

Video Title:	Succeeding in Math
Video Length:	16:57 minutes
Audience:	Basic Studies Students, High School Students
Curriculum Correlation:	Transition Portfolio – Activity 5.c Videos and Activity 1.b Career Research
Summary:	Viewers learn tips for success as well as reasons for learning math and careers where math skills are essential.
Vision Statement:	By watching this video, viewers will... LEARN how to successfully complete the math sequence, and strategies for overcoming math anxiety; UNDERSTAND that math is all around us, and that you can be successful even if you don't love it; FEEL empowered to succeed in math because it is approachable and practical.
Learning Objectives:	LISTENING: Viewers will identify tips for success in math and careers that require math skills. SPEAKING: Viewers will share and compare information from the video and from personal research and experience. READING: Viewers will read sentences from the transcript, information from WOIS or other web-based resources as well as informational posters generated by classmates. WRITING: Viewers will practice note-taking skills as well as summarizing and bulleting techniques required for presentations.
Activity Time:	Pre-Viewing Activity – Discovery: Approximately 30 minutes Pre-Viewing Activity – Vocabulary: Approximately 30 minutes Viewing Activity: Approximately 1 hour

Post-Viewing: Approximately 2 hours of homework as well as 1 hour for classroom presentations, depending on class size

Answer Key: Page 4

Transcript: Page 8

Instructional Guidelines: Pre-Viewing Activities

- Instructor introduces the video by asking students to think about how they use math in their daily activities.
- Instructor tells the students that they will be watching a video titled *Succeeding in Math* and asks them to think about what they already know and what they need to learn about how to be a successful math student.
- Instructor distributes Pre-Viewing – Discovery handout and asks students to brainstorm the ways that they use math in their daily lives and careers that require math skills. After 10 minutes, students are encouraged to share their ideas with the class and the instructor takes notes on the blackboard or document reader.
- Instructor distributes the Pre-Viewing – Vocabulary handout. Students can complete the vocabulary exercise in class or as homework. Work can be collected or corrections can be made together in class.

Instructional Guidelines: Viewing Activity

- Instructor reviews note-taking skills.
- Instructor distributes Viewing Activity handout and plays the video. The video may be played repeatedly until the students have successfully completed the information chart.
- Instructor encourages students to compare their notes with a partner between and after video viewings.
- Instructor completes chart on overhead or document reader with student input.

Instructional Guidelines: Post-Viewing Activity

- Instructor provides students with Post-Viewing Activity handout. Individual or pairs of students select one job from the list generated in the Viewing Activity.
- Students do independent research using WOIS/The Career Information System database if available at your Washington state college campus or public library. If this type of career information database is not available in your area, additional library research will be necessary. If training for this job is available at your campus, students could be encouraged to speak with an advisor.
- Students answer the five questions on the Post-Viewing Activity handout regarding the job they chose.
- Possible ways of sharing this information include:
 - class presentation (with bulleted poster, notecards or PowerPoint)
 - written summary of the information
 - list of questions and answer

Learning mathematics is a basic requirement of all college students, and yet sometimes students struggle to find applications of math in their daily lives.

Brainstorm the ways that you use math in your daily life. Also, can you think of any careers that require the use of math? When you are finished, you will share your ideas with your classmates.

Math in Everyday Life	Careers that Require Math Skills
<p>Possible Responses:</p> <ul style="list-style-type: none">• Personal budget• Taxes• Grocery Shopping• Cooking	<p>Possible Responses:</p> <ul style="list-style-type: none">• Teacher – elementary, middle school, high school, college• Accountant• Engineer• Chef• Architecture• Nurse• Scientist• Mathematician

You will hear the following sentences in the video you are about to watch. Before viewing the video, please read these sentences. Then select a word from the list provided to complete each sentence. Write the letter of the word in the space provided. Each word can only be used once.

1. The formulas and **C (equations)** you are seeing now were not created by Stephen Hawking or one of the world's great mathematicians.
2. No, these colorful math rules and definitions were **A (devised)** by this woman.
3. So it's like I saw the **F (pattern)** over, over and over, so you memorize it and you know it.
4. Everybody has to be involved in **D (finance)** even if it's not your job.
5. **K (Seek)** help, early and often.
6. And it's just a great place for people to just **E (interact)** with each other.
7. As soon as I hit high school, it **L (switched)**.
8. Well, those pre-core classes helped me out a lot because it helped me **I (refresh)** my mind.
9. And that **G (persistence)** pays off.
10. My mom said to me, when I started school, 'You've always been a sharp tack, kiddo - your tip just got a little **B (dull)**.'
11. So, what is the common message from these **J (remarkable)** examples of success?
12. But, it is important to be **H (realistic)**.

A. devised	D. finance	G. persistence	J. remarkable
B. dull	E. interact	H. realistic	K. seek
C. equations	F. pattern	I. refresh	L. switched

(Answers may vary.)

In this video you will learn some tips for success in math, and you will hear a variety of jobs that involve math skills. Please take notes below while you watch the video. Practice writing and viewing at the same time!

Tips for Success in Math	Jobs that Involve Math
<ul style="list-style-type: none"> • <i>Memorize patterns</i> • <i>Seek help – early and often</i> • <i>Online assistance</i> • <i>High tech helpers – CD</i> • <i>MAST – Math and Science Tutoring Center at SSCC</i> • <i>Take math classes – as many and as often as possible, especially if you’re still in high school</i> • <i>Don’t get discouraged</i> • <i>Don’t become over-confident</i> • <i>Be realistic</i> • <i>Set small goals</i> • <i>Build a support system with instructors and classmates</i> • <i>Maintain a positive attitude</i> 	<ul style="list-style-type: none"> • <i>Actuary</i> • <i>Engineering</i> • <i>Astronomy</i> • <i>Robotics</i> • <i>Genetics</i> • <i>Medicine</i> • <i>Statistics</i> • <i>Forensics</i> • <i>Finance</i> • <i>Computer Science</i> • <i>Physics</i> • <i>Geology</i> • <i>Climatology</i> • <i>Climate Ecology</i>

Read over your list of **Jobs that Involve Math** from your Viewing Activity. Select one job that you are interested in learning more about. You will research this job to answer the questions listed below.

If your college or Washington State library has the WOIS/The Career Information System (www.wois.org) database, it is an excellent source of career information. At SSCC, you are able to access WOIS through the SSCC Library website (www.southseattle.edu).

If you are using the **Transition Portfolio** (available at www.successatsouth.org), detailed instructions for using WOIS are in Section 1, Activity 1.b Career Research.

If training for this job is offered at your school, you might want to make an appointment with an advisor to gather information.

Answer these questions about the job you have chosen from the Viewing Activity:

1. What kind of work does a person in this job do?
2. What kind of education is required to do this job? How many years of college?
3. What is the average annual salary?
4. What is outlook for this job? Will there be more or fewer job openings in the coming years?
5. What kind of mathematics is needed for this job? Or, how is math used in this job?

Presentation Options (to be discussed with your instructor):

- Prepare a brief class presentation using notecards, a poster, or PowerPoint.
- Write a one paragraph summary of the information you learned about the job you chose.
- Write an additional paragraph explaining why you would or would not like this job.
- Turn in the answers to the questions above.

Narrator:

Math. It's enough make your head spin. Some people love it. Some don't. But we all use it every single day. The formulas and equations you are seeing now were not created by Stephen Hawking or one of the world's great mathematicians. No, these colorful math rules and definitions were devised by this woman.

Meet Alisa Torres, a student and a mom, who has come back to school to continue her education. But what will surprise you about Alisa's colorful math rules is that when Alisa first came back to school, math was certainly not her best subject. Her placement test produced a low math score, but as you'll see, it is essential to begin your math education at the right level.

Alisa Torres (SSCC Graduate):

When I found out like what math I was going to take, I was like 'Wow, this is really basic, basic Math.' And so, I was like... I think at the time it was Math 83, so it was pretty low...

So from going from kind of embarrassed, I think, because I was such a low math level, and then continuing as I continued and ended with it, pretty confident. So I thought 'Okay, well I can do this,' so I decided to continue.

Narrator:

And now, you'll find Alisa helping her fellow students here in the Tutoring Center. How Alisa made it from a low math score to her role as a math mentor is really the message of this video. You can do it, too. We'll get back to Alisa's story in a moment.

First, meet a "Mentor's Mentor" ... a "Math Teacher's Math Teacher." Heidi Lyman is the Math Coordinator and an instructor at South Seattle Community College. Heidi will do everything she can to demonstrate the importance of math to her students, like flying with the Blue Angels.

Heidi Lyman (SSCC Math Instructor):

For every one of my students, if you have any fear, you know, face those fears and you can do it. And some of my students actually fear math. But I just keep telling them in class they don't need to fear math. If they, you know, do it and follow the rules and techniques, and try it.

Narrator:

The story of how Heidi became a math 'whiz' began long ago, all thanks to her Dad.

Heidi Lyman (SSCC Math Instructor):

My dad, being a Math teacher, he had us kids -- there's four of us kids -- he said 'I'd pay you a dollar a set if you grade my Math tests.' And he said, 'I'll grade one and you can see how many points each thing is worth.' So basically from age 12 on, I was grading Math tests at a dollar a

set – you know, Algebra, Arithmetic and up through Pre-Calculus. So it's like I saw the pattern over, over and over, so you memorize it and you know it. And math becomes easy.

Narrator:

Whether you find it easy or not, math is important. Not only does it apply constantly in our daily lives, it's the foundation for some successful career paths.

Heidi Lyman:

Some students think of math is just a required class. They just think of it as a requirement, and so they take it just to fulfill their requirement. They don't really see that it's fun and it's applied everywhere in all the jobs and everything that uses math.

The last few years the Top 6 jobs have involved mathematics. And one of the top #1 jobs is an actuary, and that involves a lot of mathematics. But here, you have: Actuary, Engineering, Astronomy, Robotics, Genetics, Medicine, Statistics, Forensics - everybody likes those crime scene movies, Finance. Everybody has to be involved in finance even if it's not your job. We all get mortgages, maybe buy a loan for a car. You have to think about, you're earning your money, you want to spend it wisely, and you don't want to waste money on interest rates.

Anyway, Computer Science, Physics, Geology, Climatology, Climate Ecology. Even if you're interested in the environment, that uses a lot of math.

Narrator:

Succeeding in math is the theme of this video. And Heidi's first piece of advice might seem like a no-brainer, but it can make or break your progress. Seek help, early and often. Instructors, tutors and your fellow students are waiting to assist you. It is a key to math victory.

Heidi Lyman:

So that's why a student should really come talk to me, and I can advise them of what to do. Getting from your high school into the right math class is not always easy, but that's why we have a math coordinator. And there's other math teachers that you can talk to, too.

Narrator:

And the help doesn't end with an instructor or advisor. There is assistance online and there are other high tech 'helpers' like this CD, for instance, which Heidi recommends. But one of the most popular and best ways to get help?

Heidi Lyman:

If you want to talk to a live person here at South, we have MAST – which is the Math and Science Tutoring center – and that's exceptional. I've seen students in my summer classes that

I've thought 'There's no way they're going to pass.' I tell them, 'you have to go to MAST. You need to be working on this daily. You need to have someone else there guiding you to ask questions and that sort of thing.' So I've seen over summer, easy about five students in my class that would have not passed if they didn't go to MAST.

Narrator:

It doesn't really matter where you are on your path to math success, colleges have tutors and other support programs on hand that can solve any obstacle. One of the most popular tutors? Well, that's Patrick Torres. He's a native of Saipan. He started his college education at South several years ago, went on to graduate from the University of Washington, and now he's back

at South, but this time around as an instructor with his own students. And, as you might guess, he's one of the biggest cheerleaders of MAST because it helped him so much.

Patrick Torres (SSCC Math Instructor):

It's a good place for people to meet, work individually and work in groups. And they offer free tutoring. So for students who are struggling with math, or who just need extra help, they can always seek a tutor or even private tutoring. So one-on-one tutoring is available there. And it's just a great place for people to just interact with each other. They get to meet people. It's like a second home, you know. You go there and relax and just talk to people, work – do your homework.

I would say that being fresh out of graduate school, still thinking as a student but being an instructor at the same time, I kind of feel, I feel for my students, and I know what it's like to be in their position. So I try to make things really easy for them. Especially being a student for so long it, it has helped me try to understand students and help them succeed - probably not the same way I did - but succeed in some way.

Narrator:

And you can find helpful programs like MAST and caring faculty like Patrick at most college campuses. And where might we find Patrick in five years?

Patrick Torres:

I'm actually thinking about pursuing a Ph.D. in Applied Math, and South Seattle has given me that opportunity. And the nice thing about coming to South is that this is the place where it all started for me, and I came around full circle and I'm giving back to where it was given to me.

Narrator:

Sia Sagiao understands opportunity. He is happy. He's in college and he plans to transfer soon from community college to a university to study Law Enforcement. But Sia wasn't always sure

he'd go to college. Discovering help was available in overcoming difficulties with math has kept him motivated as he achieves his AA degree.

Sia Sagiao (Student):

I didn't know if I wanted to go to college or not. I was more like, 'As soon as I get done with high school, I'm going into the work force.' That was it. That was going to be it. College was more like if I had time.

That first year, even though I was learning and everything, it was just a test for me to see if I wanted to stay in college. Oh, I hated math. I'm going to be straight honest with you. I did not... And here's the funny part about it too: If you were going to tell me about this six years ago, when I was in elementary and high school, elementary and middle school... oh, I loved math. I loved doing... finding the graph, graphing everything, finding the X and Y. Oh, I used to love it and everything. As soon as I hit high school, it switched. I hate math. I don't like math. I don't get math. I hate geometry. Why do I have to find a shape? Why do I have to find a radius of a circle if that's going to result to me figuring out if I'm right or wrong on this test. Didn't like it. I hated it. I hate math.

Narrator

As a result, Sia took only the amount of math required by his high school.

Sia Sagiao:

So what did I do my senior year? I didn't take any math. But now that I look on it, since I'm here and I take math, I'm like, 'Maybe I should have been a little bit more serious about math. Maybe I should have paid attention to what the teacher was saying because you kind of really do need math.' You need at least the basic fundamentals of math.

Narrator:

There was plenty of help available to Sia to help him master those math fundamentals.

Sia Sagiao:

Well, those pre-core classes helped me out a lot because it helped me refresh my mind. And on top of that, the tutors here, especially in the MAST – I don't go there every day, but I go there once a while when I'm in trouble – they are terrific. I have a couple of friends who took calculus and trig over there so compared to my math classes, it's like, nothing's easy. They helped me. And then, even the teachers here, the teachers here who teach the math – even though you got 10 weeks, you learn so much. They explain it to where you're going to understand it. They're going to show you how the steps to do it, and then show you like ten different examples of the same way of doing it. And that's pretty much how I learned.

Narrator:

And Sia has some advice that may help you.

Sia Sagiao:

Take math. I'm going to be honest with you. Take math. And this is going out for everyone who's in high school who says, 'I don't want to take math' – take math.

Narrator:

And that persistence pays off. Remember Alisa? The student and mom who has come back to school? She looks back at the turning point, when math began to really make sense.

Alisa Torres:

I actually was getting good grades on my tests. That's what probably changed it for me because I didn't do very well in school with math...with tests. Just tests, in general. I did the homework, I did everything else, that was okay, but when it came to the tests, I would always do very badly. So the tests kind of showed me the results of like what I'm capable of doing. So I think it was the tests and the quizzes that I took in the class that actually changed my attitude towards math.

Narrator:

And just look at Alisa now. She's a tutor and mentor to her fellow students. Does it surprise her to have advanced so much?

Alisa Torres:

Yes, it does because I never thought that I would actually be helping others with math now and feel confident in helping someone do something with it.

Narrator:

And Alisa would like to enthusiastically share her success with the whole world.

Alisa Torres:

It's like if you know there's a big sale at Macy's, right. You're not just going to keep it to yourself. You're going to call all your friends and go 'Oh, my God! There's this great sale, you got to go, you got to go!'

It's like I figured out math. I figured out this puzzle, and so you should try it. And so, that's why I do it. It's because I don't... I feel like since I figured it out, then there's a possibility that you can figure it out.

Narrator:

One of the big rewards for this 'teacher to be' can all be seen in the interaction with the students Alisa tutors.

Alisa Torres:

I'm glad I met you today. I'm going to give you a hug! You're so inspiring! It's so inspiring. Now I'm going to have a good day today.

Narrator:

And the greatest reward of all?

Tracy Jo Ehlers:

My mom said to me, when I started school, 'You've always been a sharp tack, kiddo - your tip just got a little dull.' She goes, 'it's good to see you sharp again. It's good to see you alive again.'

Narrator:

So is there a common thread? Is there a magic bullet for succeeding in math? Math coordinator Heidi Lyman would tell you, don't get too discouraged, but don't become over-confident either.

Heidi Lyman:

'I don't think I can do it' and 'I don't have any confidence,' you know. So there's that obstacle that they need to overcome the fact... their attitude... they need to have the confidence. They need to tell themselves 'I can do. I can do it. I can do it. I can go to the resources. I can get the help I need and I can do it.' Okay, so that you have in the lower level. But then, actually in the higher level, the type of obstacle you can have is like the pre-calculus students that say, 'I'm so smart. I don't need to read the book. I don't need to do the homework. I can do it all. I'm good at math. I 4.0ed math all the way through high school.' So the obstacle there is their confidence is way too high. And I get a lot of those too. So yeah, it's both sides.

Narrator:

So, what is the common message from these remarkable examples of success? Math is do-able.

But, it is important to be realistic. Set smaller goals and follow them to reach the ultimate goal of understanding math. For example, one step is to seek help. Find it early, be sure to take advantage of it and use it often. It's there for you.

Another step is to build a support system with instructors and classmates. And maybe, the most important is how to think about math. It is not a foreign language. It's universal and a part of life at every turn.

Possibly the wisest words of this entire presentation come from the young man you met earlier, Sia. In his struggles with math, Sia made constant use of the Math and Science Tutoring Center. And here you see one of Sia's other secrets to success – regular meetings with his advisor, mapping out his studies class by class with the skill and kindness of this available expert. But more than anything, Sia has an attitude that might just be his most important asset.

Sia Sagiao:

Yes, people should take math. Okay? I'm not even joking. Take the math. Take the algebra. Take the geometry. Take the Algebra 2. And if your school offers Trig and whatnot, you take the Trig. And if they offer Calculus, take the Calculus. Trust me. Because when you hit college, you only got 10 weeks to learn that. High school – you got a year. It's a little bit different. One year of high school of learning that is just basically one quarter of math here. Take it.