

AN EXPLORATION OF MATERIALS FOR MUSIC INTEGRATION IN
ELEMENTARY SCIENCE EDUCATION

by

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ABSTRACT

Strong educators always look for different ways to excite and enthrall their students in the curriculum. The field of science education often loses student interest due to the complexities and vocabulary found in the scientific realm. Incorporating music into the classroom has shown positive results as a way to integrate student learning and a different way of facilitating students in the learning process (Brewer, 1992; Davies, 200).

Resources for implementing the integration of music and science exist throughout the Internet in a variety of mediums. This study looks at the availability of said resources and the concepts they cover, for what students they are intended for, how are they intended to be used and the level of accuracy they maintain. Those resources upholding the accuracy desired for use in the classroom were then compiled onto one webpage for use by elementary science educators. The webpage is open and free to the public and may be shared.

DEDICATIONS

Primarily for Mom and Dad whose genius, spirit, and unconditional love have given me the strength and encouragement I needed every step of the way,

For the rest of my 'family' that kept me company as I typed away and offered endless words of support, especially when I didn't think I could do it,

For the greatest cheerleaders and support system- Robert Everett, Sherron Roberts, and Cynthia Hutchinson- without whom this thesis would not exist,

And of course, to my fellow teachers who understand the importance of providing the best education for the children of tomorrow.

“It is paradoxical that many educators and parents still differentiate between a time for learning and a time for play without seeing the vital connection between them.”

- Leo F Buscaglia

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CHAPTER ONE: INTRODUCTION

As I spend more and more time working within the school system, I cannot help but recognize an overwhelming trend: the lack of creativity when it comes to instruction. While it is clear many students can learn through the use of textbooks and worksheets, boredom and a lack of focus are easily observed. Many students stray to chat with their neighbors about unrelated topics or just pass the time until something else will happen. With activities that fail to stimulate students, interest in the sciences is not encouraged. Students should want to explore the world around us not because they see it as a requirement, but because they have a true scientific interest and intellectual motivation to do so. Through this study, I hope to determine the array of online video teacher resources for integration of music into the science curriculum to help regain the spark of wonder in the students' eyes.

Research Question

- What online video resources are available for teachers to use for music integration in elementary science classrooms?
- Of what quality and stature are the online video resources available for teachers to use for music integration in the elementary science classroom?

In order to clarify the direction of this study, it is important to provide a consistent definition of frequently used terms.

Definitions

Attitude: defines the extent to which an individual likes or dislikes a particular subject.

Available Resources: materials that are searchable and free to the public

Elementary Science Classrooms: classroom grades kindergarten through sixth grade

Integration: to incorporate two learning principles to facilitate learning.

Intermediate Grades: grade levels 3-6

Motivation: the desire to achieve or pursue a goal; the wanting to learn or pursuing of knowledge related to a subject.

Music Integration: to incorporate music and an academic content area to facilitate student learning

Online Resources: video results achieved from schooltube.com, teachertube.com, and bing.com

Primary Grades: grade levels kindergarten-3

Rationale

An attitude survey on student interest and motivation in the subject of science showed that sixth grade boys and girls reported not having interest in science-related topics more often than reporting a learning interest when presented with various science topics, attitudes and perceptions Ex. I like to read books related to science concepts (Jones, Howe, & Rua, 1999). When students lack learning interests, the level to which students can achieve and succeed is diminished. As well, the content area of science is only assessed in fifth, eighth, and eleventh grade in the state of Florida (Florida DOE). Consequently, many teachers may not feel the need

to focus on science education as in the more frequently assessed subjects of reading, writing and math. If teachers do not exhibit an interest in teaching their students in science, students may believe science is uninteresting in return.

The research to be conducted as part of this study hopes to analyze the accessibility and accuracy of music integration resources to increase the interest of students towards the subject of science by presenting information and topics in a fun and exciting way. A study conducted by Everett (1989) using music as a motivational tool in a seventh grade life science class showed that students showed a significant change in attitudes of those students receiving musical integration in comparison to students who did not receive the treatment. As music integration shows promise to promote student attitude in science education; therefore, this study hopes to look at the available resources online for teachers to incorporate music into their elementary science classroom.

According to the Florida Department of Education (FDOE) website, scores from the 2009 science FCAT showed the average passing percentile for fifth graders in the State of Florida was 46%. This constitutes less than half of the fifth graders passed the science portion of FCAT that took part in the exam. Unfortunately, the statistics only get worse as the assessment continues. The same report (2009) from the FDOE shows that the state percentile for passing eighth graders was 41% and the eleventh graders statewide achieved a mere 37% passing rate. Given the most recent 2009 Florida Comprehensive Assessment Test (FCAT) science segment, students likely need additional support materials to supplement their current curriculum. No one way exists to figure out what is currently askew with the system, but only to see what may help students

succeed. Since much research points to music for improving student interest and motivation (Brewer, 1992; Davies, 200), focusing on music in the science arena is important. The ultimate goal for this thesis would be to assist in raising state achievement scores by providing quality instructional resources for integrating music in the science classroom, but only one step at a time can be taken.

CHAPTER TWO: REVIEW OF LITERATURE

In preparation for planning and conducting this research study, several areas of research were reviewed. This section outlines preexisting literature related to stimulating interest in the content area of science, the effects of music in the general classroom, and the association between music and the brain.

Stimulating Interest in the Content Area of Science

One of the most important foundations for student success lies in providing a means to spark student interest in the classroom. Within the science classroom, some of the most common models are through the use of hands-on activity, experimentation, relevant life connections, and enrichment programs. Not only can this facilitate student interest, but maintain pedagogical validity for comprehension and retention as well. When students are able to connect what they are learning with a personal interest, learning gains delve into the brain as opposed to skimming the surface. Interest plays an important role in the levels of student learning (Renniger, Hidi, Krapp, 1992).

In addition to what happens within the classroom on a daily basis, additional stimulation can be provided through the use of field trips. Several locations exist throughout the state of Florida that provide meaningful experiences while still meeting the needs and goals of state standards; one prominent location is the Orlando Science Center. Many other organizations, such as Dinosaur World, Ripley's Believe It Or Not, and the Kennedy Space Center offer science related enrichment experiences for children of all ages (Florida, 2009). These sites provide

teachers with information regarding application to state standards as well as means of assessment on return to school through tests regarding presented information.

Odyssey of the Mind presents students with the opportunity to compete in teams to solve long-term problems through creative ideas. The program encourages fun, self-reliance, and problem solving. Students can compete in regional competitions as well as qualify for national levels. The goal of the program is to facilitate student interests through tapping creativity in regards to scientific issues and the desire to share it with others (*Odyssey*, 2010).

These programs involve students in the learning process and cater to the diverse needs of learners. Experiences developing from these enrichment programs work to foster student interest in the content area of science and provide a means for real life connections.

While teachers have many options for fostering student learning outside of the classroom, research has been conducted to explore what teachers can do inside of the classroom to help students further potential (Brewer, 1992; Campbell, 1992; Davies, 2000; Winter, et al., 2009). One such area of research has been the integration of music into the general classroom.

The Effects of Music in the Classroom

Music surrounds us in several fashions: we hear it on the radio while at home or driving, it provides the catchy tunes for television commercials, and many of us hum it when working or bored, even the dwarfs sang ‘*Whistle While You Work*’. The use of music may be implemented in a variety of methods to produce a desired effect. Particular rhythms and beats work to calm or energize the body and can thus be played to achieve such a result (Brewer, 1992). Music,

regardless of subject area, can enhance the means by which instruction is given. It can provide a method that students perceive as fun and interesting. Chris Brewer (1992) presents three methods in which music can provide high yields for students: learning information, affecting attention, attitude and atmosphere, and fostering personal expression. Mary Ann Davies (2000) mentions in her article, "Learning: The Beat Goes On", that not only can music affect students in the following ways mentioned by Brewer: learning information, affecting attention, attitude and atmosphere, and fostering personal expression; But also by increasing productivity, setting the mood and enriching lessons. This is accomplished by fostering student interest by engaging students in a typically enjoyable activity (listening to music) while incorporating important concepts simultaneously.

While music can impact students positively merely through its presentation, students can attain a certain feeling of pride when music becomes a means through which they express what they have learned (Davies, 2000). By integrating and creating music, students are able to ascribe their own emotions to their product and create something that is both personal and informative. The desired product can be anything from developing an instrumental piece for a scene from a story, or constructing a piece of music to show comprehension of a particular topic in social studies or the sciences (Davies, 2000).

Within in the realm of science, musical parodies have been used to educate students on food safety issues. One particular study addressed both knowledge gains and attitude changes in the high school setting and only knowledge gains in a summer youth program of children 8-12 years old (Winter, et al., 2009). In this study, the high school students who received the music-

supplemented education obtained significantly higher results on the knowledge post-test related to food safety. The results obtained from the attitude surveys in this study showed males had a more positive attitude towards food safety protocol after exposure to the parodies than the females who received the same treatment.

Music and the Brain

According to Bloom's Taxonomy of Educational Objectives, the affective (attitude) domain holds the same importance as the cognitive (knowledge) and psychomotor (skill) domains (Jacobsen, Eggen, & Kauchak, 2006). While attitudes can play a role in student interests and attitudes in the classroom, evidence supports the rationale of music through physical reactions in the brain as mentioned by Willis (2007). Willis remarks that information is learned not just memorized when multiple connections are made throughout the brain by teaching through a variety of methods (2007, p. 310). Specifically mentioned by Westwater and Wolfe (2000), connections can be made through relevant connections including music and drama. Research in the field of neuropsychology suggests that optimal learning occurs when both hemispheres of the brain are actively involved in the learning task (cited in Davies, 2000). When the two hemispheres work together, the brain's natural design creates a method of learning that appears quick and easy. Analyzing the brain through advancements in MRIs has allowed researchers to report the separate functions of the brain parts: the left hemisphere takes in the structure of the music while the right hemisphere focuses on the melody of the piece. When the two parts come together, the brain develops significantly more connections than if only one of the hemispheres were interpreting information (Campbell, 1992, p. 53). When this occurs and the

learner's emotions are heightened, attention is focused, and interests engaged, the opportunity for learning is optimized (Campbell, 1992).

Music has also been shown to reach those students who are often left behind due to a difference in learning style or information processing. Bottari and Evans (1981) conducted research to measure the effects of curriculum-related music on students with learning disabilities. Their research showed that students with strong visual-spatial skills retained verbal information better when it was sung rather than merely spoken. Within this same study, those students who had strong auditory skills did not show a change in knowledge gains whether the information was sung or spoken (Bottari & Evans, 1981, p.329). Davies (2000) also considers the benefits for those students who learn with a reliance on connecting with academic material through feelings as opposed to processing information using a logical rational; these students who base learning on emotion connections may benefit from musical integration because music inherently can evoke emotions. In any case, however, music does not create any deficits and offers many learners the opportunity to explore, communicate, and produce.

Summary

In summary, the literature review provides the background for my research involving an in-depth investigation of existing music and science integration materials. The literature supports that quality supplemental materials integrating music into the elementary science classroom could prove beneficial for exposed students. The final product of the research should yield a viable resource for elementary science educators to access to help facilitate for the integration of music.

CHAPTER THREE: METHODOLOGY

In order to compile and analyze existing educational materials for integrating music and the sciences, I wanted to take similar steps that public school elementary teachers would take to find science songs for their classroom. I utilized basic search engines and known video websites to obtain my research materials. Based on a consistent system created by my thesis chair and elementary science professor and educator, the materials were then analyzed and rated as a means to create and compose a webpage for science educators in the elementary school to use as a motivating classroom resource.

Design of the Study

To acquire the necessary research materials, I needed to complete a thorough search of public search engines for elementary science songs. The goal of this research is to analyze and compile the most worthy teacher resources for use in integrating music utilizing science concepts. By using a variety of search results from a variety of sources would allow for diverse results. Let me explain. I started by searching teachertube.com, schooltube.com, youtube.com, bing.com, and google.com. I considered the accessibility of each of the sites on a public school computer and whether or not the results would be playable on public school computers.

I decided to narrow the searchable websites to teachertube.com, schooltube.com and bing.com. These sites were used due to their accessibility and ability to search for video results. *TeacherTube* and *SchoolTube* are video-sharing websites that enable teachers and students to upload and view videos submitted by others. The intent of the websites is to provide “a site where teachers can post videos designed for students to view in order to learn a concept or skill

(*TeacherTube*, 2007).” The philosophy of *TeacherTube* supports the motivating concept behind this research. Their mission strives to provide teachers and students with reliable resources to facilitate and encourage learning. This research aims to evaluate how well the available resources can facilitate students learning a new concept or skill. Sharing a mission similar to *TeacherTube*, *SchoolTube* was also chosen as an accessible site for students or teachers to share educational videos. The more commonly known and highly popular video-sharing website, *YouTube*, was omitted for obtaining results due to its inaccessibility on school networks. Many districts ban the video website in response to the Children’s Internet Protection Act (CIPA) and as further stated in the Acceptable Use Policy (AUP) as it varies by district. The rationale behind the ban includes “ensuring the safety of children...blocking access to inappropriate material on the Internet (*Seminole County Public Schools*, 2006).” Due to the blocking of youtube.com materials in certain districts, google.com was omitted from the research results because of the prominence of *YouTube* videos in the search results. *Bing* was a viable option for achieving results as it enables searching with a video filter for results. The *Bing* website is available in public schools and provides a high magnitude of results.

I maintained the same key words for the search boxes in order to ensure consistency and mimic what would be a likely search for elementary science teachers. The keywords “elementary science song” were used across all of the websites. When these keywords were used to retrieve the search results I filtered through them to find the first 10 relevant results. In this case the term relevant is defined as a result yielding a video and accompanying song involving the subject matter of science. Results yielding advertisements, articles, or other subject matter were not taken into account and did not count towards the first 10 relevant sources used for the sake of

this research. These miscellaneous sources were ignored, as they would be by a science educator looking for classroom resources. Therefore, this study focuses on a total of thirty video results meeting the requirements of integrating music and science together in a video format to be reviewed and analyzed.

For each relevant result returned, the video was watched, listened to, and rated based on the following criteria determined by an experienced science educator and myself. Songs were categorized based on the area of science addressed (life sciences/biology, earth sciences, chemistry, physics, and/or scientific method). The songs were then analyzed for academic thrust. Academic thrust refers to the push for knowledge gain. Were the songs created as a method for providing information and facts? Or, were they made primarily as a method to motivate students or engage them in learning? Results were then assigned an appropriate grade level of primary (k-3) versus intermediate (3-6). This was based on content material and language inherent in the song. The last, and predominately important piece of criterion is the accuracy of the information presented in the song and video. The level of accuracy for the material was determined based on Next Generation Sunshine State Standards for science (FDOE, 2008). Accuracy scores are awarded as a “one”, “two”, or “three”. A “three” implies 100% accuracy of the material presented; a “two” implies factual information was present, but contained important gaps or provided misleading information; a “one” implies misinformation or gaps substantial enough to confuse or misguide information and would not be a suitable source for use in the classroom. A written report was created for each of the search results involving the above criteria as well as to document a more detailed description of the source along with other pertinent notes (see Appendix B). In addition to the detailed analyses for each site, the results were logged in a

separate structured figure (see Figure 1) for each searched website (see Appendix A). Detailed reports are organized in the same order as they appear in the summary charts and are numbered accordingly next to their search site.

Prior to starting the research, I developed a method to analyze these songs in order to stay consistent and organized through the viewing of a multitude of results. This method called for a spreadsheet for each search engine used. Titles of the relevant selection were logged along with a tally chart method of organizing information. In this way, the figures are then easily comparable across search engines to compare the results.

Figure 1. (Blank) Organizational Chart

(TeacherTube, SchoolTube, Bing)

Title of Relevant Search Result	LS	ES	CH	PH	SM	<u>AT</u>	<u>MO</u>	GL	AC
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									

Key: **LS** Life Sciences/ **Biology**; **ES** Earth Sciences; **CH** Chemistry; **PH** Physics; **SM** Scientific Method; **AT** Academic Thrust; **MO** Motivational; **GL** Grade Level; **ACC** Accuracy

Once the search results were compiled and examined across the four websites, they were analyzed as a whole to look for trends in the existing science and music integration materials. It was imperative to know if the existing materials were unbalanced in any of the interpreted criteria as this affects what elementary teachers are able to readily use in their primary and intermediate science classrooms.

From the evidence in both the detailed reports as well as the overall tally forms, the highest quality teacher resources were selected from the total of the thirty songs reviewed and analyzed as part of this study. The sources with the highest accuracy ratings (a level “three”) were then compiled to form a public webpage. Resources such as “Oh, So Elementary” and “Photosynthesis Rap” were chosen for inclusion on the website given their accuracy levels as recorded in their reports. The goal of this was to create an Internet resource available to science educators for accurate and reliable materials to integrate music. In addition, to make the website as functional as possible for potential users, each resource selected for use on the webpage was also matched to Next Generation Sunshine State Standards (FDOE, 2008) and included on the website under each listing. This allows educators to match resources with the standards assessed and focused on in their classroom.

This website is available at: <https://sites.google.com/site/musicinyourscienceclassroom/> (See Appendix C).

Limitations

Due to the vast expanse of the Internet, quality music and science integration materials are bound to go unnoticed under the pages of other results returned on any search. Despite this, I

tried to take the mindset of the everyday teacher weeding through the first several results in hopes of stumbling across a viable option for the classroom. As time continues, I hope to add to the webpage I created and develop a more comprehensive teacher resource of accumulated materials for the integration of music in the science classroom.

CHAPTER FOUR: RESULTS

In analyzing the results of this study, individual search websites underwent analysis as separate entities before combining the data to be analyzed as a whole for ‘elementary science song’ video search results on the Internet. The highest quality results were then compiled to develop a teacher resource webpage for elementary science teachers desiring quality music integration materials for use in the science classroom.

The songs chosen for inclusion in this research were written by a variety of contributors. Some authors provided an introduction in their video explaining who they were and essentially why they possess the credentials to make and sing this song for viewers on the Internet. These authors included experienced educators of the various scientific topics (life science, earth space science, physics, etc.). Other authors did not retain the necessary credentials to ensure a feeling of assurance in the viewer. These included students that could be making these videos for class assignments such as in “Atoms” or “Big Plants, Small Plants”. The remaining videos did not portray their authors. They were unclear as to the creator and developer of the video. Regardless of the author, the content of the videos were assessed on the same, consistent scale.

TeacherTube

The results for the ‘Elementary science song’ on teachertube.com yielded the summarized results as follows (see Figure 2).

Figure 2. Organizational Chart for TeacherTube Results

TeacherTube

Title of Relevant Search Result	LS	ES	CH	PH	SM	<u>AT</u>	<u>MO</u>	GL	AC
1. Cool Water Cycle Song		x				x		I	3
2. The Earth		x				x	x	I	3
3. Chemical Change Song			x				x	I	2
4. The Volcano Song		x				x	x	I	3
5. Cloud Rap		x				x		I	2
6. Simple Machines Song				x			x	I	2
7. Speed is Distance Over Time Song				x		x		I	3
8. Solar System Hero		x				x		P/I	3
9. Classification Song	x					x		I	2
10. Plant Cell Rap	x					x		I	1

Key:

LS Life Sciences/ Biology; ES Earth/Space Sciences; CH Chemistry; PH Physics; SM

Scientific Method; AT Academic Thrust; MO Motivational; GL Grade Level; AC Accuracy; P

Primary; I Intermediate; AE Above Elementary

As determined from the summarized chart, the search returned two life science songs (20%), five earth/space science songs (50%), one chemistry song (10%), two physical science songs (20%), and zero scientific method songs (0%). An overwhelming amount of results from TeacherTube focused on the concepts associated with earth/space science. These are not surprising results due to the nature of the content and the fact that earth science is taught in varying degrees throughout elementary school and beyond whereas some topics such as physical science and chemistry are not discussed as deeply until later in school careers. The fact that zero results touched on the scientific method shows that there were no musical supplements to encourage or aid in teaching the importance and/or process of the scientific method early on.

In terms of academic thrust, six songs out of 10 (60%) pertained to having only strong academic thrust to aid or supplement the teaching of vital scientific concepts. Two songs were strictly motivational (20%), meaning that they offered little to no substantial information, but invited students to learn about the topic. As well, two songs featured strong facets of both academic thrust and motivation- providing key content as well as encouraging learners (20%).

All returned results were applicable to the intermediate elementary grades with only one song that could also be used in the primary grades. That being said, five of the results received an accuracy level of “three” (50%); four songs received an accuracy level of “two” (40%); and one received an accuracy level of “one” (10%). This shows that half of the yielded results would be fully suitable for use in the classroom.

From this information the most common result was an earth/space science song intended for academic thrust in the intermediate grades with an accuracy level of 3, or one hundred percent accuracy.

SchoolTube

The results for the ‘Elementary science song’ on schooltube.com yielded the summarized results as follows (see Figure 3).

Figure 3. Organizational Chart for SchoolTube Results

SchoolTube

Title of Relevant Search Result	LS	ES	CH	PH	SM	AT	MO	GL	AC
1. The Water Cycle Song		x					x	I	2
2. Balanced Equations			x			x		AE	3
3. Phases of the Moon		x				x		I	3
4. Photosynthesis Rap	x					x		I	3
5. Digestion Song	x						x	P/I	1
6. Magnet Song				x		x		I	3
7. A Weather Song		x				x		I	3
8. Needs of an Animal	x						x	P	3
9. The Cloud Song		x				x	x	I	3
10. Periodic Table Song			x				x	I/AE	3

Key: **LS Life Sciences/ Biology; ES Earth/Space Sciences; CH Chemistry; PH Physics; SM Scientific Method; AT Academic Thrust; MO Motivational; GL Grade Level; ACC Accuracy; P Primary; I Intermediate; AE Above Elementary**

As determined from the summarized chart, the search returned from the top ten results three life science songs (30%), four earth/space science songs (40%), two chemistry songs (20%), one physical science song (10%), and zero scientific method songs (0%).

In terms of academic thrust, five songs (50%) pertained to having only strong academic thrust to aid or supplement the teaching of vital scientific concepts. Four songs (40%) were strictly motivational, meaning that they offered little to no substantial information, but invited students to learn about the topic. As well, one song (10%) featured strong facets of both academic thrust and motivation- providing key content as well as encouraging learners.

Six of the results (60%) were most applicable for use in the intermediate grades, one (10%) is just the primary grades, one (10%) for use in both primary and intermediate, one result (10%) was applicable to the intermediate grades and those above the elementary level, and one result (10%) most suitable for students above the elementary level. The majority of the results, eight to be exact (80%), received an accuracy level of three, while only one video (10%; 10%) fell into each of the other accuracy levels.

For SchoolTube, the most common returned result was an earth/space science song pertaining to academic thrust for the intermediate grades with an accuracy level of three.

Bing

The results for the 'Elementary science song' on bing.com yielded the summarized results as follows (see Figure 4).

Figure 4. Organizational Chart for Bing Results

Bing

Title of Relevant Search Result	LS	ES	CH	PH	SM	AT	MO	GL	AC
1. Oh, So Elementary			x			x		AE	3
2. Biochemistry Song			x				x	AE	3
3. Biscayne BioBlitz:....Coral Reef	x					x		P/I	3
4. Bill Nye...GRAVITY				x		x		I	3
5. Atoms			x			x		I	1
6. I am an Animal	x					x		P	3
7. Physical Changes Song			x			x		P/I	3
8. The Food Chain	x					x		I	3
9. Big Plants, Small Plants	x						x	P	2
10. NOT APPLICABLE									

Key:

LS Life Sciences/ Biology; ES Earth/Space Sciences; CH Chemistry; PH Physics; SM

Scientific Method; AT Academic Thrust; MO Motivational; GL Grade Level; ACC Accuracy; P

Primary; I Intermediate; AE Above Elementary

As determined from the summarized chart, the search returned four life science songs (44%), zero earth/space science songs (0%), four chemistry songs (44%), one physical science song (11%), and zero scientific method songs (0%) from a total of nine returned results.

Seven songs (78%) pertained to having only strong academic thrust while two songs (22%) played to motivational aspects of science. Two of the search results (22%) were best suited for use within just the primary grades, two (22%) for the primary and intermediate grades, three (33%) for only intermediate, and two (22%) for intermediate and above elementary grades. Of the returned results, seven (78%) deserved an accuracy level of “three” while one (11%) result received a level “two” and one other (11%) a level “one”.

The most common search result received from bing.com was a life science or chemistry song with academic thrust for the intermediate grades with an accuracy level of three.

Bing dealt several limitations in terms of the results it returned for this study, and the location of the relevant integration materials. In this search, only nine of an intended ten results were analyzed due to a lack of relevance and variety. As Bing was the last searched website, and the study omitted repeats from a second analysis, many of the results were already viewed videos if they even pertained to the search matter. The results yielded were highly irrelevant – some failed to relate to songs or science, or even both. After the extraneous results were ignored, the video results were often repeats from TeacherTube or SchoolTube. As a result, nine results were obtained from bing.com for use in this study. When watching the germane videos, the URLs to each video’s location were recorded in the search result detailed reports (See Appendix B). Consequently, it was noted that seven of the nine videos rerouted the Internet webpage to

youtube.com. As stated in chapter three: methodology, youtube.com was omitted as a searchable website for integration materials due to its noncompliance with the AUP of Seminole County school districts.

Summary of Results

In analyzing the comprehensive results, the most common search result returned was either a life science or earth/space science video with each providing nine results. The majority of videos concerned academic thrust and applied for use in the intermediate grades and received an accuracy level of three. The accuracy of the integration materials manifests as the most important component due to the need for accurate information being presented to students. While it is pleasing to see the majority of the video results as obtaining a level three accuracy, nine out of the twenty-nine results, or thirty-one percent, fell below a level three. This percentage represents almost one-third of all of the results showing that about one out of every three videos would not maintain enough accuracy for use in the classroom (the level of accuracy for the material was determined based on Next Generation Sunshine State Standards for science).

From these results, the resources achieving a level three, or one hundred percent accuracy, were linked to a developed webpage to be used as a teacher resource. Using Google sites, I compiled the accurate integration videos into an organized webpage for use as a teacher resource to be provided for assistance in integrating science songs into the elementary science classroom. The site is segmented into the different facets of science education (life science, chemistry, physics, etc.). Under each of these sections are links to songs for either primary (K-3), or intermediate grades (3-6). Then the pertaining songs are listed with links and annotations for

the ease of song selection. For additional function, each video was matched to the appropriate Next Generation Sunshine State Standards and included under each linked resource on the webpage.

The site can be found at:

<https://sites.google.com/site/musicinyourscienceclassroom/> (See Appendix C).

CHAPTER FIVE: CONCLUSIONS

Concluding Remarks for Search Results

The results yielded through this research were in line with expectations while others I found surprising after the results were organized, analyzed and tallied. Regarding the content areas, I expected the video results to be more equally spread throughout the science topics of life science, earth/space science, chemistry, physics and the scientific method. When looking at Florida's Next Generation Sunshine State Standards, the Big Ideas for kindergarten through fifth grade included at least one for each of the listed science topics. Since every topic is addressed in each grade level I had thought to see a wider array of videos in each topic. Life science and earth/space science constituted the majority of the search results at 62% combined with the remaining 38% shared between chemistry and physics related science. However, the fact that no videos returned for the integration of music and the science topic of scientific method shocked me. As the scientific method occupies a space in all of the science areas, it was remarkable that no one video was returned in the search to assist with the teaching of this common scientific topic.

In terms of grade levels, I anticipated a more equal distribution of primary and intermediate videos as opposed to 76% of results pertaining to the intermediate grades and only 26% of results pertaining to primary grade levels (some overlap exists as a few select videos could apply to both grade levels). I find this an important fact to note. As achievement levels are so low (FDOE, 2009) and with students reporting a lack of interest in the sciences (Jones, Howe and Rua 1999), it appears crucial to begin sparking student interest in the sciences starting in the

younger grades. Students may be more apt to continue an interest in the sciences if beginning with one then to have to start, develop and foster a new interest as the content becomes increasingly difficult. Perhaps, if more quality materials exist and are employed in the primary classrooms, more students in the intermediate grades and beyond would retain and interest in the sciences. As seen from the 2009 FCAT scores, achievement levels decreased in the eighth, and eleventh grade years in comparison with fifth graders who still showed a less than 50% passing rate. It can be concluded that science content grows in difficulty and if students lack the all important motivation and interest, then their levels of learning will most likely be affected (Renniger, Hidi, Krapp, 1992).

From the results, I found accuracy levels to be disappointing. While the majority of the returned results received a level 3 accuracy, a remaining 31% nearly one-third of the results were ascribed either a level 2, or 1 accuracy level. I had hoped to discover a resounding number of videos with 100% accuracy, but alas since the videos could be made and submitted by anyone, a certain amount of human error and technological difficulties disrupts the accuracy levels.

During the search process, it was clear that several of the returned results overlapped across the websites. I was compelled to feel a heightened concern for the accuracy and appropriateness of these videos for the elementary science classroom. Given the availability of some of the materials (that they can be found among a variety of searchable websites), it is crucial that these sources are suitable for educating and stimulating students.

Concluding Remarks for Teacher Resource Webpage

As a consequence of this research, materials for the integration of music and science have been viewed, analyzed, and recorded. The highest quality materials from across the different searchable websites now find themselves in one location for the convenience of teachers in the science education field. The product of the new website is great in that it eliminates some of the error factor from providing students with inaccurate or misleading information. I hope that teachers would use this site as a jumping ground for integrating music into their science classroom. Given the twenty resources located on the webpage, potential users are provided a variety of resources for classroom use or inspire them to find other resources or create their own to aid their students in understanding science concepts through the use of song.

From conducting this research, I learned of the expansive qualities of the Internet. As many more people continue to add to the information already in existence, I sometimes felt that I was swimming in a pool of information that was many times polluted. Quality resources exist on the Internet, but must be unearthed and found among the resources that are not as suitable for use in the classroom. Due to the fact that nearly one-third of the search results reviewed and analyzed for this study received a accuracy level lower than “three”, it appears far too easy to select a video resource that does not meet the expectations for providing the most meaningful experience for the students.

I limited myself to strictly the analyzing of songs placed in video format on the Internet. I know, however, of the wealth of integration materials in other mediums. In the future, I would like to continue my research in exploring the other methods in which science and music are integrated and may be presented to students within the classroom. In addition, I believe it would

be beneficial to explore what materials are available for enhancing instruction of the scientific method and principles as it was a neglected topic when reviewing the search results.

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APPENDIX A: SEARCH RESULT SUMMARY CHARTS

Appendix A: Search Results Summary Charts

TeacherTube

Title of Relevant Search Result	LS	ES	CH	PH	SM	<u>AT</u>	<u>MO</u>	GL	AC
1. Cool Water Cycle Song		x				x		I	3
2. The Earth		x				x	x	I	3
3. Chemical Change Song			x				x	I	2
4. The Volcano Song		x				x	x	I	3
5. Cloud Rap		x				x		I	2
6. Simple Machines Song				x			x	I	2
7. Speed is Distance Over Time Song				x		x		I	3
8. Solar System Hero		x				x		P/I	3
9. Classification Song	x					x		I	2
10. Plant Cell Rap	x					x		I	1

Key:

LS Life Sciences/ Biology; ES Earth/Space Sciences; CH Chemistry; PH Physics; SM

Scientific Method; AT Academic Thrust; MO Motivational; GL Grade Level; ACC Accuracy; P

Primary; I Intermediate; AE Above Elementary

SchoolTube

Title of Relevant Search Result	LS	ES	CH	PH	SM	AT	MO	GL	AC
1. The Water Cycle Song		x					x	I	2
2. Balanced Equations			x			x		AE	3
3. Phases of the Moon		x				x		I	3
4. Photosynthesis Rap	x					x		I	3
5. Digestion Song	x						x	P/I	1
6. Magnet Song				x		x		I	3
7. A Weather Song		x				x		I	3
8. Needs of an Animal	x						x	P	3
9. The Cloud Song		x				x	x	I	3
10. Periodic Table Song			x				x	I/AE	3

Key:

LS Life Sciences/ Biology; ES Earth/Space Sciences; CH Chemistry; PH Physics; SM

Scientific Method; AT Academic Thrust; MO Motivational; GL Grade Level; ACC Accuracy; P

Primary; I Intermediate; AE Above Elementary

Bing

Title of Relevant Search Result	LS	ES	CH	PH	SM	AT	MO	GL	AC
1. Oh, So Elementary			x			x		AE	3
2. Biochemistry Song			x				x	AE	3
3. Biscayne BioBlitz:....Coral Reef	x					x		P/I	3
4. Bill Nye...GRAVITY				x		x		I	3
5. Atoms			x			x		I	1
6. I am an Animal	x					x		P	3
7. Physical Changes Song			x			x		P/I	3
8. The Food Chain	x					x		I	3
9. Big Plants, Small Plants	x						x	P	2
10. NOT APPLICABLE									

Key:

LS Life Sciences/ Biology; ES Earth/Space Sciences; CH Chemistry; PH Physics; SM

Scientific Method; AT Academic Thrust; MO Motivational; GL Grade Level; ACC Accuracy; P

Primary; I Intermediate; AE Above Elementary

APPENDIX B: SEARCH RESULT DETAILED REPORTS

Appendix B: Search Result Detailed Reports

Media Source:

TeacherTube (1)

Cool Water Cycle Song – Earth Science

http://www1.teachertube.com/viewVideo.php?video_id=120556

Annotation:

This song features each step of the water cycle including key vocabulary and definitions. In addition, other concepts closely related to the water cycle are explained. These include cloud types, air pressure, and reasons for storms. The video includes graphics and animation to aid in scientific comprehension. These include diagrams, illustrations and photographs.

Academic Thrust versus Motivational Aspect:

Due to the high volume of vocabulary, definitions and examples, this song and video responds to the desire for academic thrust in the classroom.

Applicable Grade Levels:

From the extensive vocabulary and scientific content, this song is best used with students grades 3 and higher.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

TeacherTube (2)

The Earth – Earth Science

http://www1.teachertube.com/viewVideo.php?video_id=216516&title=The_Earthvpkey=

Annotation:

This song features an overview of the planet Earth and its properties. Characteristics discussed are the tilt of the Earth on its axis and the effect this has on the length of the day and our seasons. The video also features graphics to accompany the lyrics yet they do not provide any additional information to the viewer.

Academic Thrust versus Motivational Aspect:

As the song and video provide important vocabulary and concepts relating to the planet earth it maintains a level of academic thrust. However, the video only presents the information one time. It would be imperative that students have been exposed to the material previously and this video could be used as a motivational review of key concepts.

Applicable Grade Levels:

Due to the content covered, this song and video would be most applicable to the intermediate elementary grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

TeacherTube (3)

Chemical Change Song - Chemistry

http://www1.teachertube.com/viewVideo.php?video_id=9840

Annotation:

‘The Chemical Change Song’ presented its listener with a basic definition and multiple examples of a chemical change. The video accompanied the song using clips from a children’s television cartoon show. The creator used clips from the show as well as photographs to depict the examples sung. The graphics are not necessary to the comprehension of the song.

Academic Thrust versus Motivational Aspect:

The academic thrust was minimal as very little information was actually presented. Instead, this song acts more as a motivational tool to engage students using familiar cartoons to draw them into a science concept.

Applicable Grade Levels:

Due to the content covered, this song and video would be most applicable to the intermediate elementary grades.

Level of Accuracy:

(2) The definition and examples provided were accurate. However, the examples provided may be confusing for students without proper support from explanations within the video or from the teacher.

Media Source:

TeacherTube (4)

The Volcano Song – Earth Science

http://www1.teachertube.com/viewVideo.php?title=The_Volcano_Song&video_id=27461

Annotation:

Set to the tune of “She’ll be coming ‘round the mountain’ this song delivers information about how volcanoes form, the different types of volcanoes and eruptions, while clearly displaying authentic photographs and lyrics for viewers to follow.

Academic Thrust versus Motivational Aspect:

The Volcano Song presents a comprehensive look at volcanoes and gives educational support. This song/video could be presented as an introduction or review to the concept of earth’s volcanoes. As well, since the lyrics are set to a familiar tune, students are encouraged to join the singer in singing about the volcanoes as the lyrics appear on screen.

Applicable Grade Levels:

From the extensive vocabulary and scientific content, this song is best used with intermediate grade students

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

TeacherTube (5)

Cloud Rap – Earth Science

http://www1.teachertube.com/viewVideo.php?video_id=38953

Annotation:

This rap is meant to cover the three types of clouds and the differences between each. The creator sings about each cloud including characteristics such as the type of precipitation they bring, where they form in the atmosphere, and how they affect the weather. The accompanying video provides some photographs as well as student illustrations of the cloud types. The lyrics are not provided for students to follow.

Academic Thrust versus Motivational Aspect:

This song presents the science facts in a rap style. It is intended to enhance the knowledge of students regarding the types of clouds therefore meeting the needs for academic thrust.

Applicable Grade Levels:

This content is introduced in the beginning of the intermediate grades and reviewed throughout the years. Consequently, this song would be most appropriate in the intermediate grades.

Level of Accuracy:

(2) Presented concepts and definitions maintained accuracy. However, the quality of the audio caused gaps in the lyrics creating subsequent gaps in important facts.

Media Source:

TeacherTube (6)

Simple Machines Song - Physics

http://www1.teachertube.com/viewVideo.php?video_id=9843

Annotation:

This song introduces the idea of simple machines. It mentions wheels, pulleys, screws and inclined planes. It also presents the main idea that work is easier with simple machines. The video shows some related graphics, but not for all of the mentioned machines. The rest of the video uses cartoon clips to make it appear the characters are singing the lyrics. Written lyrics are not provided.

Academic Thrust versus Motivational Aspect:

Since the song merely introduced the main idea for the concept of simple machines it is a motivational song and video to spark student thinking.

Applicable Grade Levels:

Simple machines are introduced in the intermediate grades making those the most applicable grade levels for use.

Level of Accuracy:

(2) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy. The song and video only provided an example for one of the simple machines leaving information gaps about the other three mentioned in the beginning.

Media Source:

TeacherTube (7)

Speed is Distance Over Time Song - Physics

http://www1.teachertube.com/viewVideo.php?title=The_SPEED_IS_DISTANCE_OVER_TIME_Song__Mr__Edmonds&video_id=118880

Annotation:

‘Speed is Distance Over Time Song’ presents a parody to the familiar tune of “Ain’t No Mountain High Enough.” In this song, the creator defines and gives examples of speed, velocity, acceleration, and deceleration using the scenario of a runner in a race. The video begins with an introduction by the singer and then shows him singing and displaying important vocabulary terms. The video does not add to the information presented in the song.

Academic Thrust versus Motivational Aspect:

Academic thrust is the goal of this song as it aims to fully explain one concept. The key terms and concept are repeated over the course of the song to provide reinforcement for the listener. The key terms are given emphasis when sung to further note their importance.

Applicable Grade Levels:

As speed requires a use of equations, measurement, and other physics background, this song would be most useful in the Intermediate grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

TeacherTube (8)

Solar System Hero – Earth/Space Science

http://www1.teachertube.com/viewVideo.php?video_id=79323

Annotation:

‘Solar System Hero’ sings about the role of the sun and how it affects life on Earth. It provides important facts, including basic ones (the sun is the center of our solar system) to more advanced ideas (the mass of the sun creates enough gravity to cause the rest of the planets to orbit around it). This is a fun, upbeat song with repetitive lyrics to help students learn to sing along though they are visible in the video. Additional graphics are limited to a glowing sun in the background, so the video is assistive only in providing the lyrics to the song.

Academic Thrust versus Motivational Aspect:

The song presents an overview of the role of sun helpful for a primary review or an intermediate level refresher. The content provides for academic thrust while the beat and ease of learning allow for motivational use.

Applicable Grade Levels:

The versatility of Solar System Hero makes it applicable to both primary and intermediate grade levels. Many of the concepts would be valuable to primary students and they would soon be able to pick up the repetitive lyrics. Intermediate grades would be able to understand the more complex facts for an overview before more in depth learning about the sun

and solar system occurs. Aspects of this song would be useful throughout the elementary grade levels.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

TeacherTube (9)

Classification Song – Life Science

http://www1.teachertube.com/viewVideo.php?video_id=124725

Annotation:

This teacher sung song presents the background and role of classification in the life sciences. She introduces the beginning of taxonomy from the Greeks and sings about how it is used now. The different levels of classification are mentioned but not clearly defined. No lyrics or graphics are included in the video.

Academic Thrust versus Motivational Aspect:

The intent of the song is to have academic thrust in presenting and explaining the origins and methods of taxonomy to students.

Applicable Grade Levels:

Students begin working with taxonomy in the intermediate grades in discussing life science topics.

Level of Accuracy:

(2) Presented concepts and definitions maintained accuracy. However, the quality of the audio caused gaps in the lyrics creating subsequent gaps in important facts.

Media Source:

TeacherTube (10)

Plant Cell Rap – Life Science

http://www1.teachertube.com/viewVideo.php?video_id=142189&title=Plant_Cell_Rap

Annotation:

A student made rap about plant cells, this song has four students singing a self-made rap regarding the organelles and functions found within plant cells. Lyrics and graphics are not provided in the video.

Academic Thrust versus Motivational Aspect:

The song predominately related to academic thrust as the creators tell the listener about the important functions and parts of the plant cell. This includes key terms and definitions.

Applicable Grade Levels:

Due to the depth that the lyrics into specific organelles and functions, this song would be most appropriate for the intermediate grade levels.

Level of Accuracy:

(1) Definitions were not complete for key terms. In addition, the quality of the audio caused gaps in the lyrics creating subsequent gaps in important facts.

Media Source:

SchoolTube (1)

Water Cycle Song – Earth Science

<http://www.schooltube.com/video/34805edc9ea441b0a7e2/Water-Cycle-Song>

Annotation:

This video features a compilation of students singing the three parts of the water cycle in various styles of music (opera, rap, rock, etc.). It is a third grade class and addresses the most introductory part of the water cycle.

Academic Thrust versus Motivational Aspect:

This video could be used as a motivational tool to get students engaged in learning about the water cycle with an entertaining video.

Applicable Grade Levels:

Since the video was made by a third grade class and only addresses the what the three parts of the water cycle it might best be used in a similar setting, or use a clip of the video in order to engage older students (intermediate grades) before discussing the water cycle.

Level of Accuracy:

(2) Students sang the correct parts of the water cycle, but no additional information was given.

Media Source:

SchoolTube (2)

Balanced Equations/ I'll Balance You - Chemistry

<http://www.schooltube.com/video/0aea1711b803428f029c/Balanced-Equations>

Annotation:

'I'll Balance You' presents listeners and viewers with an example chemistry equation and the steps required to balance it. Set to the tune of "I'll Stand By You" the creators sing an accurate chemistry version and present the lyrics and equation in the accompanying video.

Academic Thrust versus Motivational Aspect:

Given that this video provides supplemental knowledge for balancing chemical reactions in equation, it encourages academic thrust for viewers and listeners.

Applicable Grade Levels:

Given the complexity of balancing chemistry equations, this concept is not typically introduced until at least middle school. Consequently, this song is above the elementary grade levels.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (3)

Phases of the Moon- Earth/ Space Science

<http://www.schooltube.com/video/bf0e5ada3fb0ea880ecb/Phases-of-the-Moon-a-kids-funky-version>

Annotation:

‘Phases of the Moon’ reviews the eight phases of the moon and the position of the moon at each stage. An adult sings the song with student backup. The lyrics are not shown in the video, but the accompanying graphics and clarity of the voices compensate. The graphics are not necessary for the comprehension of the song, but provide strong support for the viewer/listener.

Academic Thrust versus Motivational Aspect:

This video provides strong academic thrust as it fully explains the title concept. In addition, the lyrics are repeated several times to allow the listener multiple chances for input.

Applicable Grade Levels:

This video lends itself more to the intermediate grades. Given the pace at which the information is presented and the content of the material, this song would be too advanced for primary grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (4)

Photosynthesis Rap – Life Science

<http://www.schooltube.com/video/854ea49db7fc93a92526/Photosynthesis-Rap-With-Words>

Annotation:

Though ‘Photosynthesis Rap’ is not in a rap style as the title suggests it presents the concept of photosynthesis in an engaging melody and video. The song discusses photosynthesis: that all plants do it, what the effect of photosynthesis is, and its pertinence to life. The video is colorful and displays the lyrics in time with the song making it incredibly easy to sing along.

Academic Thrust versus Motivational Aspect:

This video provides strong academic thrust as it clearly explains the title concept. The material is presented clearly and concisely to provide for ultimate comprehension.

Applicable Grade Levels:

Due to the vocabulary and concepts presented in the video, this would be most successful in the intermediate grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (5)

Digestion Song – Life Science

<http://www.schooltube.com/video/0d34eead389147849188/Digestion-Song>

Annotation:

‘Digestion Song’ is a student-developed song to the tune of ‘Just Dance’ by Lady Gaga. The singer mentions that food slides down the esophagus and ends up churning in the stomach. The technical quality of the video is lacking as the words are hard to understand from the recording, not due to the singer. There are no graphics to accompany the song, only the girl is being filmed singing from a sheet of paper.

Academic Thrust versus Motivational Aspect:

This video provides a more motivational stance to show students that they too can write songs to aid them in remembering science concepts.

Applicable Grade Levels:

The student singing is an intermediate student, but the simplicity of the concepts she presents could be used in a primary setting given the appropriateness of the topic.

Level of Accuracy:

(1) Definitions were not complete for key terms. In addition, the quality of the audio caused gaps in the lyrics creating subsequent gaps in important facts.

Media Source:

SchoolTube (6)

Magnet Song – Physical Science

<http://www.schooltube.com/video/25cb0233a0d782bd2b11/Magnet-song>

Annotation:

‘Magnet Song’ introduces listeners and viewers to the concept of magnets. The video explains a permanent magnet, a bar magnet, poles, and how they related to the earth. The video provides some photographic support, but at times a drop in audio quality is distracting.

Academic Thrust versus Motivational Aspect:

This video provides academic thrust as the song and video aim to introduce and/or explain basic magnetic concepts.

Applicable Grade Levels:

Due to the overall concept and the vocabulary used to explain it, this video and song is best displayed in the intermediate elementary environment.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (7)

A Weather Song – Earth Science

<http://www.schooltube.com/video/1a0f7772f6d462c5638a/A-Weather-Song-Music-Video>

Annotation:

‘A Weather Song’ offers a variety of information regarding weather on Earth. The song uses a class of students, dancing, and props to assist in explaining these concepts. Topics such as weather instruments, the water cycle, and weather patterns are discussed in this video. Lyrics are not provided with the video.

Academic Thrust versus Motivational Aspect:

This video provides academic thrust as the song and video aim to provide a comprehensive review of weather giving terms, definitions and explaining concepts.

Applicable Grade Levels:

Due to the overall concept and the vocabulary used to explain it, this video and song is best displayed in the intermediate elementary environment.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (8)

Needs of an Animal – Life Science

<http://www.schooltube.com/video/5a770a9acb2d2a651196/Needs-of-an-Animal-kids-song>

Annotation:

‘Needs of an Animal’ highlights the basic needs of animals. It tells the viewer/listener that an animal needs water, food, shelter and air to live. Along with the lyrics are pictures of animals exhibiting their four needs. The video also mentions these needs as our jobs as human in terms of caring for pets. Lyrics accompany the song and video on screen.

Academic Thrust versus Motivational Aspect:

This video contains a motivational aspect for students to memorize the four basic needs. It does not provide details or further explanation of these needs.

Applicable Grade Levels:

The simplicity of the video and concept make this video most appropriate for primary students.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (9)

The Cloud Song

<http://www.schooltube.com/video/70d63f82770f595a64a8/The-Cloud-Song>

Annotation:

‘The Cloud Song’ features several fourth grade classes singing about the types of clouds and the characteristics that make up each type. The different classes sing the same song, so different students repeat the song multiple times in the video. The students use clapping to hold their beat as they chant/sing the lyrics. The video does not contain written lyrics for viewers.

Academic Thrust versus Motivational Aspect:

This video provides academic thrust and motivational qualities. Presented in an easy chant, students are motivated to memorize the types and characteristics of the cloud types and are further motivated by watching students perform.

Applicable Grade Levels:

The concept of cloud types and characteristics is most applicable to intermediate elementary grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

SchoolTube (10)

Periodic Table Song - Chemistry

<http://www.schooltube.com/video/3ca82fc21da95775b2bd/Periodic-Table-Songs>

Annotation:

This video features two students singing a self-developed song about the periodic table to the tune of “Livin’ on a Prayer’ by Bon Jovi. The song outlines the basic use of the periodic table, that it works to organize the elements based on atomic number and mass and is used by scientists, but should also be understood by everyone. Lyrics are not provided with the video.

Academic Thrust versus Motivational Aspect:

This video has a motivational aspect as students sing about the periodic table in an exciting manner and talk about the importance of learning and understanding this table.

Applicable Grade Levels:

The periodic table may be introduced to students in the intermediate grades, but is more likely to be above the elementary level.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (1)

Oh, So Elementary - Chemistry

<http://www.bing.com/videos/watch/video/oh-so->

[elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-](http://www.bing.com/videos/watch/video/oh-so-elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR)

[417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR](http://www.bing.com/videos/watch/video/oh-so-elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR)

4

Annotation:

‘Oh, So Elementary’ is a song about the first 20 elements of the periodic table. It presents the elements to a melody with accompanying pictures of each element square off of the periodic table including their atomic number and mass.

Academic Thrust versus Motivational Aspect:

This video is founded for academic thrust to provide students with the first 20 elements of the periodic table. Though there is no additional information provided about each element, the graphics allow students to connect the lyrics to the actual periodic table information.

Applicable Grade Levels:

Given when students are introduced to the periodic table, this video would most applicable for those students above the intermediate elementary grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (2)

Biochemistry Song – Chemistry

<http://www.youtube.com/watch?v=Oi2lmj8HQ6g>

Annotation:

‘The Biochemistry Song’ is written by a university professor for his students to commiserate with the complications of biochemistry. It sings about the vast amount of equations and the difficulty of the subject matter. The video is a recording of a projection of the lyrics while the instructor and some students sang the lyrics to the tune of O’ Tannenbaum.

Academic Thrust versus Motivational Aspect:

This song is strictly motivational as a way for students to connect with the subject matter.

Applicable Grade Levels:

Biochemistry is a subject matter only encountered at the college level and is certainly not applicable to the elementary level.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (3)

Biscayne BioBlitz: Billy B's Coral Reef Song- Life Science

<http://www.youtube.com/watch?v=-59zJBp53MY>

Annotation:

'The Coral Reef Song' features singer Billy B and a group of students singing and performing coordinating movements about the coral reef. This video features a one-minute introduction to the pronunciation of key terms and words that may be unfamiliar. The song then describes key features of coral reefs, where they are found, how they survive, and what they're made of.

Academic Thrust versus Motivational Aspect:

This song contains academic thrust as it presents and explains information associated with the coral reefs. It also has some motivational flair through the encouragement of Billy B to join in singing and dancing as well as having movements to accompany the song.

Applicable Grade Levels:

This song/video could be applicable to students in both the primary and intermediate grades given the topic of ocean life and the coral reef is being discussed.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (4)

Bill Nye the Science Guy—G-R-A-V-I-T-Y – Physical Science

<http://www.youtube.com/watch?v=TzQf6uQxrCo>

Annotation:

This video taken from Bill Nye the Science Guy illustrates and explains the origins and concept of gravity. Using children, the video gives demonstrations of gravity at work along with lyrics that provide detailed explanations including information about Newton and his idea about gravity. Lyrics are provided at the bottom of the video as they are presented.

Academic Thrust versus Motivational Aspect:

This song/video pertains to academic thrust providing in depth content on gravity. The vocabulary, though extensive, is explained and presented in an understandable and meaningful way.

Applicable Grade Levels:

Due to the speed and depth at which this information is presented this song is best intended for the intermediate grades and beyond.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (5)

Atoms- Chemistry

<http://www.bing.com/videos/watch/video/atoms/66cfcee40de64d62a8e766cfcee40de64d62a8e7767638176063?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR1>

8

Annotation:

‘Atoms’ is a rap type song set to a ‘Yahhh!’ by Soulja Boy. Four students rap about atoms and their basic characteristics (nucleus, proton, electron). Much of the audio is not discernable due to the quality of the video, though important terms and phrases are in text on the screen.

Academic Thrust versus Motivational Aspect:

This video is intended to be for academic thrust. However, much of the information is garbled and difficult to understand, thus losing some of its academic push. The video also contains extraneous information that does not correlate to the topic matter.

Applicable Grade Levels

Atoms are not discussed until the intermediate grades, so this video is most applicable to the intermediate students.

Level of Accuracy:

(1) Definitions were not complete for key terms. In addition, the quality of the audio caused gaps in the lyrics creating subsequent gaps in important facts. Extraneous information distracts from the academic content.

Media Source:

Bing (6)

I am an animal – Life Science

<http://www.youtube.com/watch?v=qEdTwJLXOUo>

Annotation:

‘I am an Animal’ tells children about different animals and the sounds that they make. They are human reproductions of the sounds and not actual clips of animal noises. There are however both cartoons and photographs of the animals mentioned. The words accompany the lyrics throughout the video.

Academic Thrust versus Motivational Aspect:

This song is meant to have academic thrust and be engaging for young students. It provides examples for students who are learning about animals and discerning between them.

Applicable Grade Levels:

This song/video is appropriate for primary students due to the simplicity of the concept.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (7)

Physical Changes Song - Chemistry

<http://www.youtube.com/watch?v=w5Y452eiHC8>

Annotation:

This video presents the key term physical change, the definition, and several examples. The song is set to the tune of ‘Clementine’. The examples provided are real-world and easily accessible examples that students would be familiar with.

Academic Thrust versus Motivational Aspect:

This song features academic thrust by providing a multitude of examples to assist in explaining the concept of physical changes along with a clear, concise, explanation.

Applicable Grade Levels:

This song/video would be applicable to the upper primary grades and higher. The video breaks down the concept to the most basic level making it appropriate to use for some primary students.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (8)

The Food Chain – Life Science

<http://www.youtube.com/watch?v=caEi4P4CRvk>

Annotation:

‘The Food Chain’ video features a recording of what appears to be a presentation performance of someone with a screen displaying the lyrics, which are readable as a viewer. The food chain song describes the process of the food chain and explains that it works as a cycle. Key terms are presented and defined in vocabulary that is on level for elementary students and understandable.

Academic Thrust versus Motivational Aspect:

This song features academic thrust as it facilitates comprehension and provides additional information regarding the food chain.

Applicable Grade Levels:

Due to the depth of knowledge in this song regarding the food chain, this song is most applicable to the intermediate grades.

Level of Accuracy:

(3) All presented vocabulary, definitions, and diagrams maintained a level of desired accuracy.

Media Source:

Bing (9)

Big Plants, Small Plants – Life Science

<http://www.youtube.com/watch?v=v-WFmyaNYWc>

Annotation:

This song/video was written and created by three female students. The song provides little information other than plants need sunlight, water, and air and we should care for the plants around us. The lyrics are printed on the screen, though are sometimes difficult to read because of the quality and darkness of the video. There are no supplemental images in the video in addition to the footage of the girls singing.

Academic Thrust versus Motivational Aspect:

Big plants, small plants provides more motivation for students to either create their own song based in science or to remember the necessities for plants to live, though specific details are lacking.

Applicable Grade Levels:

The primary grades could use this song the most for beginning to learn about plants and what they need for life.

Level of Accuracy:

(2) Correct information was given, but fails to include details and explanations.

Appendix C: <https://sites.google.com/site/musicinyourscienceclassroom/>

Appendix C: <https://sites.google.com/site/musicinyourscienceclassroom/>

Home Page

Welcome!

As a science educator, it is crucial to enthrall your students in the learning process. Music can do just that! I have explored the web to bring you accurate and exciting resources for integrating music in your elementary science classroom. Science concepts are organized to the left, each with some of the 'best' videos found on the web to aid in guiding your learners. Please explore the site and I hope you find something to use in your classroom!

If you are a Florida educator, you will notice the corresponding Next Generation Sunshine State Standards under each listed resource.

Chemistry

Hello Chemistry Educator!

Resources for integrating music in your classroom have been organized into two subgroups based on the grades of your learners. Links below will bring you to a page for primary (grades K-3) or intermediate (grades 3-6) chemists. Don't let that limit you, feel free to explore both to find the perfect fit for you and your students!

Within each grade group you will find descriptions and links to videos pertaining to chemistry concepts.

Subpages (2): Grades 3-6, K-3

Grades K-3

Check back again soon or get creative with your classroom and challenge your students to make their own science music video!

Grades 3-6

Here you will find a list of titles, links, and descriptions of quality science and music integration materials.

Balanced Equations

'I'll Balance You' presents listeners and viewers with an example chemistry equation and the steps required to balance it. Set to the tune of "I'll Stand By You" the creators sing an accurate chemistry version and present the lyrics and equation in the accompanying video.

[Http://www.schooltube.com/video/0aea1711b803428f029c/Balanced-Equations](http://www.schooltube.com/video/0aea1711b803428f029c/Balanced-Equations)

Next Generation Sunshine State Standards:

SC.6.N.3.3: Give several examples of scientific laws.

Periodic Table Song

This video features two students singing a self developed song about the periodic table to the tune of “Livin’ on a Prayer’ by Bon Jovi. The song outlines the basic use of the periodic table, that it works to organize the elements based on atomic number and mass and is used by scientists, but should also be understood by everyone. Lyrics are not provided with the video.

[Http://www.schooltube.com/video/3ca82fc21da95775b2bd/Periodic-Table-Songs](http://www.schooltube.com/video/3ca82fc21da95775b2bd/Periodic-Table-Songs)

Next Generation Sunshine State Standards:

SC.5.P.8.4: Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.

Oh, So Elementary

'Oh, So Elementary' is a song about the first 20 elements of the periodic table. It presents the elements to a melody with accompanying pictures of each element square off of the period table including their atomic number and mass.

[Http://www.bing.com/videos/watch/video/oh-so-](http://www.bing.com/videos/watch/video/oh-so-elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR)

[elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-](http://www.bing.com/videos/watch/video/oh-so-elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR)

[417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR](http://www.bing.com/videos/watch/video/oh-so-elementary/b8d09f16268ff8d00096b8d09f16268ff8d00096-417392362762?q=elementary+science+song&FROM=LKVR5>1=LKVR5&FORM=LKVR)

4

Next Generation Sunshine State Standards:

SC.5.P.8.4: Explore the scientific theory of atoms (also called atomic theory) by recognizing that all matter is composed of parts that are too small to be seen without magnification.

Physical Changes Song

This video presents the key term physical change, the definition, and several examples. The song is set to the tune of 'Clementine'. The examples provided are real-world and easily accessible examples that students would be familiar with.

<http://www.youtube.com/watch?v=w5Y452eiHC8>

Next Generation Sunshine State Standards:

SC.4.P.10.2: Investigate and describe that energy has the ability to cause motion or create change.

Earth/Space Science

Hello Earth/Space Science Educator!

Resources for integrating music in your classroom have been organized into two subgroups based on the grades of your learners. Links below will bring you to a page for primary (grades K-3) or intermediate (grades 3-6) explorers. Don't let that limit you, feel free to explore both to find the perfect fit for you and your students!

Within each grade group you will find descriptions and links to videos pertaining to earth/space science concepts.

Subpages (2): Grades 3-6, K-3

Grades K-3

Here you will find a list of titles, links, and descriptions of quality science and music integration materials.

Solar System Hero

Solar System Hero sings about the role of the sun and how it affects life on Earth. It provides important facts, including basic ones (the sun is the center of our solar system) to more advanced ideas (the mass of the sun creates enough gravity to cause the rest of the planets to orbit around it). This is a fun, upbeat song with repetitive lyrics to help students learn to sing along though they are visible in the video. Additional graphics are limited to a glowing sun in the background, so the video is assistive only in providing the lyrics to the song.

[Http://www1.teachertube.com/viewVideo.php?video_id=79323](http://www1.teachertube.com/viewVideo.php?video_id=79323)

Next Generation Sunshine State Standards:

SC.K.E.5.3: Recognize that the Sun can only be seen in the daytime.

SC.1.E.5.4: Identify the beneficial and harmful properties of the Sun.

SC.2.E.7.2: Investigate by observing and measuring, that the Sun's energy directly and indirectly warms the water, land, and air.

SC.3.E.5.1: Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.

SC.3.E.6.1: Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.

Grades 3-6

Here you will find a list of titles, links, and descriptions of quality science and music integration materials.

Phases of the Moon

'Phases of the Moon' reviews the eight phases of the moon and the position of the moon at each stage. An adult sings the song with student backup. The lyrics are not shown in the video, but the accompanying graphics and clarity of the voices compensate. The graphics are not necessary for the comprehension of the song, but provide strong support for the viewer/listener.

[Http://www.schooltube.com/video/bf0e5ada3fb0ea880ecb/Phases-of-the-Moon-a-kids-funky-version](http://www.schooltube.com/video/bf0e5ada3fb0ea880ecb/Phases-of-the-Moon-a-kids-funky-version)

Next Generation Sunshine State Standards:

SC.4.E.5.2: Describe the changes in the observable shape of the moon over the course of about a month.

SC.4.E.5.4: Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.

A Weather Song

'A Weather Song' offers a variety of information regarding weather on Earth. The song uses a class of students, dancing, and props to assist in explaining these concepts. Topics such as

weather instruments, the water cycle, and weather patterns are discussed in this video. Lyrics are not provided with the video.

[Http://www.schooltube.com/video/1a0f7772f6d462c5638a/A-Weather-Song-Music-Video](http://www.schooltube.com/video/1a0f7772f6d462c5638a/A-Weather-Song-Music-Video)

Next Generation Sunshine State Standards:

SC.5.E.7.3: Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time.

SC.5.E.7.4: Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.

SC.6.E.7.2: Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.

SC.6.E.7.6: Differentiate between weather and climate.

The Cloud Song

'The Cloud Song' features several fourth grade classes singing about the types of clouds and the characteristics that make up each type. The different classes sing the same song; so different students repeat the song multiple times in the video. The students use clapping to hold their beat as they chant/sing the lyrics. The video does not contain written lyrics for viewers.

[Http://www.schooltube.com/video/70d63f82770f595a64a8/The-Cloud-Song](http://www.schooltube.com/video/70d63f82770f595a64a8/The-Cloud-Song)

Next Generation Sunshine State Standards:

SC.5.E.7.3: Recognize how air temperature, barometric pressure, humidity, wind speed and

direction, and precipitation determine the weather in a particular place and time.

SC.5.E.7.4: Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.

Cool Water Cycle Song

This song features each step of the water cycle including key vocabulary and definitions. In addition, other concepts closely related to the water cycle are explained. These include cloud types, air pressure, and reasons for storms. The video includes graphics and animation to aid in scientific comprehension. These include diagrams, illustrations and photographs.

http://www1.teachertube.com/viewVideo.php?video_id=120556

Next Generation Sunshine State Standards:

SC.5.E.7.1: Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another.

SC.5.E.7.2: Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes.

SC.6.E.7.2: Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.

The Earth

This song features an overview of the planet Earth and its properties. Characteristics discussed are the tilt of the Earth on its axis and the effect this has on the length of the day and our seasons. The video also features graphics to accompany the lyrics yet they do not provide any additional information to the viewer.

[Http://www1.teachertube.com/viewVideo.php?video_id=216516&title=The_Earthvpkey=](http://www1.teachertube.com/viewVideo.php?video_id=216516&title=The_Earthvpkey=)

Next Generation Sunshine State Standards:

SC.4.E.5.3: Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.

SC.4.E.5.4: Relate that the rotation of Earth (day and night) and apparent movements of the Sun, Moon, and stars are connected.

SC.5.E.5.3: Distinguish among the following objects of the Solar System -- Sun, planets, moons, asteroids, and comets -- and identify Earth's position in it.

The Volcano Song

Set to the tune of "She'll be coming 'round the mountain" this song delivers information about how volcanoes form, the different types of volcanoes and eruptions, while clearly displaying authentic photographs and lyrics for viewers to follow.

[Http://www1.teachertube.com/viewVideo.php?title=The_Volcano_Song&video_id=27461](http://www1.teachertube.com/viewVideo.php?title=The_Volcano_Song&video_id=27461)

Next Generation Sunshine State Standards:

SC.6.E.6.2: Recognize that there are a variety of different landforms on Earth's surface such as

coastlines, dunes, rivers, mountains, glaciers, deltas, and lakes and relate these landforms as they apply to Florida.

Solar System Hero

'Solar System Hero' sings about the role of the sun and how it affects life on Earth. It provides important facts, including basic ones (the sun is the center of our solar system) to more advanced ideas (the mass of the sun creates enough gravity to cause the rest of the planets to orbit around it). This is a fun, upbeat song with repetitive lyrics to help students learn to sing along though they are visible in the video. Additional graphics are limited to a glowing sun in the background, so the video is assistive only in providing the lyrics to the song.

http://www1.teachertube.com/viewVideo.php?video_id=79323

Next Generation Sunshine State Standards:

SC.3.E.5.1: Explain that stars can be different; some are smaller, some are larger, and some appear brighter than others; all except the Sun are so far away that they look like points of light.

SC.3.E.5.2: Identify the Sun as a star that emits energy; some of it in the form of light.

SC.3.E.5.3: Recognize that the Sun appears large and bright because it is the closest star to Earth.

SC.4.E.5.3: Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.

SC.6.E.7.5: Explain how energy provided by the Sun influences global patterns of atmospheric movement and the temperature differences between air, water, and land.

Life Science

Hello Life Science Educator!

Resources for integrating music in your classroom have been organized into two subgroups based on the grades of your learners. Links below will bring you to a page for primary (grades K-3) or intermediate (grades 3-6) explorers. Don't let that limit you, feel free to explore both to find the perfect fit for you and your students!

Within each grade group you will find descriptions and links to videos pertaining to life science concepts.

Subpages (2): Grades 3-6, K-3

Grades K-3

Here you will find a list of titles, links, and descriptions of quality science and music integration materials.

Needs of an Animal

Needs of an animal highlights the basic needs of animals. It tells the viewer/listener that an animal needs water, food, shelter and air to live. Along with the lyrics are pictures of animals exhibiting their four needs. The video also mentions these needs as our jobs as human in terms of caring for pets. Lyrics accompany the song and video on screen.

[Http://www.schooltube.com/video/5a770a9acb2d2a651196/Needs-of-an-Animal-kids-song](http://www.schooltube.com/video/5a770a9acb2d2a651196/Needs-of-an-Animal-kids-song)

Next Generation Sunshine State Standards:

SC.1.L.17.1: Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.

I am an Animal

I am an animal tells children about different animals and the sounds that they make. They are human reproductions of the sounds and not actual clips of animal noises. There are however both cartoons and photographs of the animals mentioned. The words accompany the lyrics throughout the video.

<http://www.youtube.com/watch?v=qEdTwJLXOUo>

Next Generation Sunshine State Standards:

SC.K.L.14.3: Observe plants and animals, describe how they are alike and how they are different in the way they look and in the things they do.

SC.1.L.17.1: Through observation, recognize that all plants and animals, including humans, need the basic necessities of air, water, food, and space.

Biscayne BioBlitz: Billy B's Coral Reef Song

The coral reef song features singer Billy B and a group of students singing and performing coordinating movements about the coral reef. This video features a one-minute introduction to the pronunciation of key terms and words that may be unfamiliar. The song then describes key features of coral reefs, where they are found, how they survive, and what they're made of.

<http://www.youtube.com/watch?v=-59zJBp53MY>

Next Generation Sunshine State Standards:

SC.3.L.14.1: Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

SC.1.E.6.1: Recognize that water, rocks, soil, and living organisms are found on Earth's surface.

Grades 3-6

Here you will find a list of titles, links, and descriptions of quality science and music integration materials.

Photosynthesis Rap

Though 'Photosynthesis Rap' is not in a rap style as the title suggests it presents the concept of photosynthesis in an engaging melody and video. The song discusses photosynthesis: that all plants do it, what the effect of photosynthesis is, and its pertinence to life. The video is colorful and displays the lyrics in time with the song making it incredibly easy to sing along.

[Http://www.schooltube.com/video/854ea49db7fc93a92526/Photosynthesis-Rap-With-Words](http://www.schooltube.com/video/854ea49db7fc93a92526/Photosynthesis-Rap-With-Words)

Next Generation Sunshine State Standards:

SC.3.L.14.1: Describe structures in plants and their roles in food production, support, water and nutrient transport, and reproduction.

SC.3.L.17.2: Recognize that plants use energy from the Sun, air, and water to make their own food.

Biscayne BioBlitz: Billy B's Coral Reef Song

'The Coral Reef Song' features singer Billy B and a group of students singing and performing coordinating movements about the coral reef. This video features a one-minute introduction to

the pronunciation of key terms and words that may be unfamiliar. The song then describes key features of coral reefs, where they are found, how they survive, and what they're made of.

<http://www.youtube.com/watch?v=-59zJBp53MY>

Next Generation Sunshine State Standards:

SC.5.L.17.1: Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.

The Food Chain

'The Food Chain' video features a recording of what appears to be a presentation performance of someone with a screen displaying the lyrics, which are readable as a viewer. The food chain song describes the process of the food chain and explains that it works as a cycle. Key terms are presented and defined in vocabulary that is on level for elementary students and understandable.

<http://www.youtube.com/watch?v=caEi4P4CRvk>

Next Generation Sunshine State Standards:

SC.4.L.17.3: Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.

Physics

Hello Physics Educator!

Resources for integrating music in your classroom have been organized into two subgroups based on the grades of your learners. Links below will bring you to a page for primary (grades K-3) or intermediate (grades 3-6) physicists. Don't let that limit you, feel free to explore both to find the perfect fit for you and your students!

Within each grade group you will find descriptions and links to videos pertaining to physics concepts.

Subpages (2): Grades 3-6, K-3

Grades K-3

Check back again soon or get creative with your classroom and challenge your students to make their own science music video!

Grades 3-6

Magnet Song

'Magnet Song' introduces listeners and viewers to the concept of magnets. The video explains a permanent magnet, a bar magnet, poles, and how they related to the earth. The video provides some photographic support, but at times a drop in audio quality is distracting.

[Http://www.schooltube.com/video/25cb0233a0d782bd2b11/Magnet-song](http://www.schooltube.com/video/25cb0233a0d782bd2b11/Magnet-song)

Next Generation Sunshine State Standards:

SC.4.P.8.4: Investigate and describe that magnets can attract magnetic materials and attract and repel other magnets.

Speed is Distance Over Time Song

'Speed is Distance Over Time Song' presents a parody to the familiar tune of "Aint No Mountain High Enough." In this song, the creator defines and gives examples of speed, velocity, acceleration, and deceleration using the scenario of a runner in a race. The video begins with an

introduction by the singer and then shows him singing and displaying important vocabulary terms. The video does not add to the information presented in the song.

[Http://www1.teachertube.com/viewVideo.php?title=The_SPEED_IS_DISTANCE_OVER_TIM_E_Song___Mr__Edmonds&video_id=118880](http://www1.teachertube.com/viewVideo.php?title=The_SPEED_IS_DISTANCE_OVER_TIM_E_Song___Mr__Edmonds&video_id=118880)

Next Generation Sunshine State Standards:

SC.4.P.12.2: Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.

Bill Nye the Science Guy-G-R-A-V-I-T-Y

This video taken from Bill Nye the Science Guy illustrates and explains the origins and concept of gravity. Using children, the video gives demonstrations of gravity at work along with lyrics that provide detailed explanations including information about Newton and his idea about gravity. Lyrics are provided at the bottom of the video as they are presented.

<http://www.youtube.com/watch?v=TzQf6uQxrCo>

Next Generation Sunshine State Standards:

SC.3.E.5.4: Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.

SC.5.P.13.1: Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.

SC.6.P.13.2: Explore the Law of Gravity by recognizing that every object exerts gravitational

force on every other object and that the force depends on how much mass the objects have and how far apart they are.