Music/Engineering Curriculum Map 9/7/2021

Science Unit	Nature of Science
Engineering Unit	Nature of Science & Engineering (NSE)
Timeline	August-September (Grading Per. 1)
	Engineering
Kindergarten	Nursery rhyme engineer songs (Eagle, Bees, Beaver, Ants, Spider, Frog), 5 Senses/ Related body parts songs and games. How scientists and musicians use the 5 Senses. (SC.K.L.14.1) Vocab: Observe, Investigate, Explain, Explore, describe, Predict, Change, Compare
First Grade	"Put On Your Thinking Cap" Vol. 14, #2 (school theme song), Jamerson Design Process Song- (K-2.ETSI.1) 5 Senses activities (review)
Second Grade	"Put On Your Thinking Cap" Vol. 14, #2 (school theme song), Jamerson Design Process Song- (K-2.ETSI.1) "Telescopes/ Magnify"-Science Songs, Vol. 3, "What I Am" by Will I Am- Characteristics and Attributes.
Third Grade	"Put On Your Thinking Cap" Vol. 14, #2 (school theme song), "Scientific Method" Science Songs Vol.2 Maps: musical listening maps, Boomtown, Gold Rush songs- I've Been Working on The Railroad.
Fourth Grade	"Put On Your Thinking Cap" Vol. 14, #2 (school theme song), Song- "Scientific Method"- Science Songs Vol. 2, Measure, compare, and chart musical instruments based on physical properties of mass, shape, volume, color, hardness, texture, and attraction to magnets (SC.4.P.8.11)
Fifth Grade	"Put On Your Thinking Cap" Vol. 14, #2 (school theme song), Song- "Scientific Method" – Science Songs Vol. 2 Measure, compare, and chart musical instruments based on physical properties of mass, shape, volume, color, hardness, texture, and attraction to magnets (SC.4.P.8.11) Review

Science Unit	Physical Science
Engineering Unit	Gravitational Force & Resultant Motion/ Electromagnetic Force & Resultant Motion
Timeline	October-December (Grading Per. 2)
	Engineering
Kindergarten	Force and its effect on sound (dynamics)- activities (loud/ soft) songs, "Push/Pull'- Science Songs, Vol. 2, "Sound" – Science Songs, Vol. 2, color spectrum, Humpty Dumpty- Gravity, Expressive movement activities- Students will investigate that things move in different ways. (SC.K.P.12) Zig Zag, Up/Down, Fast/Slow. Vocab: Loud/Soft (Dynamics), Push/Pull, Up/Down, Fast/Slow (Tempo), Zig Zag, Solid, Liquid, Gas, Mass MUSICAL DESIGN CHALLENGE: The students will observe things that make sound vibrate. (SC.K.P.10.1) Tuning fork-water activity, tapping exploration activity w/ Wave window app. Simple Machines- Nutcracker stage-unit (December)
First Grade	Gravity"- Science Songs Vol. 2, Water songs: river, lake, ocean. How things move: push, pull, zig zag, fast/slow (Tempo), direction (upwards/downwards), short/ long

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	Sound wave properties. Sound can make matter vibrate. Vibrating matter can make a sound. Ghost Drum activity. (PS.4.A) Sound/Vibration/Pitch-Classroom instruments, Boom Wackers, - activities, "Sound" – Science Songs, Vol. 2, Waves, guitar design MUSICAL DESIGN CHALLENGE: Sound exploration challenge- How to play the snare drum without touching it. (Ghost Drum Activity)
Second Grade	Simple Machines- piano exploration activity, Applied force Magnets and speakers, "Magnets" – Science Songs, Vol. 2 Sound/Vibration/Pitch- Classroom instruments, Boom Wackers - activities MUSICAL DESIGN CHALLENGE: Animusic Marble Drop using Metal, Wood, and Membrane sound sources- Teams.
Third Grade	Broadway Engineering: Simple machines in stage design- pulley, lever, wedge/ramp. Sound Engineering, Lighting, and special effects engineering (lessons from: 1. Phantom, 2. Wicked, 3. Lion King/ Titanic- 3 yr rotation) States of matter- "Solid, Liquid, Gas" -TMBG Wave unit: Sound/Vibration/Pitch- Orff instruments, Joia Tubes- activities, Shape of a sound wave + vocabulary "Direction of Light"- Science Songs, Vol. 3, properties of light. Light waves: reflect, absorb, refract MUSICAL DESIGN CHALLENGE: Lego rhythm composition and scale drawings
Fourth Grade	Broadway Engineering: Simple machines in stage design- pulley, lever, wedge/ramp. Sound Engineering, Lighting, and special effects engineering (lessons from: 1. Phantom, 2. Wicked, 3. Lion King/ Titanic- 3 yr rotation) Investigate and explain that sound is produced by vibrating objects and that pitch depends on how fast or slow an object vibrates (SC.4. P.10.3) Sound waves unit + vocabulary MUSICAL DESIGN CHALLENGE: Predict, test and measure soundwaves from different materials and instruments using the Wave window app.
Fifth Grade	Broadway Engineering: Simple machines in stage design- pulley, lever, wedge/ramp. Sound Engineering, Lighting, and special effects engineering (lessons from: 1. Phantom, 2. Wicked, 3. Lion King/ Titanic- 3 yr rotation) MUSICAL DESIGN CHALLENGE: Soundwaves and non-Newtonian fluids. Sound vocabulary

Science Unit	**Earth Science**
Engineering Unit	**Natural Resources**
Timeline	**January (Grading Per. 3)**
	Engineering
Kindergarten	**Sorting and Identification: Materials of classroom instruments- wood/metal/ membrane/ shaker and names.**
First Grade	**Properties of materials on sound- activities, Man-made & natural materials in instruments, Sort and identify classroom instruments by observable properties- pitched and non-pitched (SC.1. P.8.1) solid/ liquid/ gas songs**

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Second Grade	**Properties of Classroom and Orff instruments- wood/metal/ membrane/ shaker, "We Are Rocks" – Science Songs, Vol. 4, "Rock Cycle"- Science Songs, Vol. 4**
Third Grade	**Materials of orchestral families- activities/ classify instruments into orchestral families according to their physical characteristics and the way they are played. (SC.3. L.15.2)**
Fourth Grade	**Materials of orchestral instruments- identify and classify instruments into orchestral families according to their physical characteristics. Early Florida Tribal instruments- flutes, drums- activities, Florida heritage songs**
Fifth Grade	**Materials folk instruments and popular musical instruments. Identify by their physical attributes.**

Earth Science

Engineering Unit	**Space Exploration**
Timeline	**February-March (Solar Week in Mid-March) (Grading Per. 3)**
	Engineering
Kindergarten	Sun & Moon songs and stories Sun: The students will recognize that the sun can only be seen in the daytime. (SC.K.E.5.3) Moon: The students will observe that sometimes the moon can be seen at night and sometimes during the day. (SC.K.E.5.4) James Webb Space Telescope, The Sun Now site (SDO), "Why Does The Sun Shine" by They Might Be Giants, Moon phases books Vocab: Sun, Moon, Star, Earth, Rotation, Phases, Cycle, Shape, Size Mars 2020 Perseverance & Ingenuity. (School-wide unit)
First Grade	Sun & Moon songs and stories Sun: NASA, Solar Week resources, "Why Does The Sun Shine" –TMBG, Solar energy, The Sun Now-site Solar Dynamics Observatory (Intro) & Camilla Moon: Phases, story books and songs Stars: James Webb Space Telescope, Hubble, Deep Space Observe and discuss that there are more stars in the sky than anyone can easily count and that they are not scattered evenly in the sky (SC.1.E.5.1) Use observations of the sun, moon, and stars to describe patterns that can be predicted. (1-ESS1-1) Mars 2020 Perseverance & Ingenuity. (School-wide unit)
Second Grade	Earth Day songs, Earth: Seven Continents, Four Oceans songs Climate Zones: Artic, Desert, Rainforest, Ocean, Temperate songs

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	Mars 2020 Perseverance & Ingenuity. (School-wide unit)
Third Grade	Stars: different size, some appear brighter than others (SC.3.E.5.1) Sun: Identify the Sun as a star that emits energy- some in the form of light (SC.3.E.5.2) Sun: appears large/bright because it is the closest to earth (SC.3.E.5.3) SDO- Solar Dynamics Observatory Unit, solar glasses Mars 2020 Perseverance & Ingenuity. (School-wide unit)
Fourth Grade	Moon: Phases (SC.4.E.5.2) Books Constellations, JWST Planets: Mars, Jupiter, Saturn- by Holst. Saturn Sings- NASA, James Webb Space Telescope Space School Musical- NASA Mars 2020 Perseverance & Ingenuity. (School-wide unit)
Fifth Grade	Galaxies & Milky Way (SC.5.E.5.1) Solar System & Sun, planets, moons, asteroids, comets (SC.5.E.5.3) Moon mission- Apollo, Saturn V, Space Shuttle mission Space Exploration: James Webb Space Telescope, Mars Rovers- Spirit, Opportunity, Curiosity, Mars 2020 & Artemis Project MUSICAL DESIGN CHALLENGE: Multimedia lesson based on Eric Whitacre's Deep Field, Hubble, James Webb Space Telescope

Science Unit	**Life Science**
Engineering Unit	**Life Process/ Ecosystems**
Timeline	**April- May (Grading Per. 4)**
	Engineering
Kindergarten	4 Seasons," Spring" by Vivaldi What plants and animals need to thrive (K.LS.1-1) Laurie Berkner's Nature Songs. How we reduce human impact on the world- recycling (K.LS.1-1) Landfillharmonic Vocab: Environment, Habitat, Senses, Similar
First Grade	Plant life cycle songs Sounds that parents and offspring make to help offspring survive (1-LS1-2)
Second Grade	Life cycle of butterfly, Lyric Piece- "Butterfly", Op. 43, Grieg, pollination Basic parts of human body- organs songs
Third Grade	Parts of plants, garden songs
Fourth Grade	Ecology- Reduce/ Renew/ Recycle, "Decomposers" & Earth Day songs (SC.4.L.17.4)
Fifth Grade	Human body, skeleton, "Dem Bones" Book & song, Ezekiel, and the Dry Bones (SC.5.L.14.1)

Music- Math Topics

Grade Level	Kindergarten	First Grade	Second Grade	Third Grade	Fourth Grade	Fifth Grade
Math Topic	Steady beat Quarter note (ta) Counting Songs	Steady beat Quarter note (whole) Eighth note (half) Phrase (sets) Doubles facts songs	Steady beat Quarter note (whole) Eighth note (half) Quarter rest Phrase (sets) Doubles facts songs Form (Patterns)	Form (Patterns) Rhythmic Dictation (pre-algebra) Music Math Multiplication songs Fractions/ Cup Song unit	Form (Patterns) Rhythmic Dictation (pre-algebra) Fractions (Cup Song Review) Music Math Time signature (sets) Composition (formulas, algebra)	Form (Patterns) Rhythmic Dictation (pre-algebra) Fractions (Cup Song Review) Music Math Time signature (sets) Composition (formulas, algebra)