=iYzKgp4JfbM

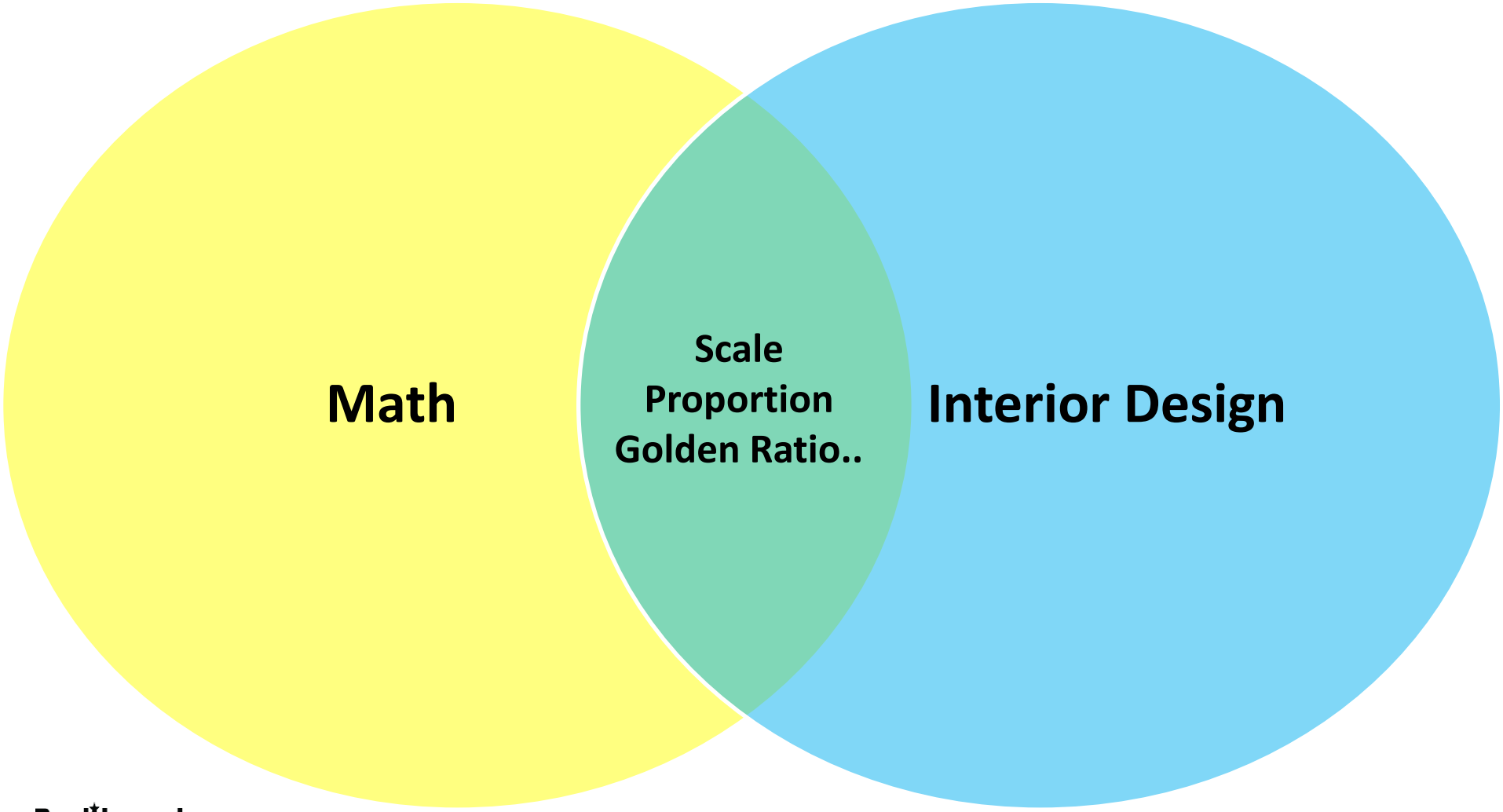
A Game of Jeopardy

https://www.youtube.com/watch?v=JyW3bWI8uF8

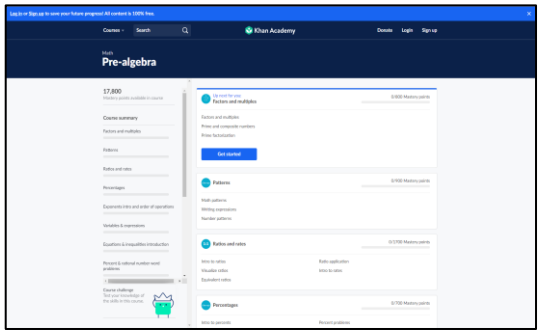
PokeMath – Gotta Solve Em All Pokemon Gamification of Math Class

https://www.youtube.com/watch?v=z-78rvo8pOw

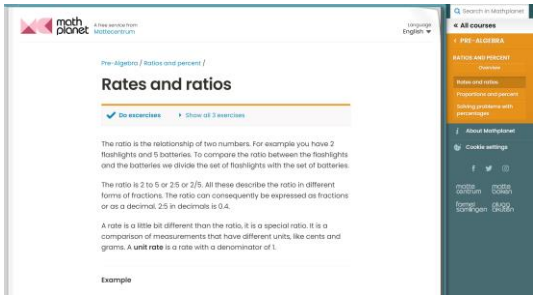
How Do We Teach? Integration



How Do We Teach? Smarter



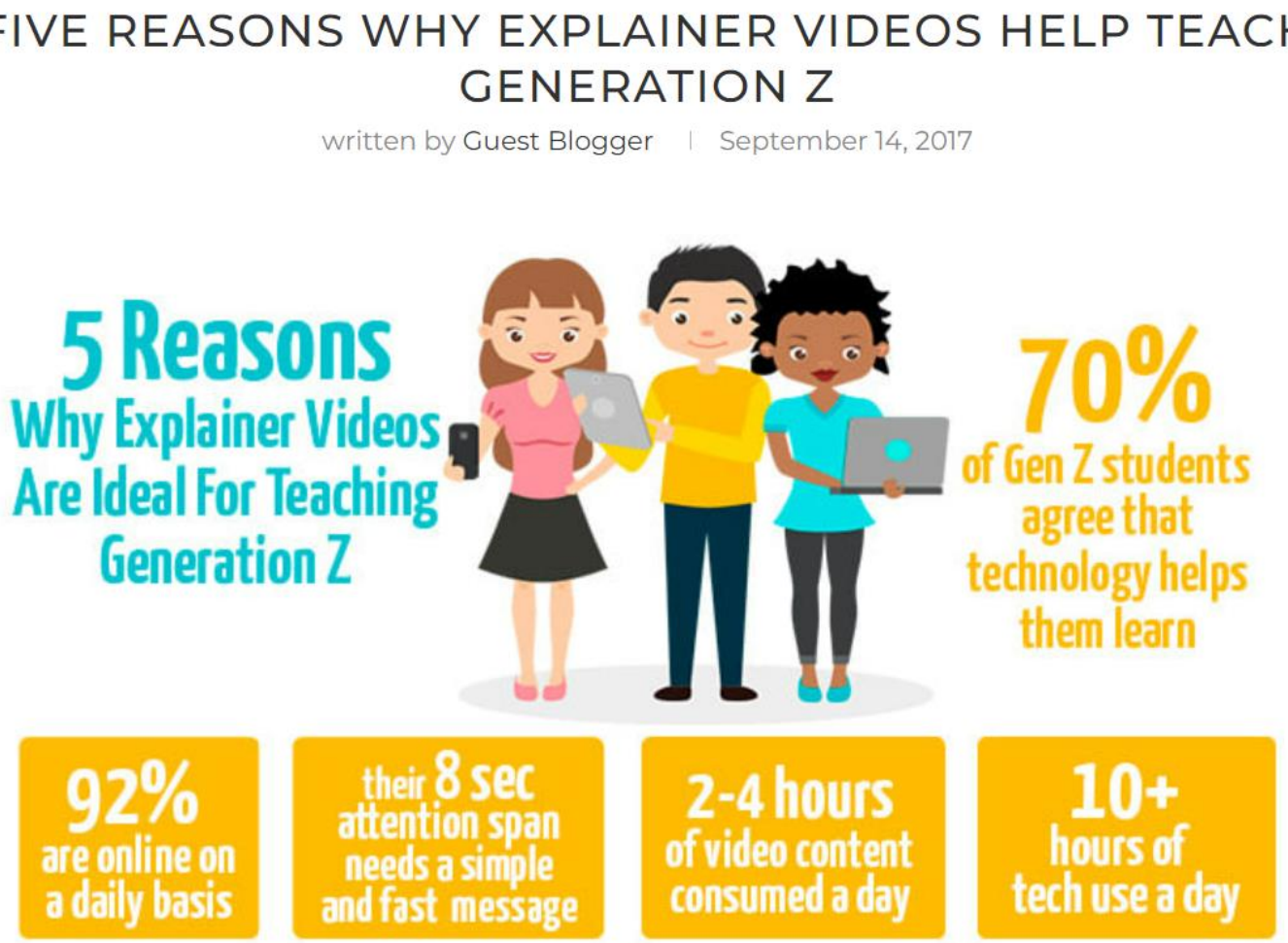
www.khanacademy.org



https://www.mathplanet.com

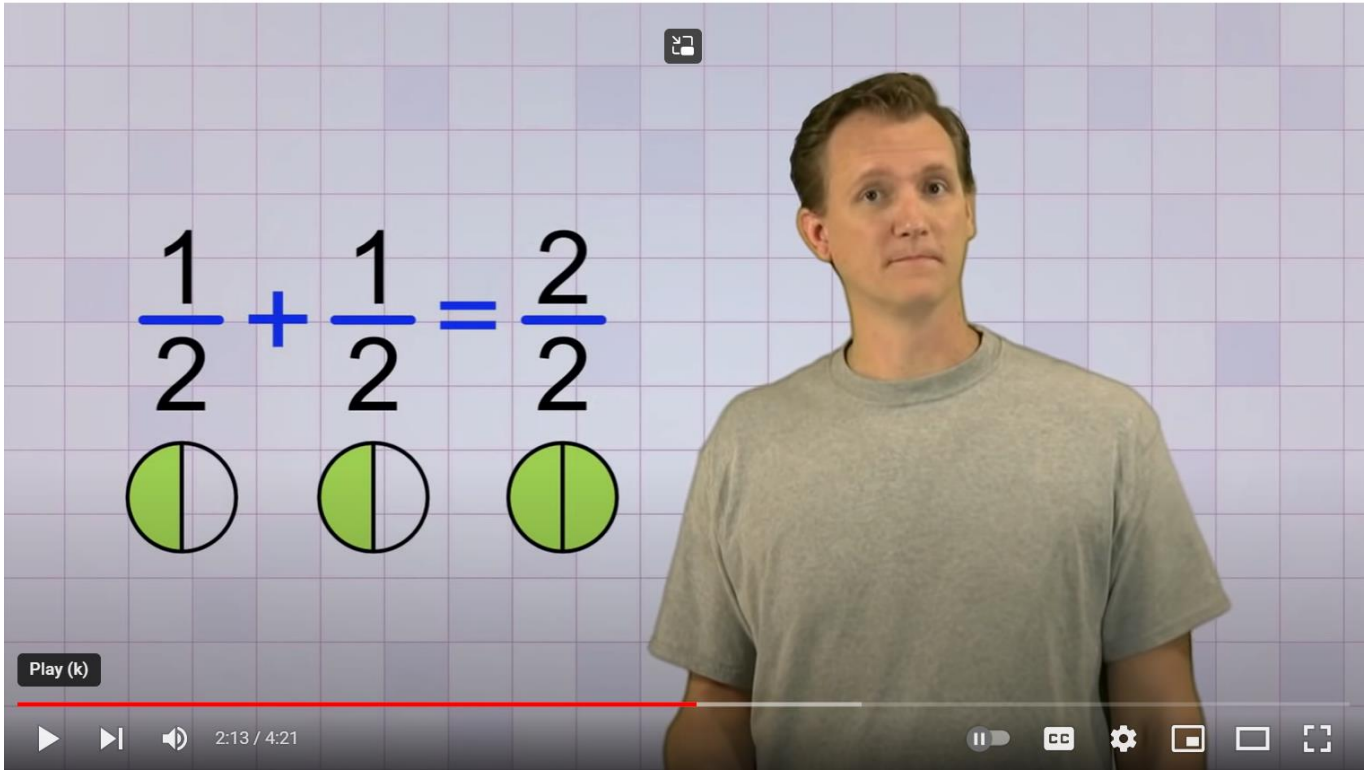
https://www.homeschoolmath.net

How Do We Teach? Use Videos!



How Do We Teach? Use Videos!

Adding and Subtracting Fractions (4:21)
https://www.youtube.com/watch?v=5juto2ze8Lg



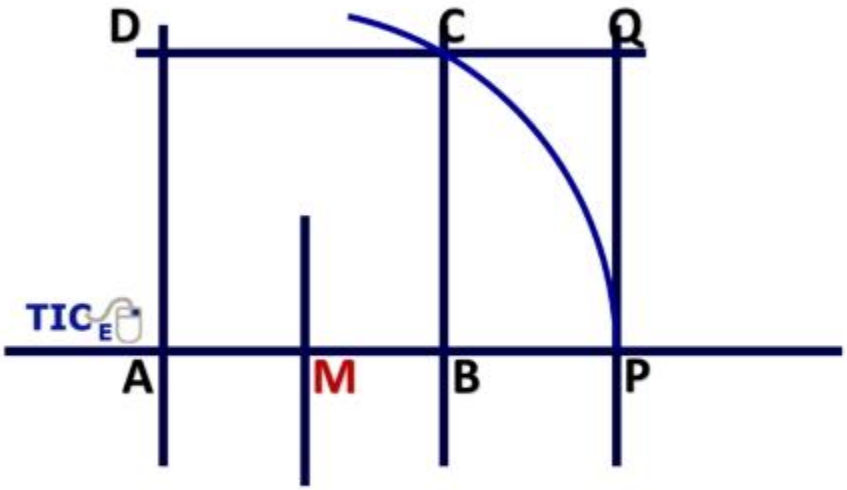
Integrating Math Into Interior Design Lessons

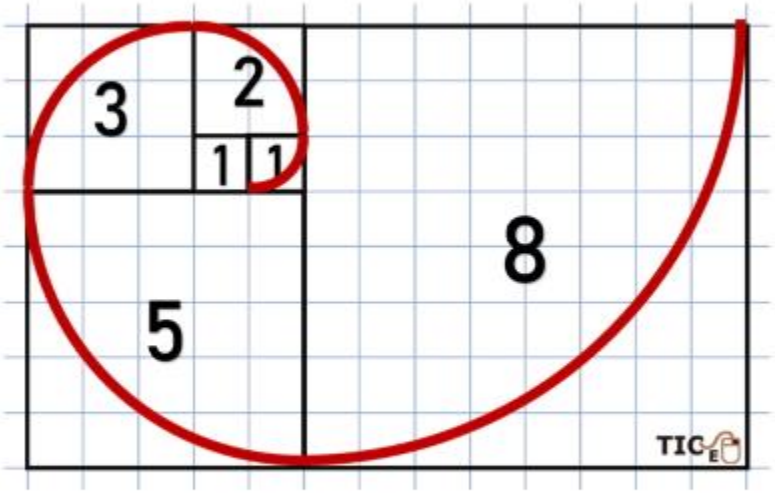
What Do They Need to Know, Part 2

Interior Design Applications
The Golden Ratio
Geometry
Mensuration
Modeling/Scale
Area and Perimeter

The Golden Ratio

The Golden ratio and The Fibonacci Sequence





$$\Phi = 1.618033...$$

Lesson Plans for the Golden Ratio

Fibonacci Sequence and the Golden Ratio
https://www.clevelandart.org/sites/default/files/documents/lesson-plans/cma_lesson_mhj_fibonacci.pdf

Golden Mean – Math Integration
https://www.incredibleart.org/lessons/high/Grace-golden.htm

How to Use the Golden Ratio in Your Design
https://www.interaction-design.org/literature/article/the-golden-ratio-principles-of-form-and-layout

Are We Golden?
https://learn.k20center.ou.edu/lesson/322

Lesson Plans for Geometry

- Coordinate Planes and Japanese Interior Design
- https://china.usc.edu/k12/forums/lesson-plans/coordinate-planes-japanese-interior-design
- Interior Design Game
- https://www.education.com/activity/article/interior-designer-day/
- Teaching Geometry Using Art and Architecture
- https://uh.edu/honors/Programs-Minors/honors-and-the-schools/houston-teachers-institute/curriculum-units/pdfs/2004/hands-on-geometry/mcgowen-04-geometry.pdf

Mensuration

1 Tangram
2 Closed Doodles
3 Map Coloring
4 Euler's Formula
5 Square-based Oblique Pyramid
6 Klein Cube

- 7 Transforming Polygons
- 8 Tubes
- 9 Minimum Wrapping
- 10 Fence it off
- 11 Track Layout
- 12 Dipstick Problem

https://sharemylesson.com/teaching-resource/mensuration-mep-unit-7-155656?check_logged_in=1

Modeling / Scale Resources and Lessons

- Scale and Proportion Lesson for Interior Design Part 1 – YouTube
- Bedroom Floor Plan
- https://www.uen.org/lessonplan/view/5736
- Floor Plan Design
- https://www.uen.org/lessonplan/view/9047

Area and Perimeter

- Tiny Houses
- https://nyctecenter.org/images/ML_CTE_exemplars/FACSProbSolvMLCTELearningExpTinyHouse_508.pdf
- Using Area and Perimeter to Design a Fun House
- https://www.gpsd.us/cms/lib/NJ01000249/Centricity/Domain/241/Using%20Area%20and%20Perimeter.pdf
- Engaging Students in Math Through the Art of Tiling
- https://blog.mindresearch.org/blog/math-art-projects

Interior Design Challenge Kit

Kit includes:

- Interior Design Whiteboards (15)
- Markers (15)
- Microfiber cloths (15)
- Interior Design Challenge Cards (1 set)
- Physical Disabilities Sim Kit (4 sets)
  - Folding cane
  - Glaucoma glasses
  - Quiet ears headphones
- Interior Design Drawing Template Set (15)
- Drafting Workbooks (20)
- Storage box
- Downloadable curriculum
- 1-year limited warranty

Interior Design Challenge Kit

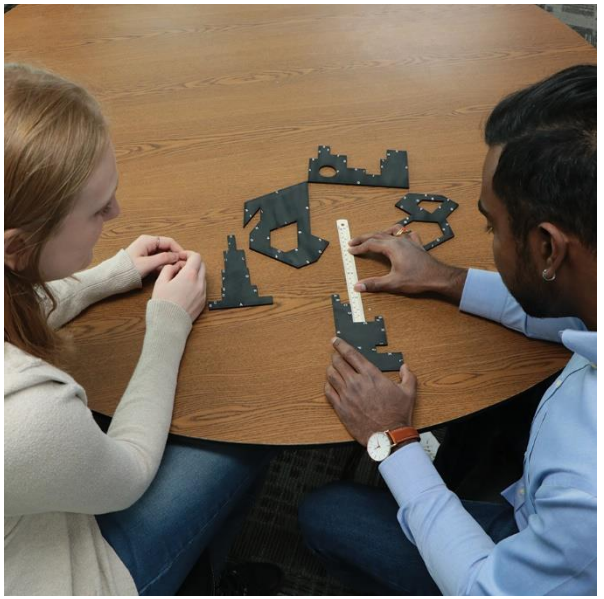
Curriculum Topics

Equitable Use
Flexibility in Use
Simple and Intuitive
Perceptible Information
Tolerance For Error
Low Physical Effort
Size and Space for Approach and Use
7 Principles of Interior Design
Designing for Accessibility
Design Challenge Day

15 ½ hours of teaching time

Measurement Math Training Kit

Shown: Lesson example on a tablet screen



https://www.realityworks.com/product/measurement-math/


But wait
THERE'S MORE!

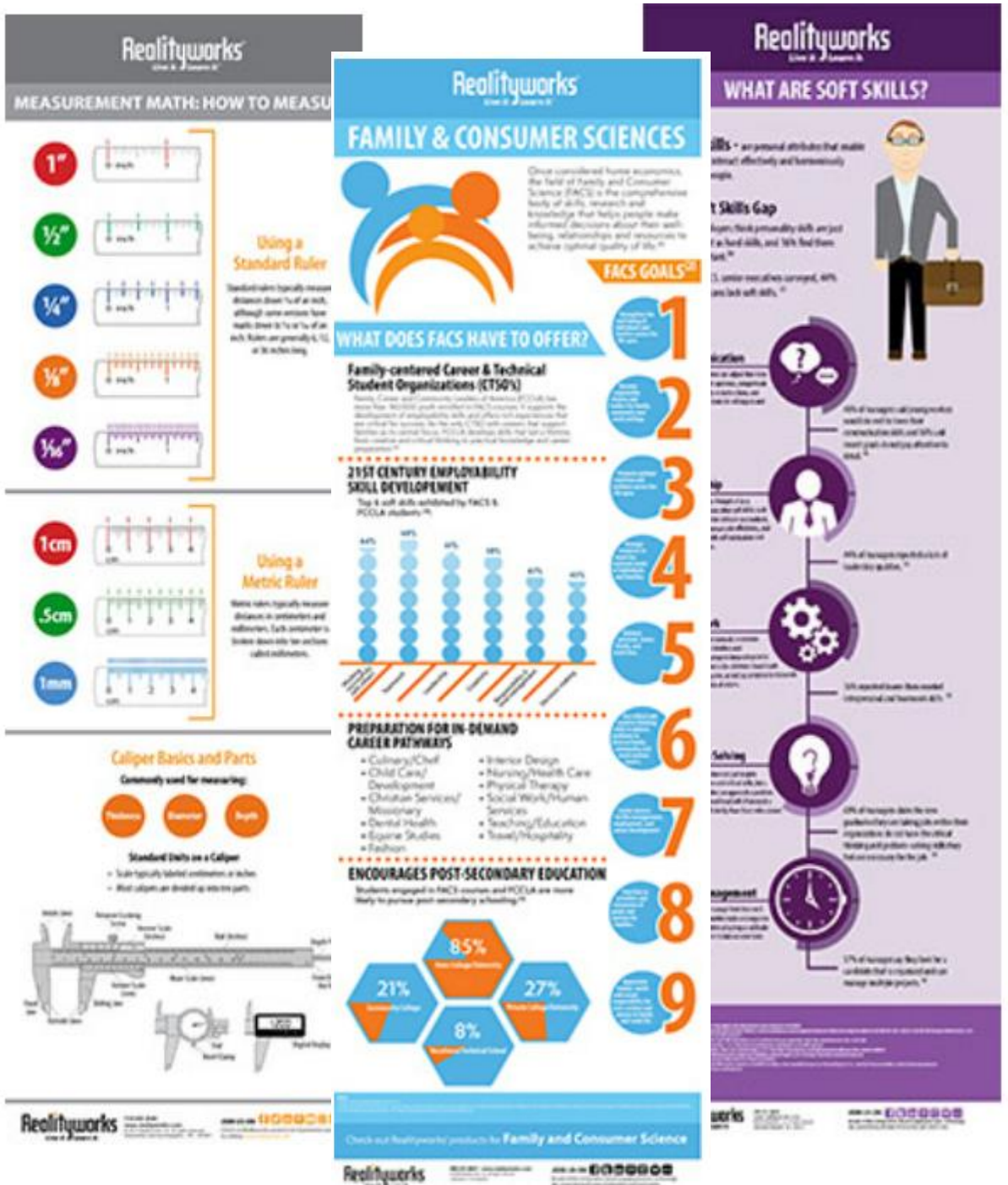
Realityworks Webinars

http://realityworks.com/webinars

More FREE Resources

FREE infographics

https://www.realityworks.com/resources/realityworks-interactive-posters-downloads/



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Free Career Exploration

Free Lesson Plans

We partnered with subject matter experts to create curricula that provide valuable career exploration and skill development opportunities. Use these lesson plans to engage your students in career exploration related to our hands-on learning aids, including opportunities within agriculture, health science, Family & Consumer Sciences, and trade skills.

- Agriculture career exploration
- Food science and meat evaluation career exploration
- Business and marketing career exploration
- Culinary arts and food science career exploration
- Exploration of careers in therapeutic services
- Family & Consumer Sciences (FCS) career exploration
- Child care career exploration
- Interior design career exploration
- Health science career exploration
- Dental career exploration
- Human Services career exploration
- Sports medicine career exploration
- STEM for FCS programs
- Trade skills career exploration
- Veterinary technician career exploration
- Architecture and construction career exploration
- Power, structural and technical systems career exploration
- Welding career exploration

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https://www.realityworks.com/resources/free-lesson-plans/

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Q&A

For more information please contact Realityworks, Inc.
through email at information@realityworks.com
or call toll free at 800.830.1416

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Part number