Myths and Science

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Albemarle Road Middle School

This curriculum unit is recommended for: 6-8th grade Exceptional Children (EC), ELA, Science and Social Studies

Keywords: Myths, science, maps, social studies, world, life-long learning, stories, English, language arts, exceptional children, wonder, diversity, culture, ESL, LEP, continents, Common Core State Standards

Teaching Standards: See Appendix 1 for teaching standards addressed in this unit. (Insert a hyperlink to Appendix 1 where you've stated your unit's main standards. For directions on how to insert a hyperlink, see Fellows Handbook, p. 29.)

Synopsis: The intention of this Curriculum Unit is to unite origin myths with scientific evidence. Throughout history people have been curious about their beginnings. By observation and experience they developed stories to explain their origins and other phenomenon. Many experiences coincided with rituals both necessary and predictive. The strength of these predictions resulted in perpetuation of the belief in the myth. As time and empirical science have developed, human curiosity and desire to solve the mysteries of life have collided with the old myths. However, now scientists follow procedures and record empirical evidence to find answers to new and old wonderings.

Myths and Science allow the stories to speak for themselves and the science to clarify curiosity with evidence. Students will be able to compare and contrast information from the past and present to explore their own world of wonder. This unit brings together culture, technology, science, language arts and social studies to examine all aspects of how we think and learn.

I plan to teach this unit during the coming year in to 30 students in 6-8th grade ELA and EC classes.

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Tavia M. Highsmith

School Information

Albemarle Road Middle School is a Title 1 school with 100% of students receiving free and reduced breakfast and lunch. There are approximately 1200 students who attend the school, which was designed for 700 students. We have strong leadership within the school, including academic facilitators for each content area, dedicated teachers and a commitment to serving these students using rigorous evidence-based strategies for growth.

According to the Charlotte Mecklenburg Schools website, "CMS has 69 schools that are identified as Title I schools for the 2014- 2015 school year. Schools considered Title I are those in which at least 72% of the student population has been designated as economically disadvantaged."[1] (Charlotte Mecklenburg Schools 2014)

ARMS is also a World International Baccalaureate Magnet School, which insures that the level of instruction is rigorous and connected. The school has met its AYP, or Annual Yearly Progress for the past two years.

I teach all grade levels, 6-8, at the resource level in a special education English Language Arts classroom. There are 14 areas of eligibility for Exceptional Children services. Presently, six areas are represented: Specific Learning Disabled, Other Health Impairment, Intellectually Disabled Mild, Intellectually Disabled Moderate, Autism, and Emotional Behavioral. The classes are small with the number of students in each class ranging from 5 to 10. These numbers can fluctuate often during the year due to the transient nature of the student population.

In the Exceptional Children services continuum there are five levels of service. Each child is placed individually through a team who meets to develop and implement the student's Individual Education Plan, or IEP. The five levels are from least restrictive to most restrictive: consultative, co-taught, resource, self-contained and separate setting. Each of these settings carries increasingly intensive interventions, depending on the individual needs of the student.

The resource setting is, as noted above, small enough to give students needed personal time for growth, using both grade level and leveled texts based on needs-based assessments and MAP scores, focusing on their IEP goals.

Background

My career is multi-faceted. I have always worked with children with disabilities, except for a short stint with adults in nursing care. I delivered services as a Certified Therapeutic Recreation Specialist in mental health and community-based organizations. The children served ranged in age from 6-18 and were, primarily, diagnosed with behavior and emotional issues. Learning disabilities were prevalent.

Later in life, in need of another adventure and after much encouragement from family and friends, I decided to enter the teaching profession. I have engaged in several capacities and have now been a teacher for 10 years.

In time, I completed the course work at UNC Charlotte for a permanent teaching license in NC and then decided I wanted a different kind of Masters degree, switched tracks, started all over, and eventually received my Masters of Science in Special Education.

It is my joy and pleasure to teach middle grades special education. I have practiced in both regular co-taught classrooms and as a resource teacher in language arts, science and social studies. I am Highly Qualified in all three content areas, as well as, Special Education.

I currently teach English Language Arts in the resource setting to sixth, seventh and eighth graders.

Rationale

As a life-long resident of the Southern United States, living mostly in the buckle or whip end of the Bible Belt and, of course, meaning no disrespect to my ancestors and present family members, I often find myself surrounded by students who insist, in the middle of a lesson on the geologic timeline, that this could not be true! God created the world in 7 days and that is that!: no ifs, and or buts, done and done.

How do I proceed with this important impasse to scientific thinking and learning? Experience suggests that the contrast in information potentially upends everything they believe to be true. Moreover, many parents even see “science” in general and evolution in particular as oppositional to a religious life. Proceeding gently and factually, getting the knowledge across without argument and negativity is a challenge for this interpreter who bridges both science and southern culture. What would I have given for a teacher who could have explained it to me in both languages?

I love stories and I love science. It just makes sense that people have always been curious about how things work in the world. In the days of pre-empirical science, people were working it out. The stories make sense for that time and place. Our current society knows how it worked out and continued. Future earthlings will know even more, laugh at

our stories and might even view them as myths, too. An interesting realization is that the stories and the evidence really do make sense together, when kept in the proper positions while we look closely at the correlations.

The topic of myths and science is one that I have been interested in for some time now after a class full of 8th graders set upon me with a vengeance as I attempted to begin our lessons on evolution. Before that, I recall a conversation with my former brother-in-law, a HS Biology teacher and dedicated empiricist, when I told him that while I see the evidence for evolution and believe in its validity, I also see the need for the stories that preceded the current empirical evidence. He laughed at me and I felt sorry for him not knowing the joy of interacting with both science and literature.

Teaching in a way to connect science, social studies and language arts for my students that broadens their interactions with the world around them, giving them opportunities to learn to think. It is important for them to see how each academic area connects. Concrete walls in a classroom do not separate the way they interact with the world around them.

I teach Special Education at a Title 1 school. These students are already behind in both their academic progress and in their exposure to things that many of us take for granted. Not only do all of my students read below grade level, but I have found that they often have no idea that Florida or Pakistan are not in Charlotte, North Carolina or that dinosaurs were not around when people came on the scene. They are thus likely to question why Noah did not take thunder lizards or unicorns on the Ark. But their curiosity is limited and they are unlikely to actually explore without guidance how we know the things we know.

The joyful challenge is to connect each and every piece of reading to the rest of the world of knowledge and comprehension. Students light up when they get it and want to know more. There is not enough room in this rationale in order to tell all the stories about how important it is for these students, in particular, to make the connections from one content area to another.

Many educators have misinterpreted the use of the Common Core Standards and attempt to pigeonhole learning by teaching one Standard at a time. I see the CCS as an opportunity to facilitate connected learning for students with the standards as a guide. Later, I will show how to make these connections for student learning with each unit. Teaching students to think for themselves, research interests, have authentic academic and accountable conversations and see the big picture in their currently limited environments is to teach them to fly.

Using these guidelines will provide teachers with a yearlong curriculum using continents as the unit structure. These units can be integrated into the full pacing guide

approach that schools use to organize. Components can be used uniquely, or in connection and collaboration with regular education classrooms. Regular education teachers will also find this curriculum helpful in science, language arts and social studies cross content planning.

This Curricular Unit can be structured as a daily lesson or spread out as the students study the same areas in their social studies and science classrooms. Each unit will contain informational text, stories/myths; urban legends aligned with the grade level CCS, differentiation strategies for different learners and projects to demonstrate their comprehension of the subjects covered. Included are suggestions for identical pre- and post assessments in order to inform continued instruction. Instead of teaching in pieces, the students will be exposed to grade level knowledge requirements in a connected manner to facilitate retention of the material and confidence in their own ability to learn and grow.

Teaching students to think is paramount to their future. I believe it is vitally important for special education students to thoroughly develop this skill for true life long learning. I cringe when we are asked to teach to the test. To me, it is defeating the purpose of teaching and, especially, not aiding our students to grow. The irony is that we are asked to teach and then destroy, in my opinion, the love of learning by teaching to the test rather than for life. Students often say they hate reading and become quite content to be alliterate and stagnant, or, worse, remain disconnected due to their current learning levels.

The goal is to teach them to be curious, to love learning about everything. Students will see the connections, the larger view and their ability to continue growing, in and out of school. This curriculum will facilitate their journeys. Since I often teach the same students for all three years of middle school, I am excited to develop a dynamic curriculum that can be used in multiple ways with more and more interesting developments as time goes on. If students develop curiosity and the means to acquire the answers then kids who struggle with reading can pursue knowledge with confidence, developing stamina as they engage in the content It is amazing and gratifying that these students continue to chase knowledge they want and need.

It is clear through myths what our so-called illiterate ancestors did to pursue the knowledge in their world. Native Americans and other original peoples observed events in their environments that appeared predictive of significant survival strategies. As events repeated themselves the strength of the myth grew.

For example, one practice used by the Cree involved burning an animal scapula to determine where to hunt next. The cracks and marks made by the fire became a map that indicated where the next game could be located. Of course this method was random but game was found so often that the people believed and relied on the method as indicative

of the best way to feed their society. It gained strength because it succeeded in a predictive manner. It was based on what they saw and experienced in days filled with their own brand of cutting edge technologies. They learned and passed it on to their young people.

As a teacher in this present moment, I am convinced that we can guide students to deeper understanding of their world, connecting and thinking things through, putting it all together to make a difference, especially with their ability to learn differently.

We know, or think we know, more than past humans. Future individuals and groups will know or think they know, more than we do. This is also evolution, the evolution of knowledge leading to constant movement forward.

Content Objectives

The end of this unit will expose students to a variety of creation myths from around the world, including ones from the Greeks, Egyptians, Zulus, Australian aborigines, as well as Incan and Native American traditions. Students will be able to see that cultures explain the beginning of the world in different ways, based on their story-telling traditions, in addition to what they have observed and experienced in their environments.

Students will also identify the parts of the world where the stories take place through maps and basic geography activities in an effort to expand their awareness of the world in which they live. They will see far beyond the confines of the city, county and state where they currently reside.

Reading fluency and comprehension are key components. After utilizing data from the MAP test, oral reading fluency assessments and sight word assessments the overall average reading level of my students is third grade. There are some students significantly below this average and some who are slightly above; no matter what individual competencies happen to be, however the skills of fluency and comprehension are key to success as the demands and materials become increasingly complex when aligned to the Common Core Standards.

I have found that traditional stories hold a special interest to students this age. They are immersed in technology and instant gratification. Stories about the why or how of things spark curiosity and wonder. In *Mr. Wilson's Cabinet of Wonder,* Lawrence Weschler quotes David Wilson, curator or the Museum of Jurassic Technology, who sums up the human need for wonder in this way: "Part of the assigned task [of the museum] is to reintegrate people to wonder."[2]

Weschler continues,

> But it's a special kind of wonder, it's metastable. The visitor to the Museum of Jurassic Technology continually finds himself shimmering between wondering *at* (the wonders of nature) and wondering *whether* (any of this could *possibly* be true). And it is that very shimmer, the capacity for such delicious confusion, Wilson sometimes seems to suggest, that may constitute the most blessedly wonderful thing about being human.[3]

Shimmering questions often explode out of our students and invariably start with "Why would they think that?" This is the question I hope guides them through as they travel the world of myths and science.

This unit will contain stories, science and exploration. We will compare and contrast the "origin" stories of cultures and look at the science that underpins the retelling of the narrative. Integrated into the unit are methods to help the students distinguish fact from fiction, but just as important, to understand how fiction can "enable" fact.

I recently worked at a school that had its own myth, perpetuated generationally over many years. Up a certain staircase was an extra set of stairs going up. Students had a burning curiosity about what was up there because the school only had two stories. From the outside there was nothing to see, but this staircase was obviously there for a reason. Countless students physically acted out their curiosity by trying to climb these mysterious stairs, only to be told to come back down before their curiosity was sated. Once in a while one of these young explorers made it to the top and discovered nothing but a locked door without a handle.

More curious than ever, the questioning began in earnest and the story of this discovery continued enthusiastically. Some vowed to find the answer beyond the door.

Evidence was gathered. The stairs went to a door. The door was locked. There must be something important up there, everyone thought, if the door is locked and there is no handle. What are they trying to hide from us? What is it that teachers do when we are not here? Is it fun up there or is it something scary?

More facts: when we are outside at the track we can see a ladder on the roof that looks like the kind of ladder you see at a swimming pool. I've got proof now, one observer might argue, that there is definitely a pool on our roof. (This evidence despite the fact that the staircase was pretty far away from the placement of the ladder on the roof.) My dad says that there is a swimming pool on the roof. Oh, yeah, my cousin and my grandmother said that, too! Well, if so many people say it, it must be true! Hey, Ms. Highsmith, did you know there is a swimming pool on the roof of our school? How come we don't get to go swimming in PE? I think that teachers or custodians or some adult club get to swim but we don't, otherwise, why would it be up there? And there you have

it, from myth to reality and absolute certainty in the fact of a swimming pool on the roof of a Charlotte, NC middle school built in the 1950s.

Generating curiosity and wonder is the goal of this unit for students. The objective is to expand the depth of their understanding while also creating more routes—and more complexity-- to satisfy their natural curiosity.

Each story can be paired with a scientific finding. We will use authentic academic questions (see Strategies section) to dig into the story, compare and contrast, graphic organizers to discover the differences and similarities, Socratic seminars to fully engage and increase ability to discuss academic subjects in a meaningful way, use journals to record findings, repeated readings, hands-on differentiated strategies that work, in other words, evidenced-based strategies that bring soft science into the process of learning, meaningful project-based learning that utilizes all five senses in the learning environment.

This unit will provide the tools to teach all students these concepts for discovery. My students are people with special needs and with great capacity to learn. This is a goal for all students in an inclusive school environment.

Throughout the unit you will find flexible adaptations for any classroom. While primarily designed for a language arts classroom, it can be used for Social Studies and Science classrooms, as well. Math classes could be engaged with concepts a teacher could relate to their curriculum objectives.

Flexibility is the key focus for using Myths and Science in any content area. My focus is on using it throughout the year as our school follows its pacing guides. It will support the science and social studies units throughout the year. However, the curriculum can also be used as stand-alone lesson plans to support the CCS relating to myths, legends and religious stories. You can also use it in its entirety as a unit study for the same CCS. This unit hits all grade levels on this standard.

I have included suggested student readings, readings for teachers, strategies and activities. You will find these in the Appendix section of this unit. You will also find suggested graphic organizers, question stems for close reading and authentic academic conversations and how to implement these strategies in your own classroom.

Classroom Activities

As stated above, each classroom activity can be a stand-alone unit or all of the continents can be taught over the course of the school year along with the grade-level pacing guide in your school or district. Each lesson should span 2-3 days, depending on the student’s mastery of the material

Note that each continent myth and science lesson will follow similar patterns. This is in order to simplify the process for you, the teacher. By following a set pattern you will be able to gather your materials, prepare your lesson, align it with standards and teach with ease. Your students will be able to anticipate the knowledge and the activities. This will solidify the learning and make the connections they need for proficiency. Using this format you can add any myths from any culture to the curriculum.

Another note, as the curriculum progresses through the continents, you will notice that there are significant similarities and differences between the creation myths in this curriculum unit. This is designed with the intention of adding opportunities for activities in comparison, fact or opinion, contrast and contradiction, and aha moments. Through each lesson you will be able to pull in articles, websites and news items to enhance teaching the standards.

Prepare

Create a Geologic time line for your classroom wall. You will be able to find a simplified version in any science book your district is using. Another suggestion for those of you who have not seen or taught this information previously is to collaborate with a science teacher team member to check for content accuracy before the students are given instructions. Familiarize yourself with the items on the timeline for quick reference when fielding student questions.

Use different colors of large bulletin board paper for each geographic era. Fold or cut the paper to about a foot in width. Determine how long each piece should be based on the wall space you have available.

Divide the classroom into groups, one group for each era. Provide the students with markers, glue sticks, pens, computers and printer to generate or research images to use on their timeline. Also, provide each group with a list of expectations for this project including lettering size, original sketches, placements on the timeline, accuracy of information.

Monitor the groups as they work. Make sure they are displaying accurate information on the timelines. Ask them to correct any mistakes and to add more information as necessary.

These timelines will be utilized throughout the year to help students understand the big picture and understand the progression of evolutionary time, changes and what life occupied earth in which era.

Europe

For the European leg of this journey Greek mythology is most often the first place students visit. These stories are part of any classic education and the students are usually familiar with many of them from previous school years and from the movies.

I chose the story of Prometheus, since fire was essential to the survival of the human race.

Prepare a 3 to 5 question pretest to assess what your students know or don't know about this story. You will use this information to inform your instruction and, later, to assess their mastery of the lesson standards. You may use any format. I use a mixture of end of grade testing style, true/false, short answer, and fill in the blank, to name a few.

Provide students with a map of Greece and surrounding countries.

Read the story of Prometheus through once. Read the story again using annotation strategies such as INKTHINK. This can be done as group or individual work. If you have a SmartBoard or Promethean board in your classroom, it is a good way to add movement to your lesson to have the students take turns going to the board and making the marks. If you school has individual technology options these could also be used at your discretion.

Choose 5 to 10 vocabulary words for study. Use any vocabulary development strategy you have found to be successful. I use several including flashcards and the Frayer method. The Frayer method is often used in science classrooms and will increase the student connection to additional content areas. The Frayer model vocabulary words can be posted in the classroom for future reference.

Discuss, using academic conversation questions about what the students know about fire. Guide them through questioning and strategies listed in this curriculum in assessing their knowledge of the difference between this story as fiction and informational text explaining fire. Where does fire originate? How did fire change early human abilities in changing their environments, living conditions, nutrition, nomadic or sedentary societies? Why was fire so important to make the gods angry enough to punish and torture Prometheus for eternity? Once the humans had fire why didn't the gods, if they were all powerful, just take it put it out?

End the unit with a post-assessment using the questions you prepared for the pre-assessment. This will show what the students have mastered during the lessons. There are many ways to assess student knowledge. Paper and pencil tests are only one vehicle. For fun, use small dry erase white boards, stand-up-sit down, designate different sides of the room for claiming answers, use a gallery crawl and sticky notes for students to post their

answers as they move around the classroom and any other effective assessment tools you might have in your own repertoire.

Africa

The Egyptian creation myths are quite complicated. There are simplified stories at a website called www.BigMyth.com which I recommend for each of these units and any additional cultures you might want to study. For purposes of comparing the myth with the science I recommend using videos for the visual understanding of the story. I have chosen a very interesting Zulu origin story that involves humans growing on plants, a man-plant who becomes god, a slow chameleon and a quick red lizard of death.

The steps in the lesson are as follows.

1. Give students a 3 to 5 question pre-assessment to inform the direction of your lessons.
2. Provide a map of the country in Africa where the myth originated.
3. Choose 5-10 vocabulary words from the myth and from the corresponding science and social studies information.
4. Utilize the Frayer model or flash cards to enhance vocabulary retention.
5. Compare and contrast the story of the myth with the actual science related to the story elements. Examples would be what we now know compared to what they knew when the need to explain by myth was the only science they knew. People appeared on earth not from a plant but from a common ancestor. Eighth graders are learning this in NC schools and are eager to discuss their knowledge about common ancestors. Take this opportunity to discuss why the Zulu people believed they cam from plants.
6. Utilize strategies provided in the next section to clarify the learning objectives.
7. Give students a post assessment for proficiency data.

Australia

The story of the Rainbow Serpent is an Aboriginal creation myth. Many of the aboriginal myths already have humans inhabiting the earth before the events of earth creation. This is a view that will challenge the geologic time line. The Rainbow Serpent had predictive strength for the Aboriginal people when they viewed the strength with which snakes moved and shifted dirt as they moved through it. The comparison with other myths, including the Genesis story, is a very good opportunity to emphasize the evidence in ancient Earth history.

The steps in the lesson are as follows.

1. Give students a 3 to 5 question pre-assessment to inform the direction of your lessons.
2. Provide a map of Australia where the myth originated.
3. Read The Rainbow Serpent. Annotate the paper copy.
4. Ask authentic, academic questions for deeper close reading.
5. Choose 5-10 vocabulary words from the myth and from the corresponding science and social studies information.
6. Utilize the Frayer model or flash cards to enhance vocabulary retention.
7. Compare and contrast the story of the myth with the actual science related to the story elements. Examples would be what we now know compared to what they knew when the need to explain by myth was the only science they knew. Take this opportunity to ask students questions about why the Aboriginal people might see themselves before the creation of the world's features and involve struggle in their story. Compare to their lives now.
8. Utilize strategies provided in the next section to solidify the learning objectives.
9. Give students a post assessment for proficiency data. The post-assessment should include the questions you used in the pre-assessment.

South America

The Inca creation story involves a loving father who sends his children into the world to help the poor pitiful humans who he created out of rock. This story lends itself to wondering about the use of rock (Law of Superposition, Geologic timeline) and comparing it to other stories of dirt (sedimentation), plants (when did they appear in the Geologic timeline?), armpits, vomit and spit. How did the civilization determine the origin of humans?

1. The steps in the lesson are as follows. Give students a 3 to 5 question pre-assessment to inform the direction of your lessons.
2. Provide a map of the region of South America where the Inca lived.
3. Read the myth. Annotate the paper copy.
4. Ask authentic, academic questions for deeper close reading.
5. Choose 5-10 vocabulary words from the myth and from the corresponding science and social studies information.
6. Utilize the Frayer model or flash cards to enhance vocabulary retention.
7. Compare and contrast the story of the myth with the rocks and minerals, sedimentation, appearances in the geologic timeline and human appearing on the scene with all their human characteristics related to the story elements. Examples would be what we now know compared to what they knew when the need to explain by myth was the only science they knew.
8. Utilize strategies provided in the next section to solidify the learning objectives.
9. Give students a post-assessment for proficiency data.

North America

There are dozens of creation myths among the Native peoples of North America. You may choose one from the people who are closest to you geographically or use one from a culture that is somewhat distant from your location to give your students a broad view of their own country. Again, www.BigMyth.com has stories from the Navaho in the Southwest United States. Students can compare and contrast the stories of the Zulu plant people, the flood story, and the rescue of baby Moses from the Genesis traditions and the way gods teach people their skills in all of the myths presented here in this curriculum. They can write and design reader's theater or dramatizations of the experiences of the gods in the Navaho myth. Questions that arise with this story are where do the people come from? It is not specified here as it was in the other stories.

The basic steps of the lesson are as follows.

1. Give students a 3 to 5 question pre-assessment to inform the direction of your lessons.
2. Provide a map of the Southwest United States containing the area of Arizona where the Navaho live.
3. Read the myth. Annotate the paper copy.
4. Ask academic questions for deeper close reading and authentic conversation .
5. Choose 5-10 vocabulary words from the myth and from the corresponding science and social studies information.
6. Utilize the Frayer model or flash cards to enhance vocabulary retention.
7. Compare and contrast the story of the myth and what evidence the people used to support its predictive strength with the actual science related to the story elements. Examples would be what we now know compared to what they knew when the need to explain by myth was the only science they knew.
8. Use the website, navajocodetalkers.org to hear Peter McDonald, one of the original 400 Navajo Code Talkers, tell the Navajo origin story and see the mountains that inspired the four worlds. [4]
9. Utilize strategies provided in the next section to solidify the learning objectives.
10. Give students a post-assessment for proficiency data.

Strategies

The strategies below are useful for engagement, learning retention, student responsibility and significant adherence to the CCS in each grade level. The students will be able to explain and elaborate connections, dig deep into cultural meanings, as well as, the why and how of each myth's connection to the science of the past and present.

This list is extensive yet does not pretend to be all the strategies used to engage the learners. You may have many in your own toolkit that work just as well or even better. Please do not hesitate to use what works with your students.

Cooperating Dialogues

Count your students off by fours. Ask them to find a person who has their number. Follow the dialogue from the story the class has just read and have each pair write a dialogue between two characters. Each group will create a dialogue in order in the time line of the story. Have each group present their dialogue in order.

Circle of Agreement

Students stand in a circle. Statements are made based on the story or concept. Students who agree step inside the circle. When students disagree they move back into the main circle.

Voting

I like to add movement to each class. This is an easy way to do that and to engage students who may be less verbal that their classmates. Ask questions that only allow two answers such as yes and no or true false. Ask the yeses to stand and then sit. Ask the no's to stand and then sit. If you choose to use multiple choice, ask the students to sit and stand with each letter. Announce the correct answer. Ask the students to discuss their reasoning for their answers.

Gallery Walks

There are many ways to use gallery walks for this curriculum. Students can work in pairs to create portraits of the mythological characters and a short description. These should be placed around the room. When projects are complete, all students will get up and stroll the gallery. They can take notes on a graphic organizer or write answers to specific questions on sticky notes to add to the gallery walls. I call this graffiti. They can also do this in conjunction with the corresponding science information, putting the facts next to the fiction and using Venn diagrams to compare and contrast.

Reader's Theater

Story should be rewritten either by the students or the teacher in the form of a play. In either case it is important to edit for reading fluency. The myth should be presented first as a play with parts for as many students as possible. The science/social studies facts should also be written in play form to present within the reader's theater or a stand-alone

piece. Students should practice with their groups and then read the plays. This promotes fluency

Family Trees

Instruct students to work in pairs to construct family trees for the mythological families from each continent. Display these trees in the classroom. Create a mythological forest of family trees from each tradition. Have the students do research to determine, if possible, the approximate dates of origin of the myths.

Jigsaw

Students are placed in groups. They are to become experts on a given topic or part of a topic. Once research is completed the students split up and go to other groups to present their expert information. This can be done as a whole group (with smaller class numbers), individual or groups, as stated above.

RAFT

This is a fun strategy for assessing knowledge of the information presented and reinforcing class concepts. RAFT stands for Role, Audience, Format, and Topic. I have used this in straight writing form or in the form of small posters. The teacher develops each RAFT scenario. Students may pick or be given a scenario. This is a great way to differentiate learning for individual students. They proceed to complete the scenario. These can be quite funny and engaging as work continues. For example: Role is the Sun, Audience is the Earth, Format is a rap or poem, and Topic is rotation. This can be done with any topic in this unit. Format can be a drawing, a saying, a Twitter post, an Instagram photo, dialogue etc. Custom fit it to your class and students.

Inside Out

Students stand in concentric circles. Outside group faces in and inside group faces out. Teacher asks a question or provides a discussion topic. Students discuss the topic with the person in front of them for a time determined by the teacher. The inside circle moves to the left. Students discuss the topic with the person in front of them to get insight from others. Teacher can decide if students go all the way around the circle or when the topic changes. Using this strategy is effective for comparing and contrasting the myth with the science. An effective variation is to form a human Venn diagram. Students engage wholeheartedly. Students with verbal expression disabilities gain confidence.

Authentic Academic Conversations

Use the following question stems to encourage students to go beyond yes, no, I don't know and shoulder shrugs. You may develop your own question stems for the same purpose.

Teach the stems to students by having them make flashcards to use in discussions. The stems can be printed, cut and glued on index cards or the students can write the question stems on the cards. I prefer the latter method.

The kinesthetic action helps students to retain the information. Reminding them that they wrote it triggers their memories. They remember what it looked and felt like.

I often have them use colors, also. Color coding assists low readers to find what they are looking for more quickly. Keep the question stem cards in individual zip locking bags

I disagree with that because…	I agree with that because…
I still have questions about what (name) said…	Based on my evidence, I think…
I don't know what you mean by…	I disagree with that evidence because…
A question I have is…	This reminds me of…
I predict… because…	To expand on what (name) said…
Can you expand on…	Can you elaborate on …
What evidence do you have to support that?	Where did you find your evidence?
What connection can you make with what you already know?	Based on what you know, what conclusions can you make?

Resources

Materials for Lessons

Large colorful bulletin board paper, markers, scissors, glue sticks, original, magazine or computer generated images for Geologic Time Line, copies of stories and science facts, Smart Board, individual technology such as Chrome Books or iPads, Venn diagrams drawn by students or printables, Frayer model vocabulary graphics drawn by students or printables, highlighters, paper of various sizes for Family Trees, RAFT projects, index cards, printables of the question stems, zip closure bags.

Bibliography for Students and Teachers

Branston, Brian. *Gods and Heroes from Viking Mythology.* New York, New York: Schocken Books, 1982.
Illustrated book of Norse origin stories and other myths.

Charlotte Mecklenburg Schools. *CMS Charlotte Mecklenburg Schools.* 2014. www.cms.k12.nc.us/cmsdepartments/ci/supportservices/section504/title-1/pages/default.aspx (accessed September 1, 2014).
CMS district website that explains the Title 1 laws and requirements.

D'Aulaires, Ingri and Edgar Parin. *D'Aulaires' Book of Greek Myths.* New York, NY: Delacorte Press, 1992.
Classic and enduring, this illustrated book of Greek Myths can be found in any school or public library, bookstore and online.

Malam, John. *Ancient Greece Gods and Goddesses.* Linclonwood (Chicago), Illinois: Peter Bedrick Books, 1999.
Small, illustrated book of simplified stories with illustrations.

Maps101 - Home. Accessed November 3, 2014. www.Maps101.com.
Excellent website for projecting on Smartboards. Interactive and thorough.

McCaughrean, Geraldine. *Greek Myths.* New York, New York: Margaret K. McElderry Books, 1993.
Children's illustrated simplified stories of standard Greek myths.

Murray, Alexander Stuart. *Mythology Stories: The Guide to the Great Figures and Tales from Norse, Old German, Hindu and Egyptian Mythology.* eBook. Edited by Michael Rank. Digital Edition. Michael Rank, 2013.
Interesting book containing myths from various religious cultures. Recommended for young adults and above.

"Navajo Code Talkers | Interviews, Videos & More." Navajo Code Talkers. Accessed November 3, 2014. http://navajocodetalkers.org/.

Patrick, Richard. *All Color Book of Egyptian Mythology.* London: Octopus Books Limited, 1972.

Philip, Neil. *Odin's Family: Myths of the Vikings.* New York, NY: Orchard Books, 1996.

This book contains archeological pictures and illustrations of Egyptian mythology. It is written in a dry, descriptive format rather that a story telling style.

Phillip, Neil. *Dorling Kindersley Eyewitness Books Mythology*. New York, NY: Dorling Kindersley, 1999.
Dorling Kindersley Eyewitness Books are known for their pictoral informational style. This book is colorful and contains archeological finds that illustrate the roles of the gods and goddesses of this culture. It does not provide the story myths.

Senior, Michael. *The Illustrated Who's Who in Mythology*. Edited by Geoffrey Parrinder. New York, NY: Mcmillan Publishing Company, 1985.
Encyclopedic style. This is a book to use if you would like to brush up on, you guessed it, the who's who of mythology. The information is extensive, covering many countries and cultures and it is alphabetical order. It also contains lists of relationships between gods and goddesses in each culture.

Smithsonian Education - Students Home Page. Accessed November 3, 2014. www.smithsonianeducation.org/students.
Excellent source for current science articles explaining myths. This link is specifically for students.

Smithsonian Education - Welcome. Accessed November 3, 2014. www.smithsonian.org.
Another excellent website to discover current science and social studies articles relating to empirical findings and discoveries.

SmithsonianTweenTribune. Accessed November 3, 2014. http://tweentribune.com/.
Teachers can set up accounts for students, monitor/assess their understanding and assign articles that show recent and current findings in science and social studies.

"THE BIG MYTH - an Animated Study of World Creation Myths." THE BIG MYTH - an Animated Study of World Creation Myths. Accessed October 3, 2014. www.bigmyth.com.
This is an excellent website with a full serving of myths from around the world, not just origin myths but many more that demonstrate the predictive strength and acceptance. The site provides printable copies of the story, teacher guides and activities for the students.

Weschler, Lawrence. *Mr. Wilson's Cabinet of Wonder*. New York, New York: Vintage Books, 1995.
This is a nonfiction book aimed at describing the Museum of Jurassic888 in Los Angeles, CA. It is a delightful and wonderful book of wonders.

Science textbooks used by your school or district

Language Arts textbooks used by your school or district. You will find myths directly aligned with Common Core State Standards.

See listed websites for teacher guides and more. Teachers can set up accounts for their students on these websites.

Appendix 1

Language Arts, Science and Social Studies (North Carolina Department of Public Instruction n.d.)

CCSS.ELA-LITERACY.RL.6.1
Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

CCSS.ELA-LITERACY.RL.6.2
Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

CCSS.ELA-LITERACY.RI.7.3
Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

CCSS.ELA-LITERACY.RL.8.7
Analyze the extent to which a filmed or live production of a story or drama stays faithful to or departs from the text or script, evaluating the choices made by the director or actors.

CCSS.ELA-LITERACY.RL.8.9
Analyze how a modern work of fiction draws on themes, patterns of events, or character types from myths, traditional stories, or religious works such as the Bible, including describing how the material is rendered new.

CCSS.ELA-LITERACY.RST.6-8.7
Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

CCSS.ELA-LITERACY.RST.6-8.8
Distinguish among facts, reasoned judgment based on research findings, and speculation in a text

CCSS.ELA-LITERACY.RH.6-8.7
Integrate visual information (e.g., in charts, graphs, photographs, videos, or maps) with other information in print and digital texts.

CCSS.ELA-LITERACY.RH.6-8.10
By the end of grade 8, read and comprehend history/social studies texts in the grades 6-8 text complexity band independently and proficiently.

1 Charlotte Mecklenburg Schools. *CMS Charlotte Mecklenburg Schools.* 2014. www.cms.k12.nc.us/cmsdepartments/ci/supportservices/section504/title-1/pages/default.aspx (accessed September 1, 2014).

[2] Weschler, Lawrence. *Mr. Wilson's Cabinet of Wonder.* New York, New York: Vintage Books, 1995.

[3] Weschler, Lawrence. *Mr. Wilson's Cabinet of Wonder.* New York, New York: Vintage Books, 1995.

[4] "Navajo Code Talkers | Interviews, Videos & More." Navajo Code Talkers. Accessed November 3, 2014. http://navajocodetalkers.org/.