



Branch Alliance
for Educator Diversity



Math as a Superpower: Turning Mathematics from a Phobia to an Asset

BranchED Fall 2022
Summit: Day 3

Agenda

- Connector
- Case Study: Transformational Math
- Action Planning
- Comeback Session
- Resources
- Evaluation
- Closing Circle



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A Tale of Two Math Students...

- As a group, you spent some time reflecting on stories of math identity through your eyes or your students' eyes and you:
 - Decided on the story that you wanted to tell
 - Discussed strategies and encounters with a Math Superhero that could have an impact on the math identity of the character(s) in your story
 - Developed a storyboard that tells the arc of your character's Math Identity: Who they were. Who they are. Who they could be.
- Get ready to SHARE OUT!



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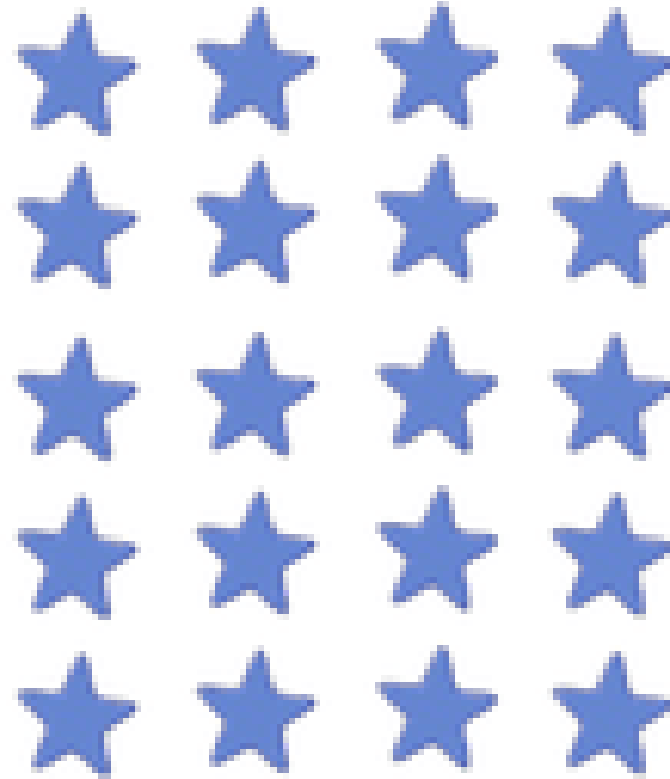
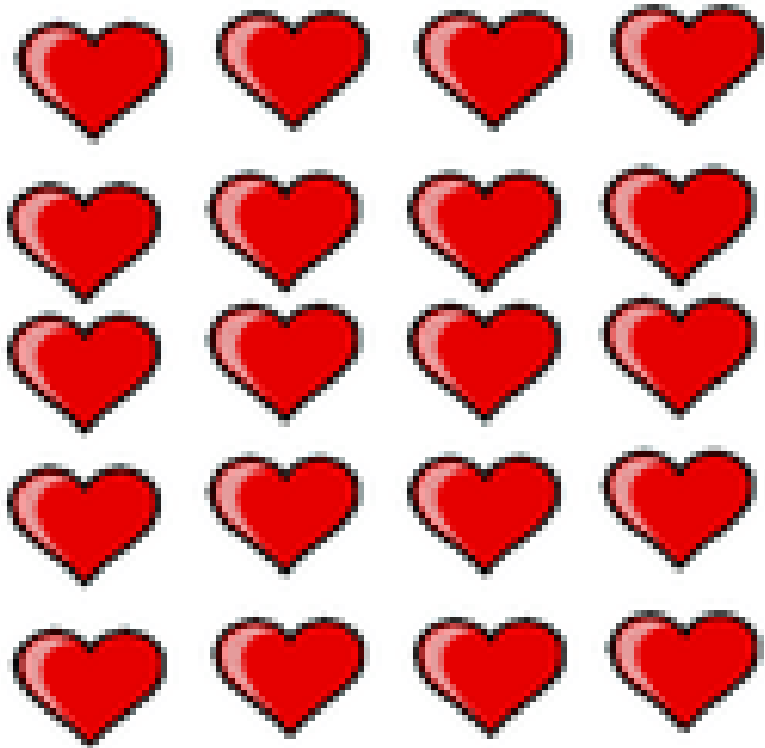
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Table 3

1ST GRADE...



7TH GRADE...

Name: _____

Class: _____

ALGEBRA

Solve for the variable.

- | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 1. $4 = y - 4$ _____ | 2. $4 = y - 2$ _____ | 3. $3 = y - 2$ _____ | 4. $4 = y - 5$ _____ |
| 5. $3 = 9 - y$ _____ | 6. $3 = 7 - y$ _____ | 7. $4 = y - 1$ _____ | 8. $7 = y - 2$ _____ |
| 9. $1 = 8 - y$ _____ | 10. $2 = 3 - y$ _____ | 11. $7 = y - 1$ _____ | 12. $2 = 8 - y$ _____ |
| 13. $2 = 9 - y$ _____ | 14. $3 = 7 - y$ _____ | 15. $8 = y - 1$ _____ | 16. $3 = 4 - y$ _____ |
| 17. $2 = 9 - y$ _____ | 18. $6 = 7 - y$ _____ | 19. $5 = y - 3$ _____ | 20. $0 = 6 - y$ _____ |
| 21. $4 = y - 3$ _____ | 22. $1 = 8 - y$ _____ | 23. $4 = 7 - y$ _____ | 24. $1 = y - 5$ _____ |
| 25. $3 = y - 5$ _____ | 26. $6 = 9 - y$ _____ | 27. $2 = y - 5$ _____ | 28. $0 = y - 2$ _____ |
| 29. $5 = y - 3$ _____ | 30. $5 = 7 - y$ _____ | 31. $1 = 5 - y$ _____ | 32. $2 = y - 2$ _____ |
| 33. $1 = y - 2$ _____ | 34. $0 = y - 7$ _____ | 35. $4 = 5 - y$ _____ | 36. $2 = y - 3$ _____ |
| 37. $0 = y - 9$ _____ | 38. $3 = 6 - y$ _____ | 39. $2 = y - 5$ _____ | 40. $4 = 9 - y$ _____ |
| 41. $4 = 6 - y$ _____ | 42. $3 = y - 6$ _____ | 43. $2 = 8 - y$ _____ | 44. $1 = y - 1$ _____ |
| 45. $5 = y - 1$ _____ | 46. $2 = 6 - y$ _____ | 47. $6 = y - 3$ _____ | 48. $2 = 5 - y$ _____ |
| 49. $3 = 4 - y$ _____ | 50. $2 = y - 4$ _____ | 51. $0 = y - 3$ _____ | 52. $3 = y - 3$ _____ |
| 53. $1 = 5 - y$ _____ | 54. $8 = y - 1$ _____ | 55. $1 = y - 5$ _____ | 56. $4 = y - 4$ _____ |
| 57. $7 = 8 - y$ _____ | 58. $3 = 5 - y$ _____ | 59. $2 = 4 - y$ _____ | 60. $5 = y - 4$ _____ |
| 61. $3 = 8 - y$ _____ | 62. $0 = 5 - y$ _____ | 63. $6 = 8 - y$ _____ | 64. $0 = y - 4$ _____ |

10TH GRADE



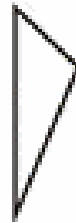
Beth and Isabel

Classifying triangles (equilateral / isosceles / scalene / right)

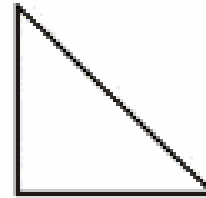
Grade 4 Geometry Worksheet

Classify the triangles.

1.



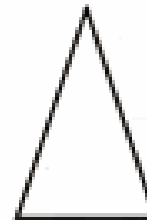
2.



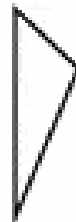
3.



4.



5.



6.



WELCOME!

- MRS. OREJEL'S
1st GRADE
CLASS

Your Feedback



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A word cloud of feedback comments. The words are arranged in a circular pattern around the center, with varying sizes and colors. The most prominent words are 'informative' (large, blue), 'insightful' (large, pink), 'fun' (medium, red), and 'interesting' (medium, yellow). Other words include 'energetic', 'exhausting', 'processing', 'amazing', 'laughter', 'well-spent', 'lots of learning', 'approach', 'good exhaustion', 'effective practices', 'dynamic presenters', 'experiential', 'content focused', 'fattening', 'cold', 'eye-opening', 'important', 'provocative', 'practioner based', 'good ibformation', 'rejuvenating', 'terrific', 'sharing', 'engageing', 'interactive', 'fun hands on', 'uplifting', 'planning', 'enlightening', 'frozen', 'tired', 'networking', 'fantastic', 'practical', 'connected', 'sel ideas', 'engaging', 'overload', 'helpful', 'work', 'outstanding', 'collaborative', 'invigorating', 'exciting', 'much needed', and 'exhausting'.

energetic
exhausting
processing
amazing
laughter
well-spent
lots of learning
approach
good exhaustion
effective practices
dynamic presenters
experiential
content focused
fattening
cold
eye-opening
important
provocative
practioner based
good ibformation
rejuvenating
terrific
sharing
engageing
interactive
fun hands on
uplifting
planning
enlightening
frozen
tired
networking
fantastic
practical
connected
sel ideas
engaging
overload
helpful
work
outstanding
collaborative
invigorating
exciting
much needed
exhausting

informative
insightful
fun
interesting

More engagement necessary

NA

None

Nothing. All has been great and I've learned a lot.

Nothing to improve for tomorrow

This was a long day.

No suggestions

Thanks for the cookies!

Keep up the great work! Enjoyed hearing from EPP and district partners.

Keep us active

I would like to practice more

N/a

None at this time.

All was excellent thus far. Thank for being so sensitive to our needs.

Good

Thanks for the cookies!

IDK. Still trying to process everything.
:)

None at this time!

Conscientious of food allergies,
please. Breaks are important to keep
us engaged.

Music between breaks

Today was great! Music breaks would
be fantastic!

Wish more time was given to how SEL
can and is presented in math lessons
More of what we received within the
last Few minutes would be helpful

Music

Everyone has been excellent. Keep up
the great work. Music breaks would e
great

I think BranchEd faculty should be
mindful of talking to one another

Everyone has been excellent. Keep up the great work. Music breaks would e great

Nothing for tomorrow but possibly visiting a classroom with students to see some of the strategies in action either in educator prep or K-12z

can and is presented in math lessons
More of what we received within the last Few minutes would be helpful

music breaks

Not for tomorrow's session but in future sessions maybe seeing this in educator prep or even k-12 classroom.

I think BranchEd faculty should be mindful of talking to one another while others are presenting- distracting & disrepectful.

Transformational Math Experiences

EPP Curriculum Application



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Transformational Math: Curriculum Application

EDU 330 CONTENT:









- Counting & Cardinality
- Operations and Algebraic Thinking
- Number and Operations in Base Ten
- Number and Operations—Fractions
- Measurement and Data
- Geometry

Transformational Perspectives in STEM Fields

Cross-Cutting Themes				Science	Technology	Engineering	Mathematics
Global Issues	STEM Career Exploration	Diversity, Equity, & Inclusion	Arts	5 E Model	Dynamic Representations	Engineering Habits of Mind	Conceptual Understanding
				Project Based Learning	Collaborative Reasoning	Engineering Practice	Procedural Fluency
				Science Content	Immediate and Individualized Feedback	Engineering Knowledge	Productive Disposition
				Science Understanding	Science Argumentation Skills	Engineering Ethics	Adaptive Reasoning
				Science Environment	Engineering Design Processes	Engineering Careers	Strategic Competence
				Computer Science	Computational Thinking	Robotics	
				Scientific Habits of Mind	Project-Based Interdisciplinary Learning	Coding	
					Embedded Assessments		
					Evidence Based Models		

Content & Skill Development

- Evidence-Based Strategies
- Positive Learning Environment
- Differentiated Instruction
- Social & Emotional Learning
- Math Identity
- Technology
- Math Careers
- Real-World Problem Solving
- Family & Community Engagement
- STEAM/Interdisciplinary Collaboration

COMMON CORE MATHEMATICAL PRACTICE STANDARDS		
1	I can make sense of problems and persevere in solving them.	
2	I can reason abstractly and quantitatively.	
3	I can construct viable arguments and critique the reasoning of others.	
4	I can model with mathematics.	
5	I can use appropriate tools strategically.	
6	I can attend to precision.	
7	I can look for and make use of structure.	
8	I can look for and express regularity in repeated reasoning.	

Transformational
Math:
Curriculum
Application

Course	Objective	SEL Activity	Math Identity Activity
EDU 331: Elementary Math Methods	<p>Problem Solving: Build Perseverance and Risk-Taking in Math</p> <p>Mathematical Practice Standards 1, 3, 4</p> <p>Productive Disposition</p>	<p>Relationship Skills: Give a small group of students a math problem with mistakes and have them explore what went wrong.</p>	<p>Growth Mindset: 5 ways to solve ONE problem</p>



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Break

Back in 15 minutes

Remember to check-out



Action Plan: Math as a Superpower

Name:

Identify a math course that you are teaching. Review and analyze 3-5 activities. Think about how you will revise your assignments using the components of SEL. Use the template below to guide your thinking.

Identify & briefly describe your assignment	Identify & briefly describe your assignment	Identify & briefly describe your assignment	Identify & briefly describe your assignment	Identify & briefly describe your assignment
What course objective does this assignment align to?	What course objective does this assignment align to?	What course objective does this assignment align to?	What course objective does this assignment align to?	What course objective does this assignment align to?
What SEL component will this assignment focus on?	What SEL component will this assignment focus on?	What SEL component will this assignment focus on?	What SEL component will this assignment focus on?	What SEL component will this assignment focus on?



Action Plan

- Identify a math course that you are teaching.
- Review and analyze 3-5 activities.
- Think about how you will revise your assignments using the components of SEL.
- Use the template to guide your thinking.
- Email: spatterson@educatordiversity.org

<https://www.educatordiversity.org/fallsummit/>



Action Plan for Math as a Superpower Fall Summit 2022			
Name:		Institution:	
Course:		Objective(s)	
Assignment Name #1			
<i>Describe how this activity supports SEL development. Provide the SEL domain the activity supports (self-awareness, self-management, relationship skills, social awareness, responsible decision making).</i>			
<i>Discuss how this activity supports math identity development. Identify the aspect of math identity the activity strengthens (growth mindset, decrease math anxiety, sense of belonging, perceived utility).</i>			
Assignment Name #2			
<i>Describe how this activity supports SEL development. Provide the SEL domain the activity supports (self-awareness, self-management, relationship skills, social awareness, responsible decision making).</i>			

<https://www.educatordiversity.org/fallsummit/>

Next Steps

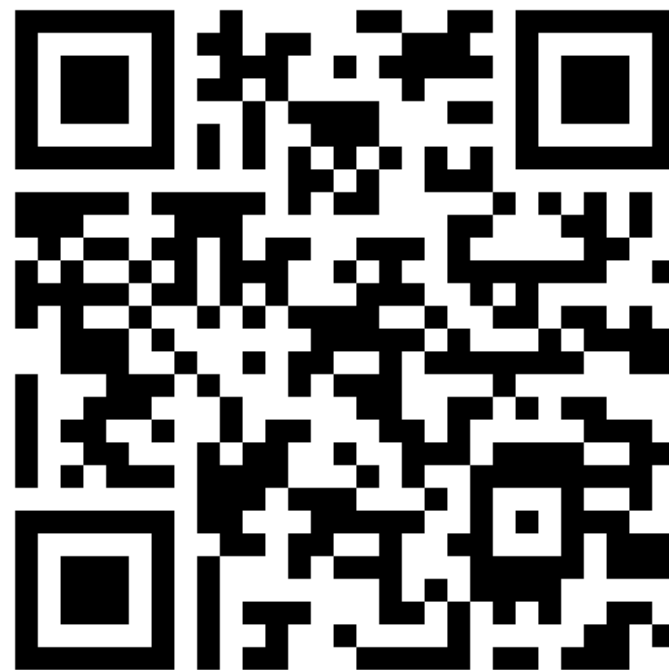
- Submit your AP
- Digital Badge
- Applying your action plan
- Come-back session to share the work you have done



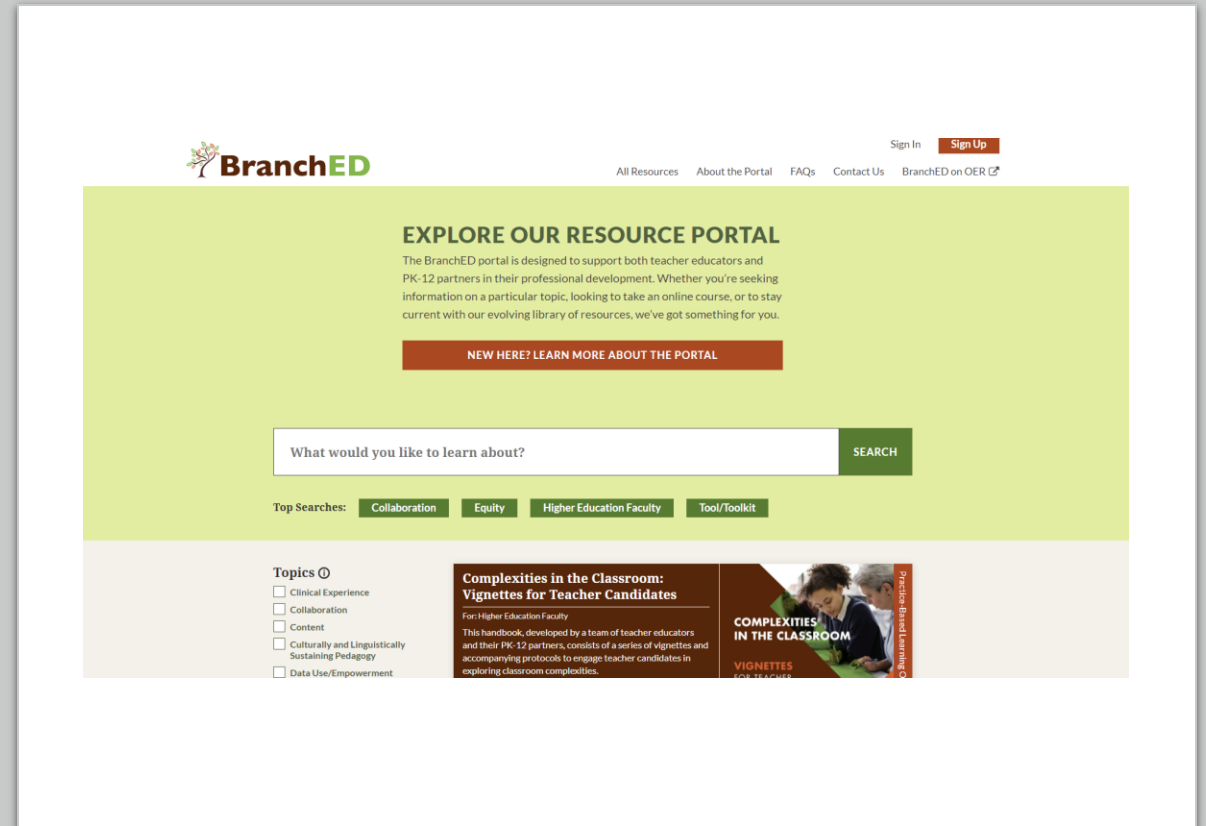
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Upcoming
Events



<https://branched.info/Events>



BranchED Resource Portal

<https://resources.educatordiversity.org/>



Evaluation

BranchED Circle Talk

Speaking from the Heart, Listening with Respect



- The Significance of Circles
 - Circles are symbolic in many cultures and contexts
 - Circles represent equality, interconnectedness, and continuity
 - *Circle Talk* is built on the belief that every human being wants to be connected to others in a good way
 - Circles build community



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BranchED Circle Talk

Speaking from the Heart, Listening with Respect

Reflections

- Looking back on our time together:
 - What have been the highpoints or headlines?
 - What have been the most significant challenges?

Anticipations

- Looking ahead
 - What do you most look forward to?
 - What do you most want to accomplish?



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