



Children's Health Council

Does Your Classroom Foster a Growth Mindset?

Children's Health Council

Teacher Ed

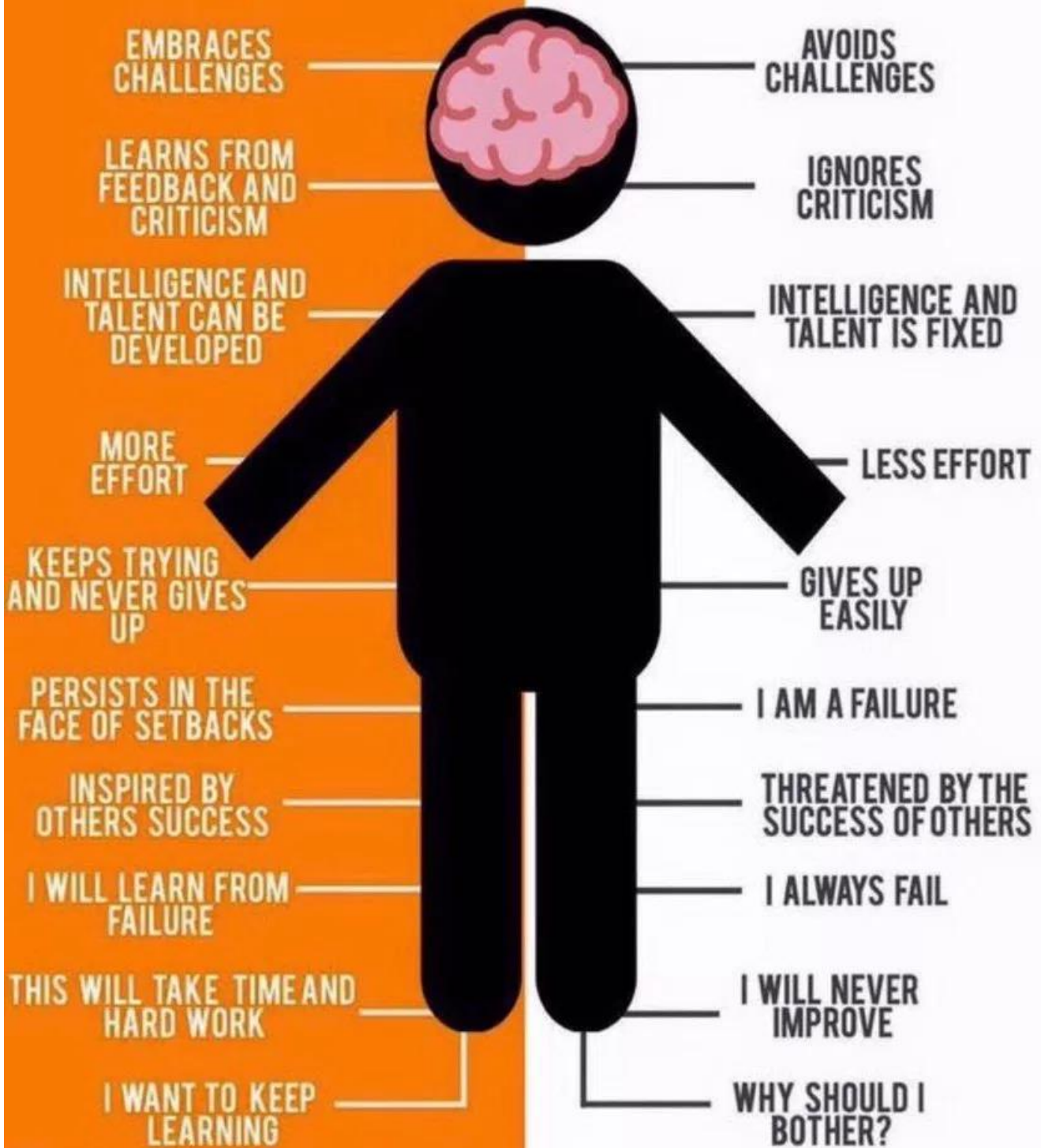
May 1, 2018

Elaine Antipuesto

GROWTH MINDSET

VS.

FIXED MINDSET



 @BELIEVEPHQ

10 Growth Mindset Statements

What can I say to myself?



INSTEAD OF:

I'm not good at this.

I'm awesome at this.

I give up.

This is too hard.

I can't make this any better.

I just can't do Math.

I made a mistake.

She's so smart. I will never be that smart.

It's good enough.

Plan "A" didn't work.

TRY THINKING:

1 What am I missing?

2 I'm on the right track.

3 I'll use some of the strategies we've learned.

4 This may take some time and effort.

5 I can always improve so I'll keep trying.

6 I'm going to train my brain in Math.

7 Mistakes help me to learn better.

8 I'm going to figure out how she does it.

9 Is it really my best work?

10 Good thing the alphabet has 25 more letters!



(Original source unknown)

@sylviaaduckworth

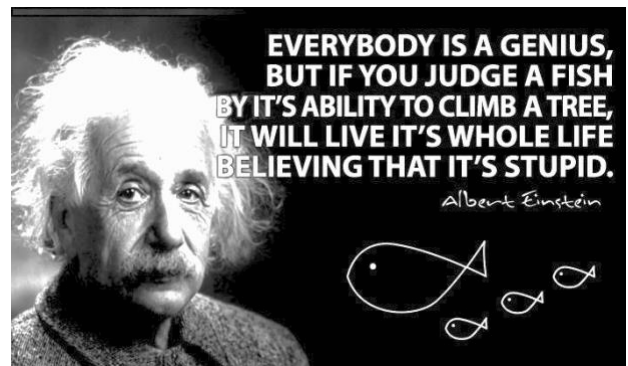
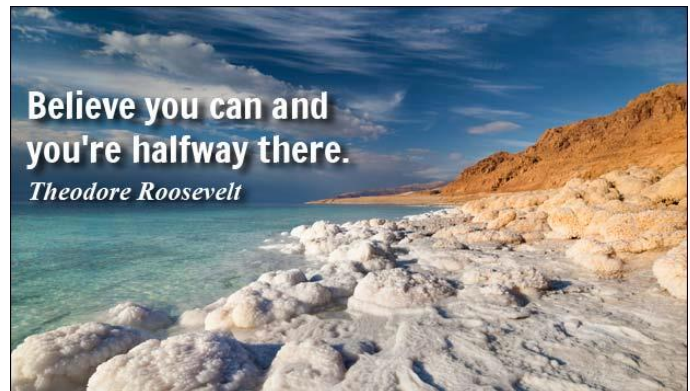
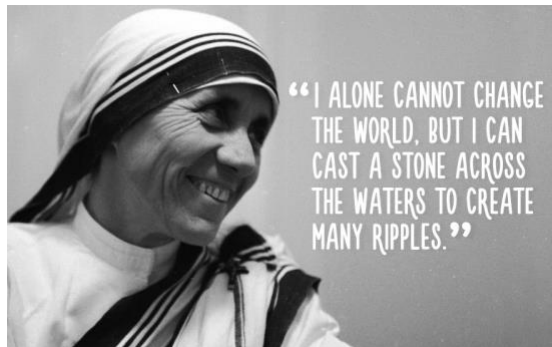
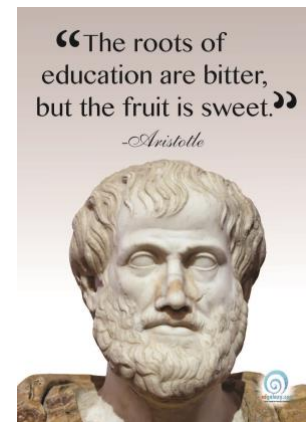
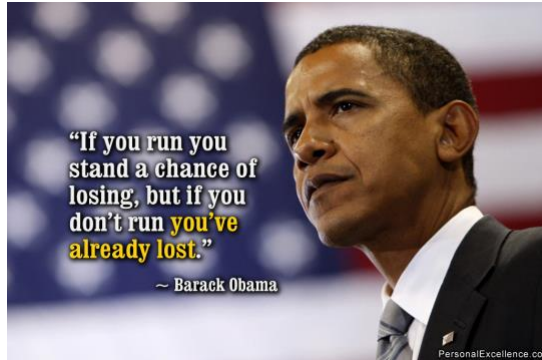
Shout Out!!!

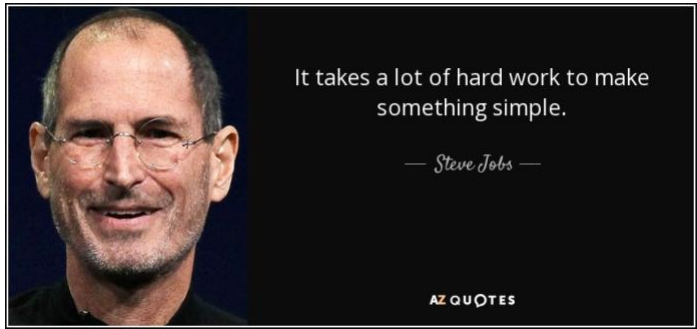
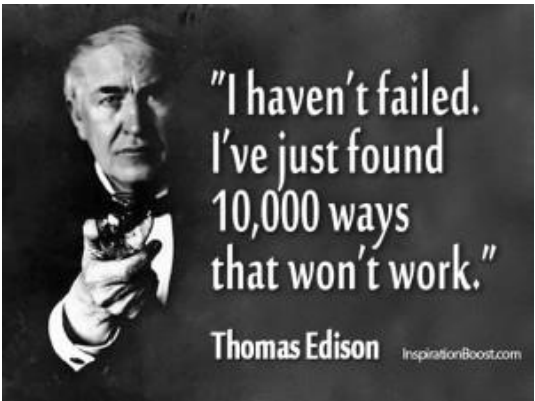
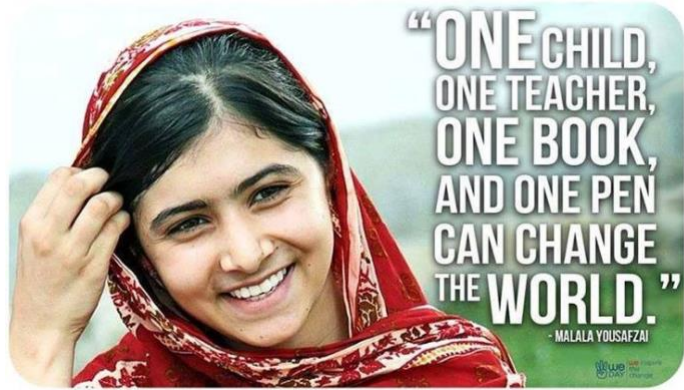
10 vertical lines for writing names.

Shout Out!!!

10 vertical lines for writing names.

Growth Mindset Power Quotes





Sample Student Work

Reflection

Do Now

Choose a Growth Mindset **Power Quote** and copy or paste it below:

it's okay to
not know.
it's **not** okay
to **not try.**

1. How do you feel about taking the AIMSWEB Benchmark Tests?

1

2

3

4

Elaborate: I feel pretty good about
the tests. Because I have done it before.

2. How do you feel when looking at your math data (scores, progress)?

1

2

3

4

Elaborate: I feel like I have to improve
if I get a bad score and that pushes
me to work harder. And if I get a good
score I feel like I succeeded

3. How do you feel when you see your trending (either progress going up or down)?

1

2

3

4

Elaborate: I just feel like I have
to work harder or ask for help
if I need it.

Middle School Mindset Rubric

	5 97 - 105% (A+)	4 90 - 96% (A-/A)	3 80 - 89% (B-/B)	2 70 - 79% (C-/C)	1 69% or below (D/F)
<u>Professional</u>	<ul style="list-style-type: none"> Work is very neat and professional Written HW is done on graph paper All materials are brought to class Timely and appropriate 	<ul style="list-style-type: none"> Work is consistently <u>very neat and professional</u> All materials are brought to class Timely and appropriate 	<ul style="list-style-type: none"> Work is legible and professional Most materials are brought to class consistently 	<ul style="list-style-type: none"> Sometimes work is legible, professional or materials brought Receiving a conversation/consequence more than twice week 	<ul style="list-style-type: none"> Struggling to be professional Needing lunch practice, serious consequence, or parent/admin intervention
<u>Behavior</u>	<ul style="list-style-type: none"> A 4 Plus motivating others in a positive and respectful way. 	<ul style="list-style-type: none"> Consistent appropriate voice level Consistent appropriate conduct 	<ul style="list-style-type: none"> Mostly appropriate voice level and conduct Receiving a reminder at most twice a week. 	<ul style="list-style-type: none"> Sometimes appropriate voice level and conduct Receiving one conversation/consequence more than twice week 	<ul style="list-style-type: none"> Struggling using correct voice level and appropriate conduct Receiving more than one conversation/consequence a week
<u>Growth Mindset</u>	<ul style="list-style-type: none"> A 4 Plus earning at least 3 bonus points a week. (HS Mindset) 	<ul style="list-style-type: none"> Consistently using Growth Mindset language and attitude. Persevering in a professional manner through productive struggle 	<ul style="list-style-type: none"> Mostly using Growth Mindset language and attitude. Getting through task, but may have shown outward frustration at the most twice a week. 	<ul style="list-style-type: none"> Sometimes using Growth Mindset language and attitude. Getting through tasks, but has shown outward frustration more than twice a week. 	<ul style="list-style-type: none"> Struggling using Growth Mindset language and attitude Is seriously hindered when trying to persevere through tasks.
<u>Grit</u>	<ul style="list-style-type: none"> A 4 Plus asking for and doing extra credit work. 	<ul style="list-style-type: none"> Consistently engaged in work that may be easy or hard with an understanding of self-growth. 	<ul style="list-style-type: none"> Mostly engaged in work that may be easy or hard with an understanding of self-growth. Might need at most 2 reminders a week to stay focused. 	<ul style="list-style-type: none"> Sometimes engaged in work that may be easy or hard. Might need more than 2 reminders a week to stay focused. 	<ul style="list-style-type: none"> Struggly to stay engaged in work that may be easy or hard. Receives a conversation/consequence a week.

A Mathematician's Lament

by Paul Lockhart

A musician wakes from a terrible nightmare. In his dream he finds himself in a society where music education has been made mandatory. "We are helping our students become more competitive in an increasingly sound-filled world." Educators, school systems, and the state are put in charge of this vital project. Studies are commissioned, committees are formed, and decisions are made— all without the advice or participation of a single working musician or composer.

Since musicians are known to set down their ideas in the form of sheet music, these curious black dots and lines must constitute the "language of music." It is imperative that students become fluent in this language if they are to attain any degree of musical competence; indeed, it would be ludicrous to expect a child to sing a song or play an instrument without having a thorough grounding in music notation and theory. Playing and listening to music, let alone composing an original piece, are considered very advanced topics and are generally put off until college, and more often graduate school.

As for the primary and secondary schools, their mission is to train students to use this language— to jiggle symbols around according to a fixed set of rules: "Music class is where we take out our staff paper, our teacher puts some notes on the board, and we copy them or transpose them into a different key. We have to make sure to get the clefs and key signatures right, and our teacher is very picky about making sure we fill in our quarter-notes completely. One time we had a chromatic scale problem and I did it right, but the teacher gave me no credit because I had the stems pointing the wrong way."

In their wisdom, educators soon realize that even very young children can be given this kind of musical instruction. In fact it is considered quite shameful if one's third-grader hasn't completely memorized his circle of fifths. "I'll have to get my son a music tutor. He simply won't apply himself to his music homework. He says it's boring. He just sits there staring out the window, humming tunes to himself and making up silly songs."

In the higher grades the pressure is really on. After all, the students must be prepared for the standardized tests and college admissions exams. Students must take courses in Scales and Modes, Meter, Harmony, and Counterpoint. "It's a lot for them to learn, but later in college when they finally get to hear all this stuff, they'll really appreciate all the work they did in high school." Of course, not many students actually go on to concentrate in music, so only a few will ever get to hear the sounds that the black dots represent. Nevertheless, it is important that every member of society be able to recognize a modulation or a fugal passage, regardless of the fact that they will never hear one. "To tell you the truth, most students just aren't very good at music. They are bored in class, their skills are terrible, and their homework is barely legible. Most of them couldn't care less about how important music is in today's world; they just want to take the minimum number of music courses and be done with it. I guess there are just music people and non-music people. I had this one kid, though, man was she sensational! Her sheets were impeccable— every note in the right place, perfect calligraphy, sharps, flats, just beautiful. She's going to make one hell of a musician someday."

Waking up in a cold sweat, the musician realizes, gratefully, that it was all just a crazy dream. “Of course!” he reassures himself, “No society would ever reduce such a beautiful and meaningful art form to something so mindless and trivial; no culture could be so cruel to its children as to deprive them of such a natural, satisfying means of human expression. How absurd!”

Meanwhile, on the other side of town, a painter has just awakened from a similar nightmare...

I was surprised to find myself in a regular school classroom— no easels, no tubes of paint. “Oh we don’t actually apply paint until high school,” I was told by the students. “In seventh grade we mostly study colors and applicators.” They showed me a worksheet. On one side were swatches of color with blank spaces next to them. They were told to write in the names. “I like painting,” one of them remarked, “they tell me what to do and I do it. It’s easy!”

After class I spoke with the teacher. “So your students don’t actually do any painting?” I asked. “Well, next year they take Pre-Paint-by-Numbers. That prepares them for the main Paint-by-Numbers sequence in high school. So they’ll get to use what they’ve learned here and apply it to real-life painting situations— dipping the brush into paint, wiping it off, stuff like that. Of course we track our students by ability. The really excellent painters— the ones who know their colors and brushes backwards and forwards— they get to the actual painting a little sooner, and some of them even take the Advanced Placement classes for college credit. But mostly we’re just trying to give these kids a good foundation in what painting is all about, so when they get out there in the real world and paint their kitchen they don’t make a total mess of it.”

“Um, these high school classes you mentioned...”

“You mean Paint-by-Numbers? We’re seeing much higher enrollments lately. I think it’s mostly coming from parents wanting to make sure their kid gets into a good college. Nothing looks better than Advanced Paint-by-Numbers on a high school transcript.”

“Why do colleges care if you can fill in numbered regions with the corresponding color?”

“Oh, well, you know, it shows clear-headed logical thinking. And of course if a student is planning to major in one of the visual sciences, like fashion or interior decorating, then it’s really a good idea to get your painting requirements out of the way in high school.”

“I see. And when do students get to paint freely, on a blank canvas?”

“You sound like one of my professors! They were always going on about expressing yourself and your feelings and things like that—really way-out-there abstract stuff. I’ve got a degree in Painting myself, but I’ve never really worked much with blank canvasses. I just use the Paint-by-Numbers kits supplied by the school board.”

Sadly, our present system of mathematics education is precisely this kind of nightmare. In fact, if I had to design a mechanism for the express purpose of *destroying* a child’s natural curiosity and love of pattern-making, I couldn’t possibly do as good a job as is currently being done— I simply wouldn’t have the imagination to come up with the kind of senseless, soul-crushing ideas that constitute contemporary mathematics education.

Everyone knows that something is wrong. The politicians say, “we need higher standards.” The schools say, “we need more money and equipment.” Educators say one thing, and teachers

say another. They are all wrong. The only people who understand what is going on are the ones most often blamed and least often heard: the students. They say, “math class is stupid and boring,” and they are right.

Mathematics and Culture

The first thing to understand is that mathematics is an art. The difference between math and the other arts, such as music and painting, is that our culture does not recognize it as such. Everyone understands that poets, painters, and musicians create works of art, and are expressing themselves in word, image, and sound. In fact, our society is rather generous when it comes to creative expression; architects, chefs, and even television directors are considered to be working artists. So why not mathematicians?

Part of the problem is that nobody has the faintest idea what it is that mathematicians do. The common perception seems to be that mathematicians are somehow connected with science— perhaps they help the scientists with their formulas, or feed big numbers into computers for some reason or other. There is no question that if the world had to be divided into the “poetic dreamers” and the “rational thinkers” most people would place mathematicians in the latter category.

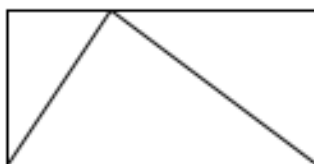
Nevertheless, the fact is that there is nothing as dreamy and poetic, nothing as radical, subversive, and psychedelic, as mathematics. It is every bit as mind blowing as cosmology or physics (mathematicians *conceived* of black holes long before astronomers actually found any), and allows more freedom of expression than poetry, art, or music (which depend heavily on properties of the physical universe). Mathematics is the purest of the arts, as well as the most misunderstood.

So let me try to explain what mathematics is, and what mathematicians do. I can hardly do better than to begin with G.H. Hardy’s excellent description:

A mathematician, like a painter or poet, is a maker of patterns. If his patterns are more permanent than theirs, it is because they are made with *ideas*.

So mathematicians sit around making patterns of ideas. What sort of patterns? What sort of ideas? Ideas about the rhinoceros? No, those we leave to the biologists. Ideas about language and culture? No, not usually. These things are all far too complicated for most mathematicians’ taste. If there is anything like a unifying aesthetic principle in mathematics, it is this: *simple is beautiful*. Mathematicians enjoy thinking about the simplest possible things, and the simplest possible things are *imaginary*.

For example, if I’m in the mood to think about shapes— and I often am— I might imagine a triangle inside a rectangular box:



Resources

ClassDojo

Teacher classroom management tool

<https://www.classdojo.com/>

YouCubed.Org

JoBoaler's site for all things promoting a Mathematical Mindset (including Growth)

<https://www.youcubed.org/>

Inspirational Math

JoBoaler's Inspirational Math Lessons Promoting Growth Mindset and Investigation

<https://www.youcubed.org/week-inspirational-math/>

Growth Mindset for Students Class Dojo 1/5 (Elementary School)

Video

<https://www.youtube.com/watch?v=2zrtHt3bBmQ&t=52s>

Growth Mindset vs. Fixed Mindset - An Introduction Ted-Ed (High School Age)

Video

<https://ed.ted.com/featured/qrZmOV7R>

Four Boosting Messages from Jo and Her Students (4th-12th Grade School Age)

<https://www.youcubed.org/resources/four-boosting-messages-jo-students/>

3 - Tips to Boost Your Confidence Ted-Ed (Middle School Age)

Video

<https://ed.ted.com/lessons/3-tips-to-boost-your-confidence-ted-ed>

The Power of Believing That You Can Improve (High School and Above)

Video

https://www.ted.com/talks/carol_dweck_the_power_of_believing_that_you_can_improve?language=en

Edutopia

5 Videos to Explore Growth Mindset (Including Janelle Monáe and Sesame Street)

<https://www.edutopia.org/film-festival-growth-mindset>

Resources Cont.

Mindset Works

Growth Mindset Video Library

<https://www.mindsetworks.com/Videos>

A Mathematician's Lament

Article/Story by Paul Lockhart

https://www.maa.org/external_archive/devlin/LockhartsLament.pdf

Name: _____

Exit Ticket

1. Why did you come to this Growth Mindset Presentation? What were some things you were hoping to receive?
2. What are some take-aways you had from today's Growth Midset Presentation?
3. What are some things you feel would help improve this presentation?
4. Any other comments or questions?