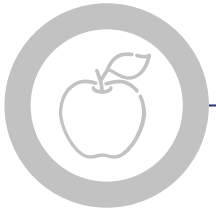
MATH it up!

Tara Kelley
Harwood Union High School

Resources & Strategies

1



NGPF

Where to find math activities on the NGPF website & some favorites!

2

What to do with DATA?

Some idea of what we can do to make data more meaningful.

3

Visualizing Percents

Explore some ways for students to understand what 22% really looks like

4

Your Ideas!

Do you have a math strategy you really love?! Please share! Otherwise this time can be used for Q&A or independent work time.

Let’s Collaborate!

If you have ideas or questions during this session, please share them!

I will share a QR code for this presentation with you at the end of the season.

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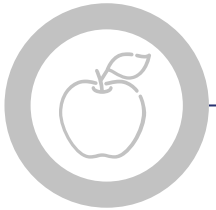

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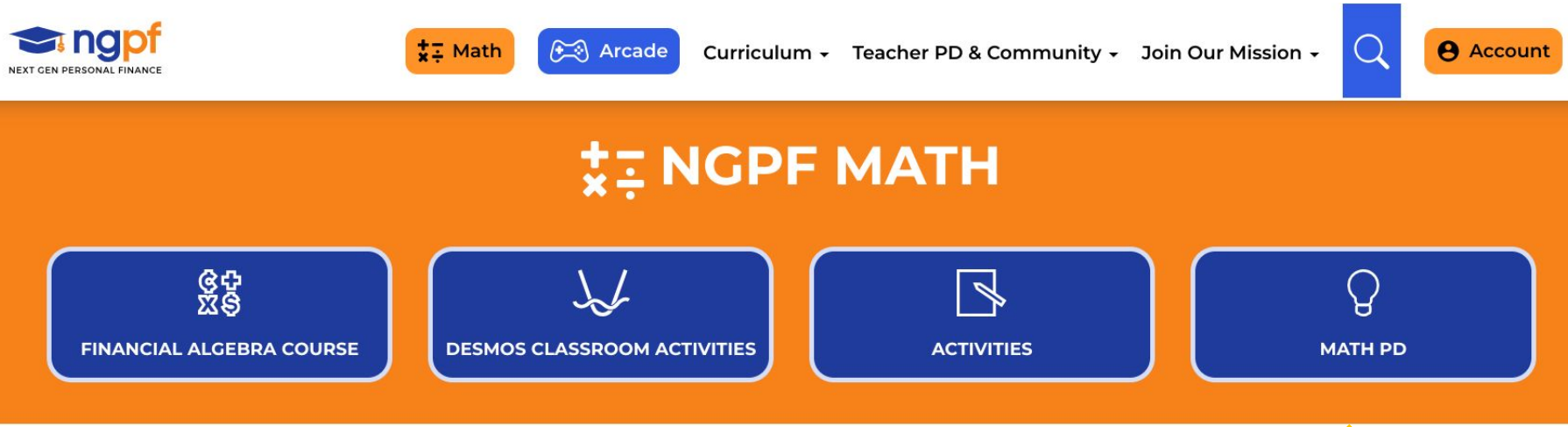

Full Math Curriculum

Each unit matches a personal finance concept to a math concept
(example: insurance + probability)

Individual Activities

Desmos Activities & Non Desmos
Activities that can stand be integrated into any class

More PD opportunities for all of your free time...

Math-it-up ACTIVITIES

You can locate these under the "activities" tab on NGPF's math website and using the search feature on their website.

NOTE: Some of these are included in the full math curriculum but they can also be used individually to introduce more math into a non-math curriculum.

Data Crunches

Example: TikTok's Rapid Growth

Great for: analyzing data and making predictions

"MATH" Activities

Example: MATH: Rule(72)

Great for: practicing a specific math skill and/or a specific PF topic

Application

Example: Fractions and Taxes

Great for: connecting math to the real world

Let’s Explore

- Please take some time to explore the resources that NGPF has to offer.
- Please be prepared to share a few resources that you found that sparked your interest.

- Activities - spreadsheets!
- Income tax brackets - MATH activity
- Project - Plan a Friendgiving dinner
- Insurance - Semester course
- Graphing linear equations in relation to housing ost and minimum wage
- Pass these to co-workers!

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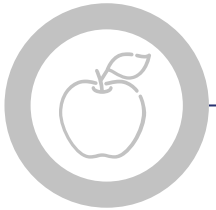

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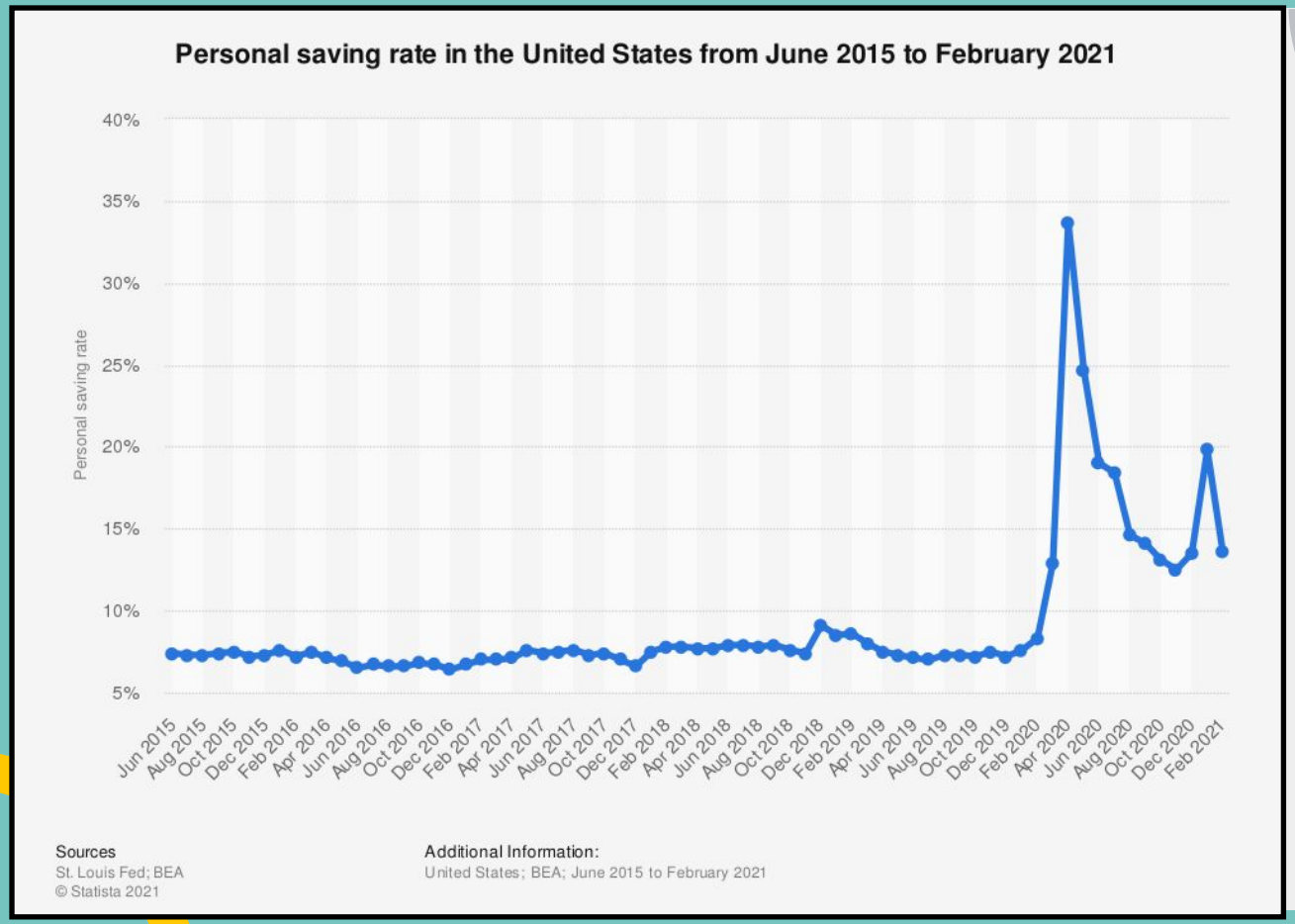
How do we make data more accessible and meaningful?

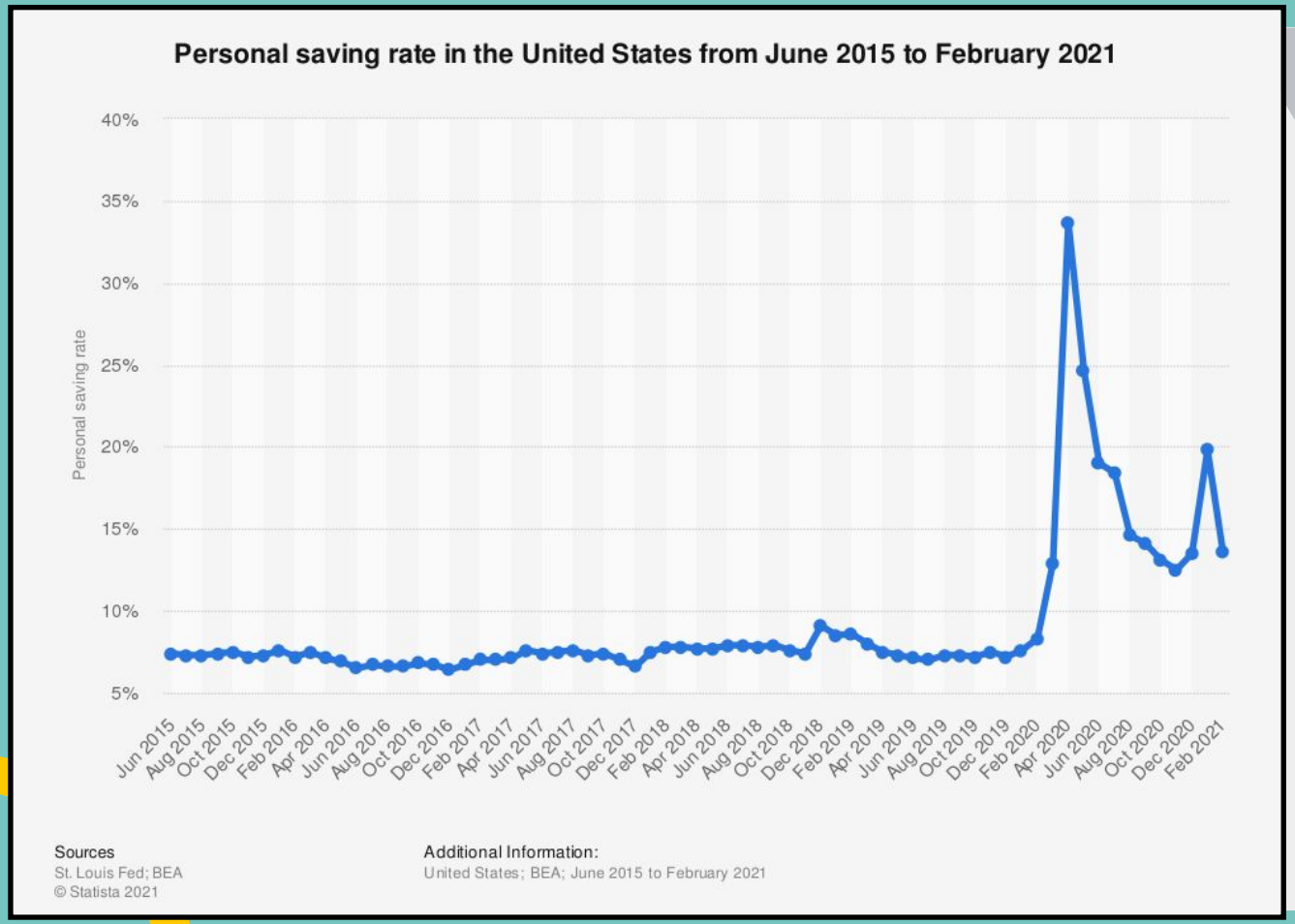


Prompt for discussion rather than asking specific questions

~~When was there a spike in the savings rates?~~

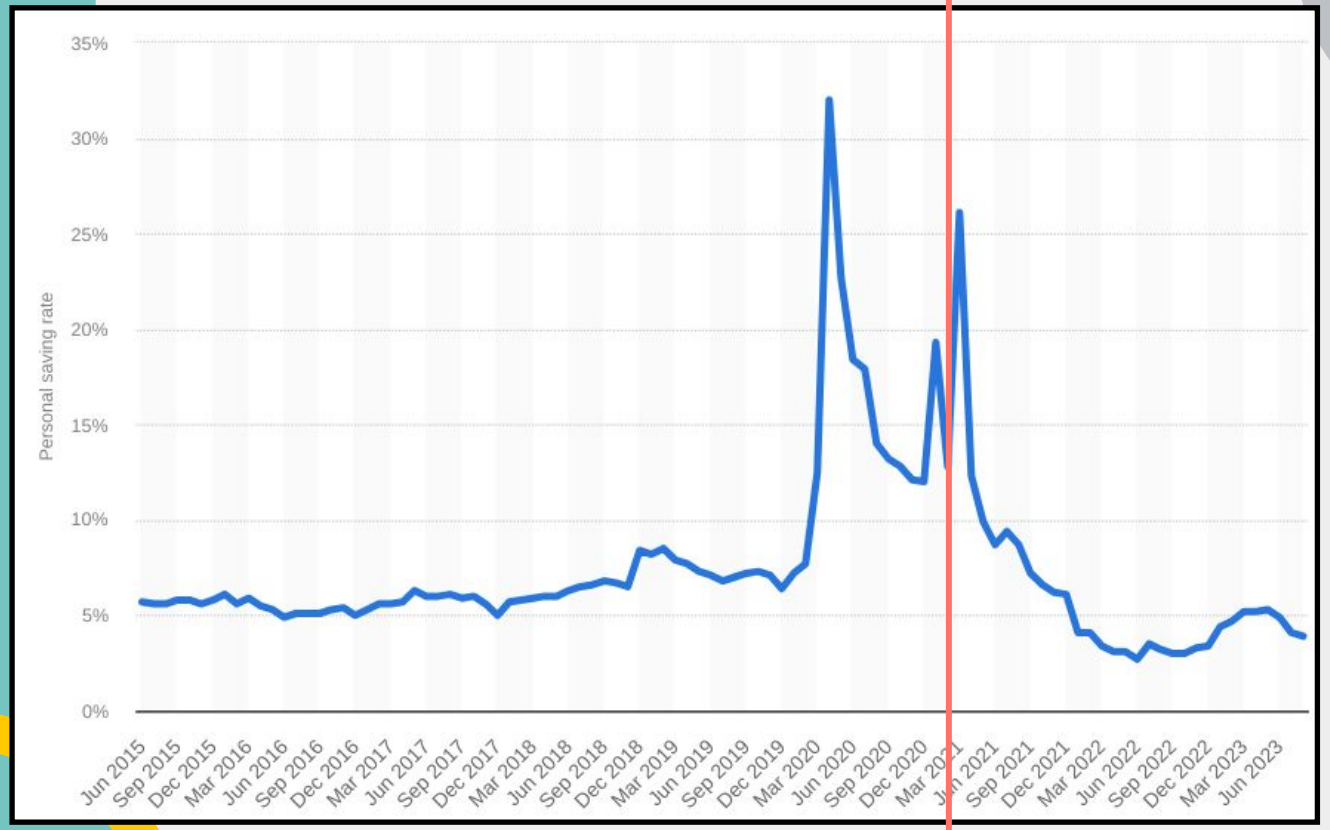
What do you NOTICE?

What do you WONDER?

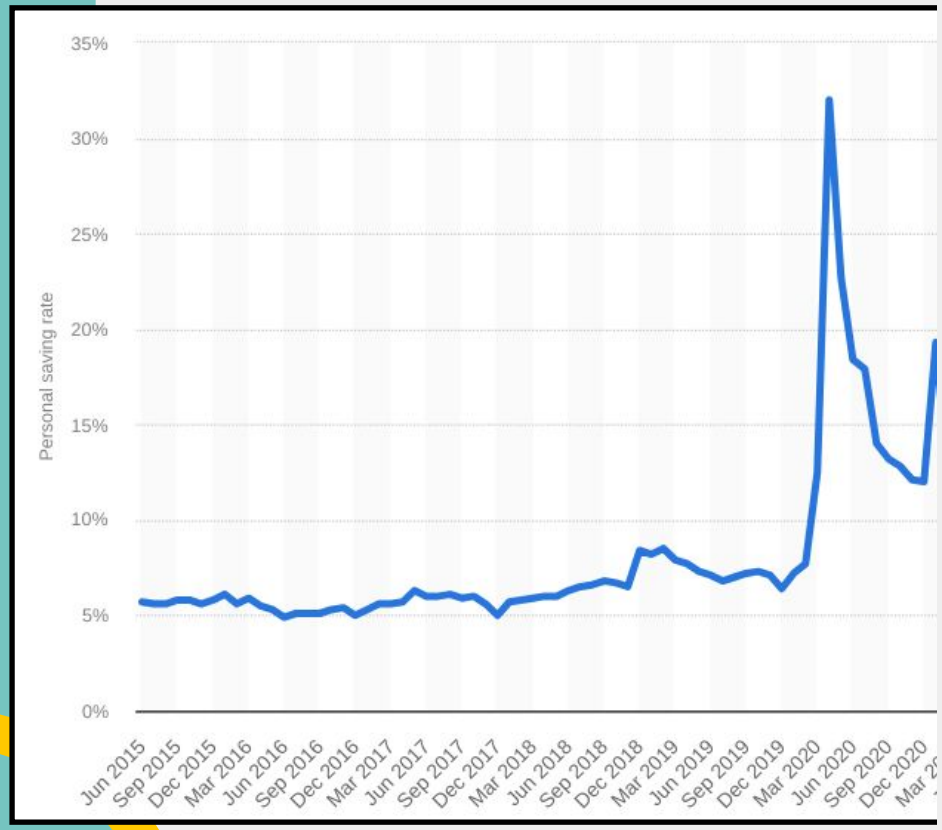


Make Predictions!

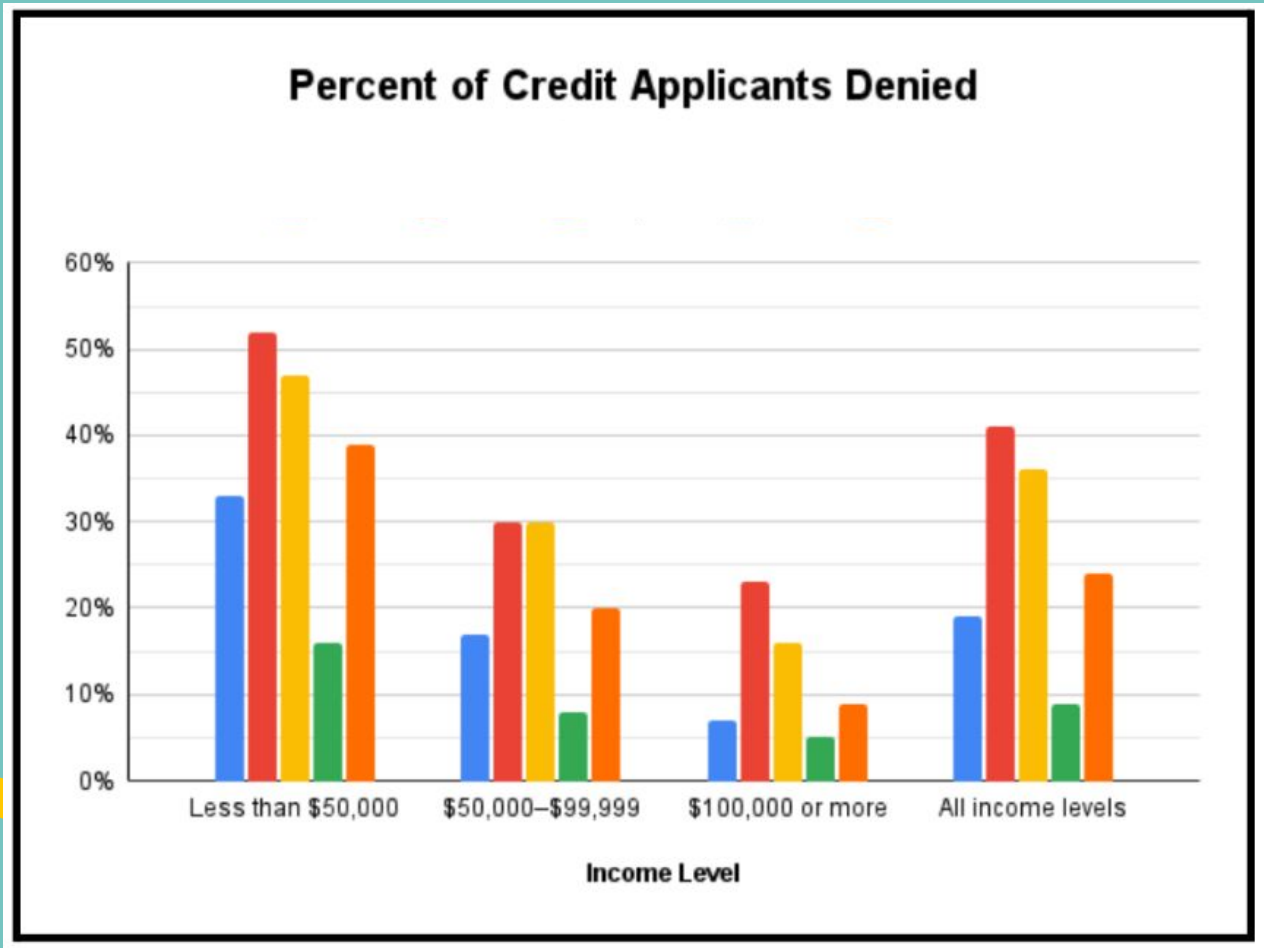
Data on this graph ends in Feb 2021, what do you think happened next?



Are you surprised?

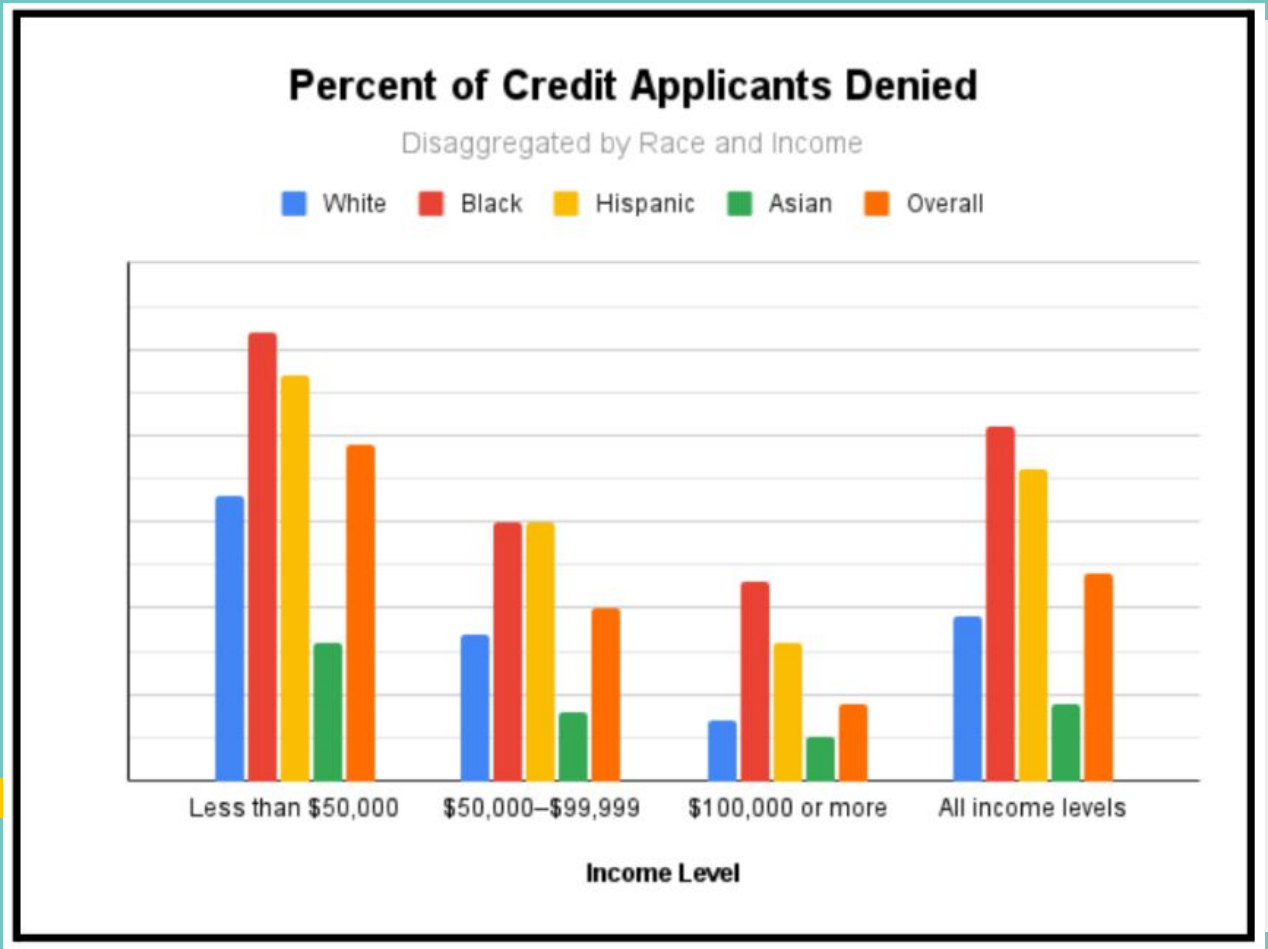


Teacher tip:
If you can't find corresponding graphs with old data and new data...try picking an up-to-date graph & hide the newest data to start.



Hold back a bit of information to start

What do you think each bar represents?



Hold back a bit of information to start

What do you think the scale on the y axis is?

Generation	2020	2021	2022	2021-2022 Change
Generation Z (18-25)	$16,043	$20,803	$25,851	+24.3%
Millennials (26-41)	$87,448	$100,906	$115,784	+14.7%
Generation X (42-57)	$140,643	$146,164	$154,658	+5.8%
Baby boomers (58-76)	$97,290	$95,607	$96,087	+0.5%
Silent Generation (77+)	$41,281	$39,859	$39,345	-1.3%

Source: Experian data from Q3 of each year; ages as of 2022

Hold back a bit of information to start

What is this table showing data for?

What would you name and article about this data?

Additional Ideas?

- Do you have any additional ideas of places to find Data or ways to use data to make it more engaging for students?

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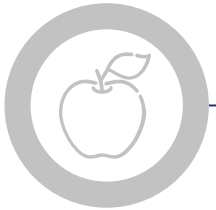

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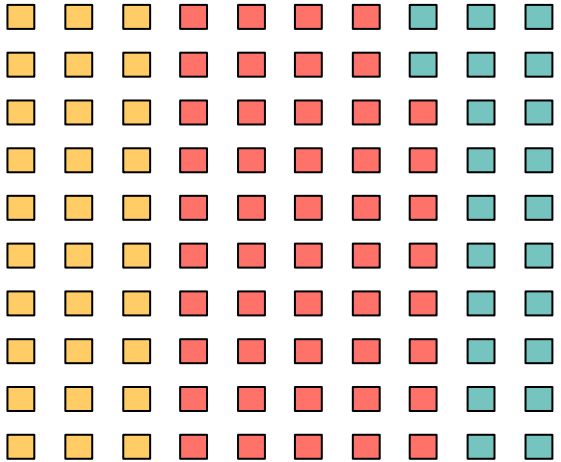
Visualizing Percents

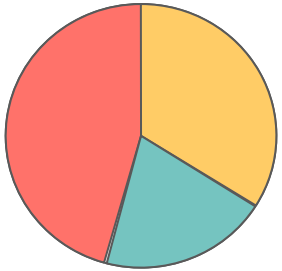
Percent	Emergency Fund Status
30%	Have enough to cover 6 months of expenses (recommended amount)
48%	Have some emergency savings but not the full recommended 6 months.
22%	No emergency savings at all

10x10 Grid



Icon Lines

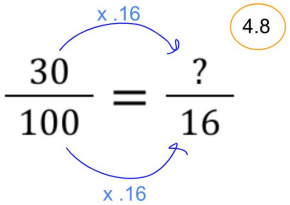
Pie/Circle Graph

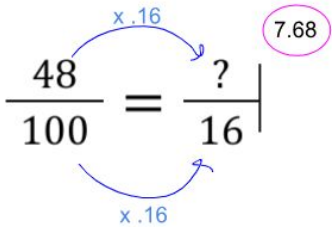


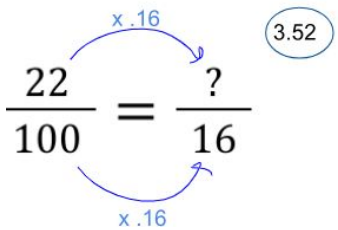
Make it Real - Classroom

How many people is that in our classroom of 16 students?

1. Work the proportions (together or in teams):







Percent	Emergency Fund Status
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48%	Have some emergency savings but not the full recommended 6 months.
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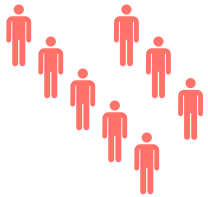
2. Have students group themselves to represent the categories. Let them decide how to round to best represent rational data with whole people :

3. Ask each group to discuss a different question.

Where are you keeping your emergency fund? How will you decide what is an "emergency"?



What is your plan to continue building your emergency fund to the recommended 6 months?

Why don't you have any savings right now?

Make it Real - State

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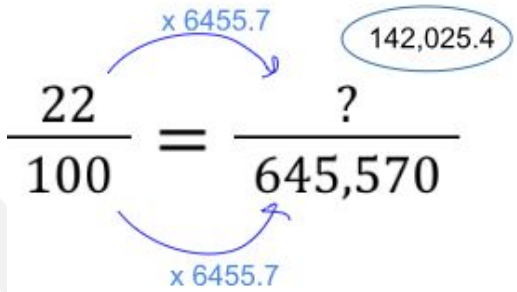

How many people is that in VERMONT with no emergency savings?

Population = 645, 570

Rank	City	Population
1	Burlington	44,595
2	Essex	22,408
3	South Burlington	20,624
4	Colchester	17,604
5	Rutland city	15,695
6	Bennington	15,312
7	Brattleboro	12,106
8	Essex Junction	10,917
9	Hartford	10,764
10	Milton	10,689
11	Williston	10,104
12	Middlebury	9,158
13	Springfield	9,101

That's like the population of the 7 most populous cities in VT combined!

Abstract → Concrete

Abstract: amortization tables are great in theory but are difficult to visualize!

Pre-made amortization graphs are sometimes worst! There is often so much going on that it takes away from the most important points.

Concrete: Have students make their own basic graph to see the patterns and relationships between monthly payments, principal and interest.

Make an Amortization Graph for Janet's Trip

Using the data from

ANALYZE: Understanding Amortization - NGPF Activity

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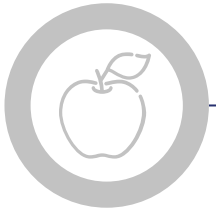

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What are your ideas?!

- Illustrative math cirriculem

Thank You!

Scan the QR code for a link to the presentation.

Feel free to email me with any questions at tkelley@huusd.org

SCAN ME