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The Walking Classroom in Virtual, Hybrid and Socially Distanced In-Person Settings

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Walk, Listen, and Learn with



THE
walking classroom[®]
walk. listen. learn.



Objectives

By the end of this presentation you will:

- ✓ understand what The Walking Classroom is and
 - ✓ the research behind the program
 - ✓ the content and structure of the program
 - ✓ Standards-aligned content
 - ✓ Health literacy
 - ✓ Socio-Emotional learning
 - ✓ resources available to supplement the program
- ✓ have the opportunity for Q & A



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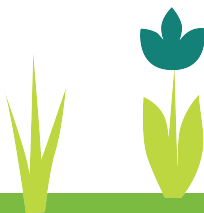


Kids are moving less. . . .

- ✓ Only 5 states require PE in every grade
- ✓ Only 20% of districts require daily recess
- ✓ 2 out of 3 kids today are inactive.

And...

- ✓ Wide range of academic abilities in any class
- ✓ Growing achievement gap
- ✓ Diverse learning styles
- ✓ Increased number of students living in poverty and experiencing trauma
- ✓ Overburdened teachers



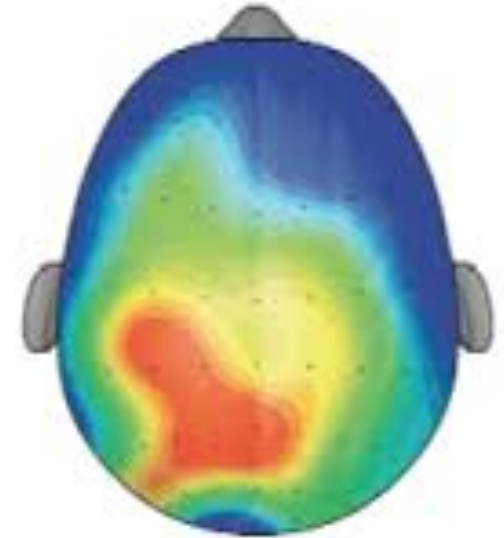
Composite of 20 student brains taking the same test

Studies show active kids:

- ✓ Perform better academically
- ✓ Have better school attendance
- ✓ Demonstrate better behavior

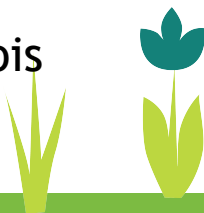


After sitting quietly



After 20-minute walk

Research/scan compliments of
Dr. Chuck Hillman, University of Illinois



Walk.

Listen.

Learn.



The Walking Classroom in action



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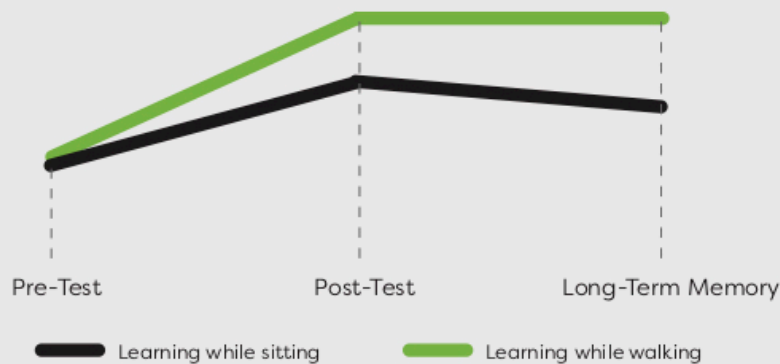


1 Walking improves student learning and retention

Students demonstrated significantly higher levels of learning while walking and listening to podcasts vs. levels of learning when sitting while listening to podcasts, both in short-term, and long-term retention, as measured by performance on the 10-question comprehension quiz on podcast content.

In addition, **walking** had a significant positive impact on cognitive test performance as measured through a 3-minute multiplication test administered post-walk.

Walk, Listen, and Learn vs. Sit, Listen, and Learn



Cognitive Performance on Multiplication Test after Walking vs. after Sitting

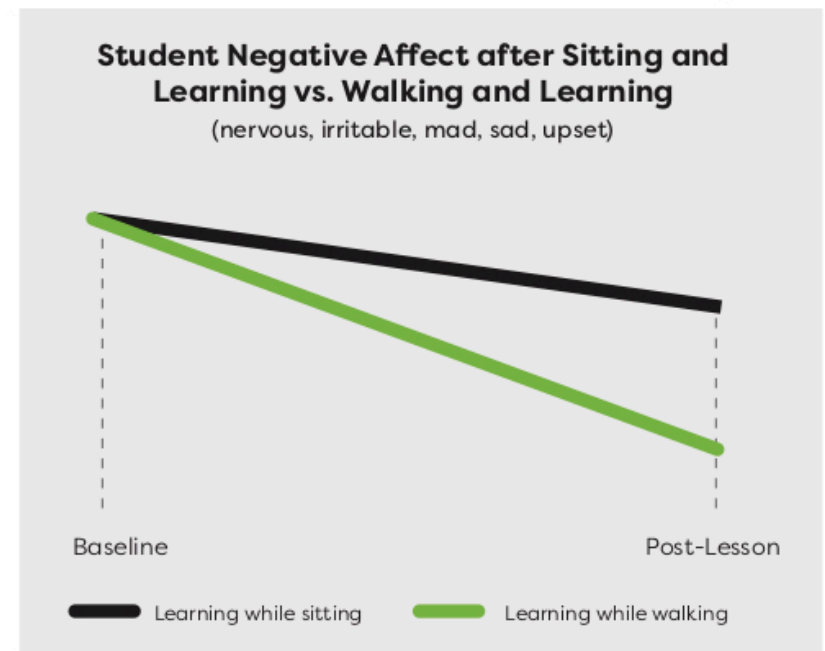
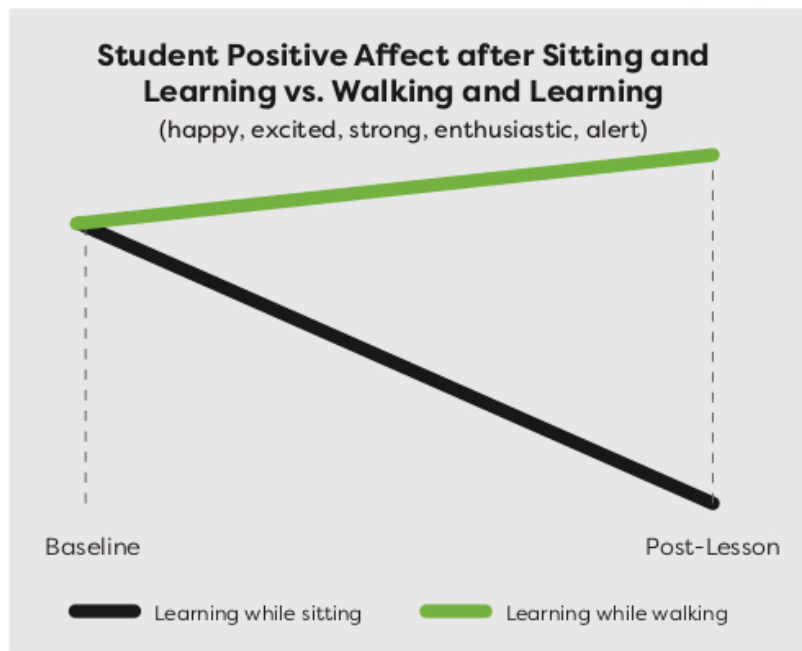


THE walking classroom®
walk. listen. learn.

2 Walking improves student mood

All **positive-affect markers increased after walking and listening to podcasts** and decreased after sitting and listening to podcasts.

Similarly, **negative-affect markers all decreased after walking**, demonstrating a strong positive influence of the Walk, Listen, and Learn program on student mood and attitudes toward learning.



THE walking classroom®
walk. listen. learn.

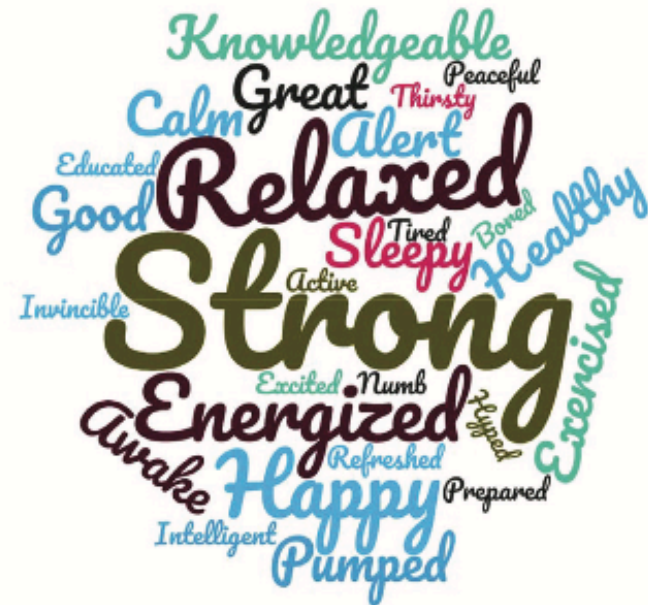
The Walking Classroom helps students feel happy and strong

Students reported **feeling happy, healthy, educated, smart, and excited** while walking and learning. After walking and learning, students **felt strong, relaxed, energized, happy, and alert**.

How do you feel *while* you walk, listen, and learn?



How do you feel *after* you walk, listen, and learn?



Word size above correlates with frequency of words mentioned by students within the discussion.



When you incorporate movement in the learning process . . .

- ✓ Students are more engaged, focused, and ready to learn.
- ✓ The needs of non-traditional learners are better met and addressed.
- ✓ Students' understanding of curriculum is strengthened and healthy lifestyle habits are developed.
- ✓ Struggling students can feel successful as learners and motivated in school.



What do the kids listen to
while they walk?



Index of podcast topics, health messages, and character values

	#	Podcast Title	Health Literacy Message	Character Value
INTRO	1	Welcome to The Walking Classroom	Safe walking	NA
	2	Introduction to TWC	Empty calories vs. healthy calories	NA
LANGUAGE ARTS	3	Idioms	Exercise and its effect on mood	Being considerate
	4	Simile and Metaphor	Talking about feelings	Choosing your own path
	5	Alliteration and Personification	Walking's impact on the immune system	Taking initiative
	6	Setting and Symbolism	Alcohol Abuse	Caring
	7	Point of View in Writing	Hydration means water, not soda/sports drinks	Empathy
	8	Types of Conflict in Writing	Value of exercise breaks	Learning from conflict
	9	Rhyme Scheme, Meter and Verse	Talking with adults about problems	Individuality
	10	<i>Oxford English Dictionary</i>	Healthy snacks	Using kind words
	11	Learning in Context	Pushing yourself too hard while exercising	Staying focused
	12	Homonyms and Homophones	Developing healthy habits while young	Know your audience
	13	Greek and Latin Root Words	Cardio exercise vs. weight lifting	Encouragement
	14	Adverbs of Manner	Paying attention while exercising	Confidence
	15	Prepositions	Importance of a healthy breakfast	Thoughtful communication
	16	Interjections	Exercise helps people think clearly	Respect
	17	Word Choice	Cardiovascular exercise	Individuality
	18	Adjusting Your Writing for Different Audiences	Exercise brings oxygen to muscles and organs	Humor
	19	First Person vs. Third Person	Bullying	Reliability
	20	Summary Writing	Injuries and recovery time	Responding appropriately
	21	Firsthand vs. Secondhand Accounts	Persuasive advertising	Integrity
	22	Conducting Effective Interviews	Exercise helps us concentrate	Being considerate
	23	Trickster Stories	Healthy breakfasts	Trickster vs. Bully
	24	Riddles from <i>The Hobbit</i>	General benefits of exercise	Attentiveness
	25	"The Echoing Green"	Our bodies were made to move	Taking time to slow down
	26	"I Hear America Singing"	Exercise and brain function	Optimism
	27	Ralph Waldo Emerson	Teacher and student relationships	Respecting nature
	28	Emily Dickinson	Different types of calories	Individuality
	29	"Casey at the Bat"	Teamwork	Confidence
	30	"Take Me Out to the Ballgame"	Dangers of junk food	Patriotism
	31	Rene Magritte	Servings of fruit and vegetables	Creativity
	32	Salvador Dali	Watching your temper	Ambition
	33	Robert Frost	Importance of being in nature	Flexibility
	34	Langston Hughes	Vitamins and minerals your body needs	Perseverance
	35	Carl Sandburg	Personal space	Individuality
	36	Ogden Nash	Fresh food vs. preservatives	Sense of humor

	#	Podcast Title	Health Literacy Message	Character Value
LANGUAGE ARTS	37	Maya Angelou	Importance of protective gear in sports	Optimism
	38	Jack Prelutsky	Benefits of regular exercise	Creativity
	39	Myths, Legends, and Lore	Dangers of smoking	Seeking knowledge
	40	"John Henry"	The many ways we can get exercise	Perseverance
	41	Legendary and Everyday Heroes	Importance of daily exercise	Bravery
	42	Superheroes and Villains of Writing	Positive body image	Sense of humor
	43	Importance of Superheroes in Society	Pay attention while walking	Responsibility
	44	Heroic Dogs and Horses	Recognizing one's strengths and weaknesses	Loyalty
	45	William Shakespeare	Exercise and concentration	Creativity
SOCIAL STUDIES	46	Feudalism	Role models	Loyalty
	47	Castles of the Middle Ages	Exercise keeps people focused and alert	Fortitude
	48	Knights of the Middle Ages	Iron in our diet	Loyalty
	49	Women and Girls in the Middle Ages	Education and quality of life	Power of education
	50	Joan of Arc	Bullies	Perseverance
	51	Johannes Gutenberg	Importance of reading	Long-term goals
	52	Renaissance Artists	Hydration	Innovation
	53	Marco Polo	Benefits of sleep and a healthy breakfast	Integrity
	54	Christopher Columbus	Mixing up exercise routines	Determination
	55	Pedro Alvarez Cabral	Good snacks and bad snacks	Tolerance
	56	Vasco da Gama	Vitamin C and scurvy	Strengths and weaknesses
	57	The Maya	Exercise and maintaining a healthy weight	Respecting nature
	58	The Aztec	Vitamin B	Overcoming struggles
	59	The Inca	Sources of protein	Creativity and intelligence
	60	The Boston Massacre	Peer pressure	Acceptance
	61	Crispus Attucks	Benefits of regular exercise	Courage
	62	The Boston Tea Party	Hormonal changes as your body changes	Loyalty
	63	The Intolerable Acts	Talking about your feelings when stressed	Loyalty
	64	Thomas Paine and <i>Common Sense</i>	Confidence in expressing your opinion	Acceptance
	65	Paul Revere	Walking provides extra oxygen to the brain	Responsibility
	66	Patrick Henry	Smoking and the dangers of nicotine	Perseverance
	67	Deborah Sampson	Injury treatment	Honesty
	68	"Yankee Doodle"	Importance of a balanced diet	Creativity
	69	Benjamin Franklin	Importance of exercise as people get older	Wisdom
	70	Samuel Adams	Alcohol abuse	Forgiveness
	71	George Washington	The process of making important decisions	Wisdom and bravery
	72	U.S. Preamble and Constitution	Essential needs	Adapting
	73	Checks and Balances	Exercise, endorphins and mood	Compromise
	74	"Star Spangled Banner"	The many ways we can get exercise	Patriotism
	75	Statue of Liberty	Walking improves mood, learning and attendance	Acceptance
	76	Slave Life and Rebellions	Exercise and brain activity	Empathy
	77	Mason Dixon Line	Emotional benefits of exercise	Compromise
	78	The Underground Railroad	Exercise and thoughtful decisions	Discrimination
	79	Harriet Tubman	Muscle tone	Passion and conviction
	80	Women of the Civil War	Portion size and energy levels	Confidence
	81	Sojourner Truth	Exercise, endorphins, stress and mood	Being admirable

SOCIAL STUDIES	#	Podcast Title	Health Literacy Message	Character Value
	82	Frederick Douglass	Make exercise a habit while you're young	Dedication
	83	Abraham Lincoln	Benefits of elevating your heart rate	Stand by your beliefs
	84	Civil War Generals, Part 1	Walking, the Sun, and vitamin D	Determination
	85	Civil War Generals, Part 2	Awareness while exercising	Compassion
	86	Emancipation Proclamation	Exercise as a break	Leadership
	87	Gettysburg, Part 1	Proteins	Humility
	88	Gettysburg, Part 2	Proteins	Humility
	89	Assassination of Lincoln	Staying alert	Accountability
	90	"O Captain! My Captain!"	Walking pace and heart rate, oxygen and circulation	Admiration
	91	Reconstruction	Understanding asthma	Forgiveness
	92	Clara Barton	Oxygen and the breathing lungs	Compassion
	93	The 14th Amendment	Bullying	Optimism
	94	Clara Barton	Oxygen and the breathing lungs	Compassion
	95	Elizabeth Cady Stanton and Susan B. Anthony	Heart rate, pulse, and blood flow	Passion and conviction
	96	Native American Mound Builders	Importance of a balanced diet	Cooperation
	97	The Cumberland Gap	Junk food and energy	Bravery
	98	Davy Crockett	Bones and safe backpack practice	Determination
	99	Westward Expansion	Weight	Goals
	100	Lewis and Clark and Sacagawea	Exercise and focus	Being dependable
	101	Tecumseh	Pulse and resting heart rate	Reflecting on your choices
	102	Sequoyah	Obesity and walking	Perseverance
	103	The Santa Fe Trail	Exercise, endorphins and de-stressing	Life goals
	104	The Erie Canal	Exercise before starting homework	Persistence
	105	Trail of Tears	Oxygen and the brain	Tolerance
	106	Manifest Destiny	Benefits of walking enough; value a pedometer	Confidence
	107	"Civil Disobedience"	Physical activity requirements	Courage
	108	Gold Rush	Safe lifting	Ambition
	109	The Pony Express	Studies reveal that exercise aids concentration	Responsibility
	110	Chief Joseph	Resting heart rate	Bravery
	111	Booker T. Washington	Role models	Being admirable
	112	Henry Ford	The importance of respect	Generosity
	113	How Taxes Work	Staying hydrated	Fairness
	114	Money	Limit video games	Planning ahead
	115	The Stock Market Crash	Dealing with stinging insects	Responsibility
	116	The Great Depression	Safe walking	Optimism
	117	The Dust Bowl	Dust, pollution and your health	Patience
	118	Franklin Delano Roosevelt, Part 1	Endorphins	Overcoming fear
	119	Franklin Delano Roosevelt, Part 2	Taking care of injuries	Making sacrifices
	120	Eleanor Roosevelt	Stretching	Self-respect
	121	Negro Baseball League	Strains and sprains	Perseverance
	122	"Who's on First?"	Importance of walking and good posture	Patience
	123	Dr. Martin Luther King Jr.	Learning new things increases brain power	Courage
	124	Rosa Parks	Television ads	Determination
	125	Barack Obama	Dangers of smoking and tobacco	Courage

SCIENCE	130	Food Chains	Vitamins	Respecting nature
	131	Animal Classification	Importance of a balanced diet	Cooperation
	132	Geology	Exercise, concentration and reading comprehension	Being proactive
	133	Layers of the Earth	Importance of a balanced diet	Creativity
	134	Rocks of the Earth's Crust	Hydration	Being trustworthy
	135	Continental Divide	Value of exercise in improving your mood	Influence
	136	Mountains	Individual talents	Humility
	137	Hot Springs and Geysers	Toxins	Approaching obstacles
	138	Volcanoes	Importance of fresh fruits and vegetables	Respect
	139	Deserts of the World	Preventing and recognizing heat exhaustion	Being resourceful
	140	Physical vs. Political Maps	Personal space	Reliability
	141	Current and Tides	What Humans Do for us	Treating nature with respect
	142	Marine Life	Exercise value of swimming	Respecting the environment
	143	The Ocean Floor	Aerobic exercise and cardiovascular fitness	Adapting to changes
	144	Sun, Stars, and Galaxies	Practicing good hygiene	Patience
	145	Greek Constellations	Heredity and genes	Wisdom
	146	Native American Constellations	Dangers of walking while distracted	Creativity
	147	Meteorology	Weather and health	Being flexible
	148	Water Cycle	Exercising in cold weather	Reliability
	149	Tornadoes	Cardiovascular fitness	Cooperation
	150	Hurricanes	Healthy calories	Bravery
	151	Turning a Hobby into a Career	Walking can help improve learning and grades	Passion
	152	Neil Armstrong	Mindful changes in eating behavior	Passion
	153	Benjamin Banneker	Walking uses almost 1/3 of all our muscles	Curiosity
	154	Dr. Christiaan Barnard	Exercise and a healthy heart	Perseverance



Index of STEM podcast topics, health messages, and character values

Each STEM podcast begins with a brief introduction in Spanish.

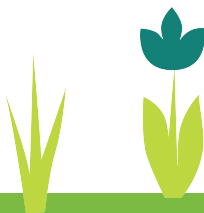
	#	Podcast Title	Health Literacy Message	Character Value
INTRO	1	Welcome to The Walking Classroom	Safe walking	NA
	2	Hello from Room 33	Respect the privilege of TWC participation	NA
	3	Introduction to TWC	Empty calories vs. healthy calories	NA
PHYSICAL SCIENCE	4	Leonardo da Vinci	Importance of raising heart-rate	Patience
	5	Galileo Galilei	Obesity in America	Respectfully disagreeing
	6	Gabriel Fahrenheit	Exercising in cold weather	Reliability
	7	Benjamin Baneker	Walking uses almost 1/3 of all our muscles	Curiosity
	8	Erie Canal	Exercise before starting homework	Persistence
	9	Thomas Edison	Germs, fever, and the need for hygiene	Learning from failure
	10	Albert Einstein	How to turn screen time into exercise time	Trying new things
EARTH SCIENCE	11	Meteorology	Weather and health	Being flexible
	12	Precipitation and The Water Cycle	Exercising in cold weather	Reliability
	13	Hurricanes	Healthy choices	Bravery
	14	Tornadoes	Cardiovascular system	Cooperation
	15	Geology	Exercise, concentration, & reading comprehension	Being proactive
	16	Layers of the Earth	Importance of a balanced diet	Creativity
	17	Rocks of the Earth's Crust	Hydration	Being trustworthy
	18	Hot Springs and Geysers	Vitamins and minerals	Approaching obstacles
	19	Volcanoes	The importance of fresh fruits and vegetables	Respect
	20	Deserts	Heat exhaustion	Being resourceful
	21	Mountains	Individual talents	Humility
	22	Continental Divide	Value of exercise in improving your mood	Influence
	23	John Muir	Nature and health	Resilience
	24	William Morris Davis	Diabetes	Confidence
	25	Political and Physical Maps	Personal space	Reliability
	26	Suns, Stars, and Galaxies	Practicing good hygiene	Patience
	27	The Ocean Floor	Aerobic exercise & cardiovascular fitness	Adapting to changes
	28	Currents and Tides	What vitamin D does for us	Treating nature with respect

	#	Podcast Title	Health Literacy Message	Character Value
LIFE SCIENCE	29	Human Body's Slimy Shields	Hydration	Responsibility
	30	Skin	Sunscreen	Forgiveness
	31	Heart & Circulatory System	Importance of minerals in food	Reliability
	32	Animal Classification	Importance of a balanced diet	Cooperation
	33	Food Chains	Vitamins	Respecting Nature
	34	Marine Life	Exercise value of swimming	Respecting the environment
	35	George Washington Carver	Sleep and how to get enough	Passion
	36	Conservation	Environment and fitness	Conserving environmental resources
	37	Rachel Carson	Intro to aerobic exercise and cardio fitness	Standing up for what is right
	38	Inez Fung	Oxygen, learning and the brain	Determination
	39	Clara Barton	Vitamin C	Compassion
	40	Dr. Elizabeth Blackwell	Preventing the spread of germs	Passion
	41	Dr. Daniel Hale Williams	Work your brain to make it stronger	Generosity
	42	Mayo Family & Clinic	Walking increases energy levels	Confidence
	43	Dr. Charles Drew	Dangers of music that is too loud	Thoughtfulness
	44	Dr. Christiaan Barnard	Exercise and moods	Perseverance
SCIENCE CAREER SERIES	45	John Dalton	Importance of protein in your diet	Intelligence
	46	Dr. Patrick Treuthardt, Physicist	NA	Curiosity
	47	Liz Baird, Director of Education	NA	Leadership
	48	Dr. Chris Tacker, Geologist	NA	Resourcefulness
	49	Dr. Emlyn Koster, Geologist	NA	Leadership
	50	Dr. Paul Brinkman, Paleontologist	NA	Flexibility
	51	Bob Alderink, Lab Coordinator	NA	Citizenship
	52	Dr. Colin Brammer, Entomologist	NA	Open-mindedness
	53	Dr. Jason Cryan, Entomologist	NA	Respect
	54	Dr. Dan Dombrowski, Veterinarian	NA	Thoughtfulness
	55	Chris Goforth, Citizen Science	NA	Self-respect
	56	Dr. Roland Kays, Zoologist	NA	Teamwork
	57	Dr. Stephanie Schuttler, Mammologist	NA	Cooperation
	58	Dr. Julia Stevens, Microbial Ecologist	NA	Optimism
	59	Ben Hess, Collections Manager	NA	Generosity
	60	Dr. Julie Horvath Evolutionary Genomicist	NA	Teamwork
	61	Dr. Julie Urban, Evolutionary Biologist	NA	Open-mindedness

The Podcast



Socio-emotional learning is woven throughout the podcast
and discussed post-walk





Extensive lesson plans support each podcast



Sample Annotated Lesson Plan

(137) Hot Springs and Geysers

Podcasts are between 12–18 minutes.

Podcast Length: 15:28

All podcasts feature a character value discussion.

Character Value: **Approaching obstacles**

A health literacy message is discussed during the first few minutes of the podcast.

Health Message: **Toxins**

Synopsis

Today's Walking Classroom discusses hot springs and geysers, two related types of hydrothermal activity found in areas near volcanoes. Hydrothermal comes from two Greek words, *hydro* meaning water and *therme* meaning heat. Hot springs form when water that has risen to the surface of the earth collects in heated pools while geysers shoot fountains of water and steam into the air. Hydrothermal activity occurs all over the world, but is observed mostly in Iceland, New Zealand, and Yellowstone National Park.

Two or three specific learning goals for the lesson that use Marzano/Bloom taxonomy

Objectives

- Understand how hot springs and geysers are formed.
- Compare and contrast geysers and hot springs.
- Explain where hot springs and geysers are found and why.

Procedure is the same for all walks. Unfamiliar vocabulary is introduced before walking.

Procedure

If you want to compare student comprehension before and after listening, administer the Comprehension Quiz before doing anything related to the podcast. Retest after walking.

1. Review key vocabulary (included definitions are limited to the context of today's podcast).
 - **toxins (noun):** waste products produced by cells in the body
*When we eat processed and refined foods, the body releases many **toxins**.*
 - **hydrothermal (adjective):** having to do with hot water
*Geysers and hot springs are two types of **hydrothermal** activity.*
 - **magma (noun):** rock within the earth that is so hot it has turned to liquid
***Magma** is responsible for heating the water in geysers and hot springs.*

Simple question to jump-start students' background knowledge.

2. Build background by asking students, "Have you ever seen a hot spring or geyser? What makes them special?"
3. Allow time for discussion.
4. Podcast preview: "Have you ever heard of Old Faithful? Today we're going to learn more about how, why and where hot springs and geysers form. Ready? Let's go!"
5. Walk!

Questions for Thought and Discussion

Upon return to the classroom, discuss the main ideas and content from the podcast using the questions and suggested answers below.

Questions for all podcasts will follow the same structure: main idea, connections, and character value.

1. What were some of the big ideas of this podcast?

- ✓ A geyser is hydrothermal activity where a fountain of water shoots into the air.
- ✓ Geysers and hot springs only form in regions where there has been volcanic activity.
- ✓ Hot springs occur more slowly and less dramatically than geysers because the steam has an open path to travel, so pressure doesn't build up.

Connection to everyday life:

2. Hot springs and geysers only occur in specific locations. What specific conditions are needed to create each of them?

- ✓ Hot springs and geysers only occur in regions where there has been volcanic activity. The underground water gets heated by magma.

Focus on character value:

3. While hot springs occur gradually and peacefully, geysers appear dramatically and forcefully. Although very different, both are beautiful.

a. What is the benefit of approaching things with patience and taking your time?

- ✓ Suggestion: By being patient and approaching situations slowly, you have an opportunity to think through a situation and decide the best way to respond and move forward.

b. What is the benefit of approaching things boldly and confidently?

- ✓ Suggestion: Sometimes taking a risk and being bold can have great rewards. You might miss out on an opportunity if you wait too long.

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- ✓ Hot springs occur more slowly and less dramatically than geysers because they have an open path to travel, so pressure doesn't build up.

Connection to everyday life:

2. Hot springs and geysers only occur in specific locations. What specific conditions are needed to create each of them?

- ✓ Hot springs and geysers only occur in regions where there has been volcanic activity. The underground water gets heated by magma.

Focus on character value:

3. While hot springs occur gradually and peacefully, geysers appear dramatically and forcefully. Although very different, both are beautiful.

- What is the benefit of approaching things with patience and taking your time?**
 - ✓ Suggestion: By being patient and approaching situations slowly, you have an opportunity to think through a situation and decide the best way to respond and move forward.
- What is the benefit of approaching things boldly and confidently?**
 - ✓ Suggestion: Sometimes taking a risk and being bold can have great rewards. You might miss out on an opportunity if you wait too long.

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Health Message: **Toxins**

Synopsis

Today's Walking Classroom discusses hot springs and geysers, two related types of hydrothermal activity found in and near volcanoes. Hydrothermal comes from two Greek words, *hydro* meaning water and *therme* meaning heat. Hot springs form when water that has risen to the surface of the earth collects in heated pools while geysers shoot fountains of water and steam into the air. Hydrothermal activity occurs all over the world, but is observed mostly in Iceland, New Zealand, and Yellowstone National Park.

Two or three specific learning goals for the lesson that use Marzano/Bloom taxonomy

Objectives

- Understand how hot springs and geysers are formed.
- Compare and contrast geysers and hot springs.
- Explain where hot springs and geysers are found and why.

Procedure is the same for all walks. Unfamiliar vocabulary is introduced before walking.

Procedure

If you want to compare student comprehension before and after listening, administer the Comprehension Quiz before doing anything related to the podcast. Retest after walking.

1. Review key vocabulary (included definitions are limited to the context of today's podcast).
 - **toxins (noun):** waste products produced by cells in the body
When we eat processed and refined foods, the body releases many toxins.
 - **hydrothermal (adjective):** having to do with hot water
Geysers and hot springs are two types of hydrothermal activity.
 - **magma (noun):** rock within the earth that is so hot it has turned to liquid
Magma is responsible for heating the water in geysers and hot springs.

Simple question to jump-start students' background knowledge.

2. Build background by asking students, "Have you ever seen a hot spring or geyser? What makes them special?"
3. Allow time for discussion.
4. Podcast preview: "Have you ever heard of Old Faithful? Today we're going to learn more about how, why and where hot springs and geysers form. Ready? Let's go!"
5. Walk!

Questions for Thought and Discussion

Upon return to the classroom, discuss the main ideas and content from the podcast using the questions and suggested answers below.

Questions for all podcasts will follow the same structure: main idea, connections, and character value.

1. What were some of the big ideas of this podcast?

- ✓ A geyser is hydrothermal activity where a lot of water shoots into the air.
- ✓ Geysers and hot springs only form in regions where there has been volcanic activity.
- ✓ Hot springs occur more slowly and less dramatically than geysers because the steam has an open path to travel, so pressure doesn't build up.

Connection to everyday life:

2. Hot springs and geysers only occur in specific locations. What specific conditions are needed to create each of them?

- ✓ Hot springs and geysers only occur in regions where there has been volcanic activity. The underground water gets heated by magma.

Focus on character value:

3. While hot springs occur gradually and peacefully, geysers appear dramatically and forcefully. Although very different, both are beautiful.

a. What is the benefit of approaching things with patience and taking your time?

- ✓ Suggestion: By being patient and approaching situations slowly, you have an opportunity to think through a situation and decide the best way to respond and move forward.

b. What is the benefit of approaching things boldly and confidently?

- ✓ Suggestion: Sometimes taking a risk and being bold can have great rewards. You might miss out on an opportunity if you wait too long.

Questions for Thought and Discussion

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Hot Springs and Geysers Comprehension Quiz

Name: _____

Date: _____

- Recall* 1. A geyser is a type of hydrothermal activity where
- a fountain of water shoots into the air.
 - water forms into a natural pool.
 - the earth begins to tremor or shake.

- Recall* 2. The water in geysers and hot springs becomes hot when
- the sun has shone on it for long periods of time.
 - it comes in contact with magma.
 - it is exposed to forest fires.

- Recall* 3. Hot springs occur more slowly and less dramatically because
- they are formed through a more complicated process than geysers.
 - the steam has an open path to travel, so pressure does not build up.
 - they depend upon an interaction between the minerals in the rocks and the water.

- Vocabulary* 4. Hydrothermal means
- having to do with long underwear.
 - having to do with hot water.
 - occurring near water.

- Character trait* 5. According to the podcast, what word would best describe hot springs?
- bouncy
 - erupting
 - peaceful

- Fact / Opinion* 6. Which of the following is a fact about geysers and hot springs?
- They only form in regions where there has been volcanic activity.
 - They always result with an explosion of water up through the air.
 - They are beautiful and exciting natural occurrences.

- Sequence events
(Fact/opinion for
other podcasts)* 7. Number the events from the Legend of Blue Feather in the order in which they happen. (1, 2, 3)
- _____ Rain water or melted snow seeps into the ground.
- _____ The steam rises back to the surface either slowly, like a trickle, or in a sudden burst.
- _____ The water becomes heated and turns into steam.

- Inference* 8. What is the main difference between hot springs and geysers?
- One is cold and the other is hot.
 - One is found in Iceland and the other is found in New Zealand.
 - The force and speed with which the steam rises to the surface.

- Health* 9. Toxins help keep our bodies healthy.
- true
 - false

- Health* 10. Nuts, avocados and whole grains contain Vitamin E.
- true
 - false



Supplemental activities
can be found on our
[Adopter Resources](#) page





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Adopter Resources

Hi Laura!

Welcome to The Walking Classroom's Adopter Resources! These great supplemental resources will help you implement the program with ease.

Podcast-Specific Resources

Search by podcast title, subject area, health message, character value, or our new themed groupings! For each podcast, you'll find an electronic version of the quiz, a related slide deck, related videos, and more.

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(137) Hot Springs & Geysers

Form description

Name



Short answer text



1. A geyser is a type of hydrothermal activity where... *

- ☐ a. a fountain of water shoots into the air.
- ☐ b. water forms into a natural pool.
- ☐ c. the earth begins to tremor or shake.

2. The water in geysers and hot springs becomes hot when... *

- ☐ a. the sun has shone on it for long periods of time.

Walking Classroom



3-2-1 – There are endless possibilities for what you can have the students write for each of these items is one suggestion:

Write 3 Facts, 2 questions, and 1 opinion after listening to the podcast.

Example: Paul Brown

- 3 Facts: (Brown, Patriot, Longfellow wrote a poem about him)
- 2 Questions: Why is the poem so famous if parts of it are incorrect? Was there another rider?
- 1 Opinion: I don't think Longfellow should have exaggerated what happened; the poem should have been more factual.

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listening to a podcast, video, audio book, etc., these fun ideas will help them summarize what they've learned while listening. Download a free PDF with **four fun journaling ideas below.**

» **Listening Journal Ideas**



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with stories, ideas, and more.

Teaching Tools!

Having Meaningful Discussions Using THICK Questions

Wondering how to get your students to engage in deeper discussion after listening to a Walking Classroom podcast or a class read-aloud? The key is to help them ask better questions and actively listen in order to build on their peers' thoughts.

If students are given the opportunity and encouraged to discuss the content with their peers, they will retain the information much better. Their new learning will be anchored in meaningful conversations, and it will help extend their thinking and understanding beyond the time spent listening to the material.

Why does it matter?

As evidenced by the Common Core Speaking and Listening Standards, being able to carry on a conversation that is text-based and builds on the ideas of others is a vital skill students must be taught. This will not come naturally to students, but should be modeled and practiced as it will take time to develop. Once students start to develop the skills, the depth of their thinking and conversations will truly abound you.

Thick vs. Thin Questions

At The Walking Classroom, we talk about asking "Thick Questions" instead of "Thin Questions" to support good discussion.

Thin Questions: Thin questions are those questions whose answers can be found in the text or podcast and can be answered with a few words or short sentences. Another way to think about it is to say that the answers are "right there." They are easier to answer, often answered with a "yes" or "no," and usually have just one possible response.

Examples of Thin Questions

- When...?
- Where...?
- Who...?
- How many...?

Thick Questions: Thick questions are inferential questions that ask us to think more deeply since the answers are not "right there." Answers to thick questions are open to argument; they should still be supported by the text, but each can meaningfully be part of the response. Thick questions make

www.TheWalkingClassroom.org

Having Meaningful Discussions Using THICK Questions

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» **Guide to Having Meaningful Discussions**



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with stories, ideas, and more.

Teaching Tools!

Starting a Walking Club!

A Walking Club is an easy and inexpensive opportunity for students and staff to increase their current level of physical activity. Walking and tracking miles daily or regularly helps foster an appreciation for physical activity and develops healthy habits at an early age.

Guide Starting a Walking Club!

A Walking Club is an easy and inexpensive opportunity for students and staff to increase their



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- Biographies (68)
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- Earth Science (9)
- Explorers (5)
- Famous African Americans (14)
- Famous Women (16)
- Figures from Science (35)
- Geology (11)
- Government (6)
- Grammar & Word Skills (10)

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Teamwork



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Health Message

Character Value

"G... H... B..."

G... S...

T... L...

for the Advancement of Science.

Investigating Hot Springs

Multi-Day Project

Examine a simulated hot spring and explore how pH and temperature influence the growth of organisms in hot springs and other environments in this activity from the *Thermal Biology Institute* at Montana State University.

Hot Springs and Geysers Quiz

Online Activity

Learn more about hot springs and geysers then test knowledge with this quick interactive quiz from *Easy Science for Kids*.

Yellowstone National Park

Virtual Field Trip

Take a virtual tour and explore the hot springs and geysers of *Yellowstone National Park*.

Hot Springs and Geysers Word Search

Printable or Worksheet

Demonstrate knowledge of hot springs and geysers by finding the hidden words.

- Presidents (5)
- Government (6)
- Civil War & Reconstruction (19)
- Medicine (7)
- The Human Body (10)
- Westward Ho (14)
- Geology (11)
- Marine Life (3)
- Astronomy (5)
- Weather (6)
- Science Careers (16)

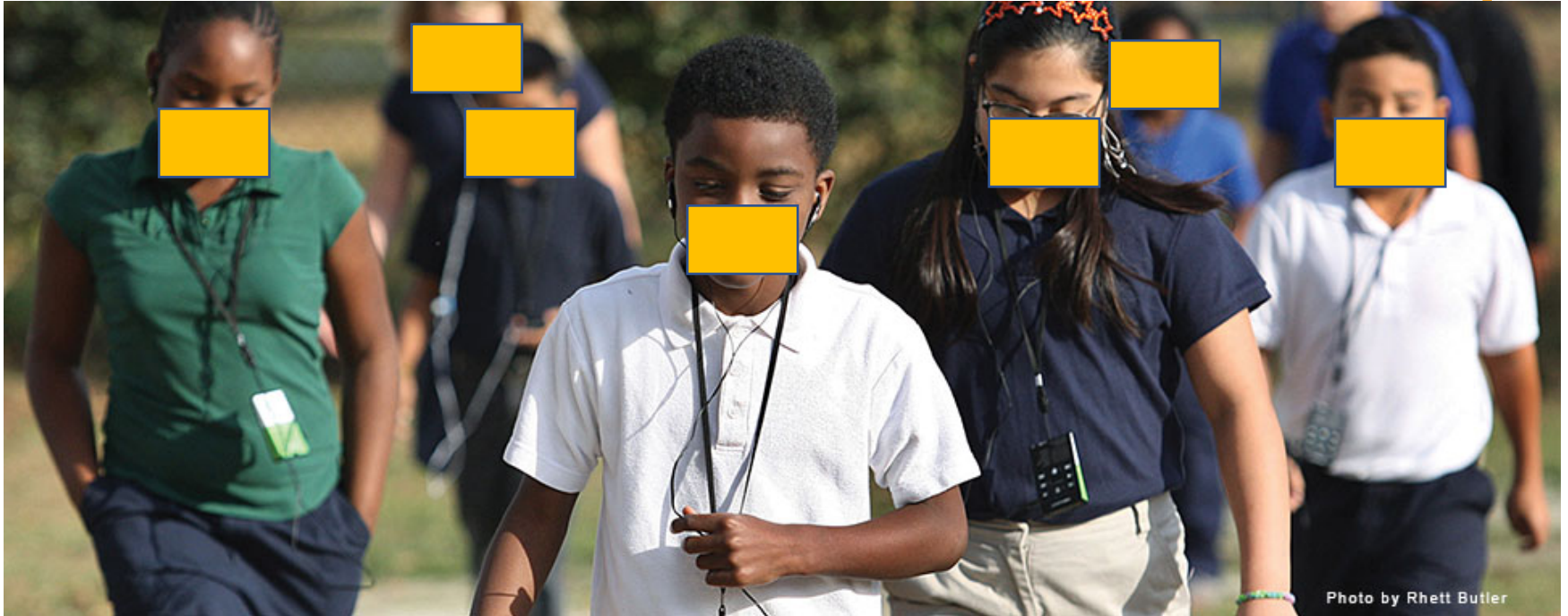
See More Podcasts in Subject Area: Science



Protecting Yellowstone's Water



The Walking Classroom is easy to implement in a variety of settings



Sharable materials (easily cleaned!)



Hybrid / Remote Learning

Listening Journals

- date listened, distance traveled
- one paragraph summary of podcast
- two questions of what else they would like to learn
- two statements of what podcast reminded them of
- two "thick" questions about the podcast to ask other classmates



Hybrid / Remote Learning

Listening Groups

Provides teacher the opportunity to meet with smaller remediation groups

- Divide the class into 3 groups
- Assign 1 student in each group to lead discussion of podcast (review student questions from listening journal)
- Meanwhile, Teacher meets with small group of students who need remediation



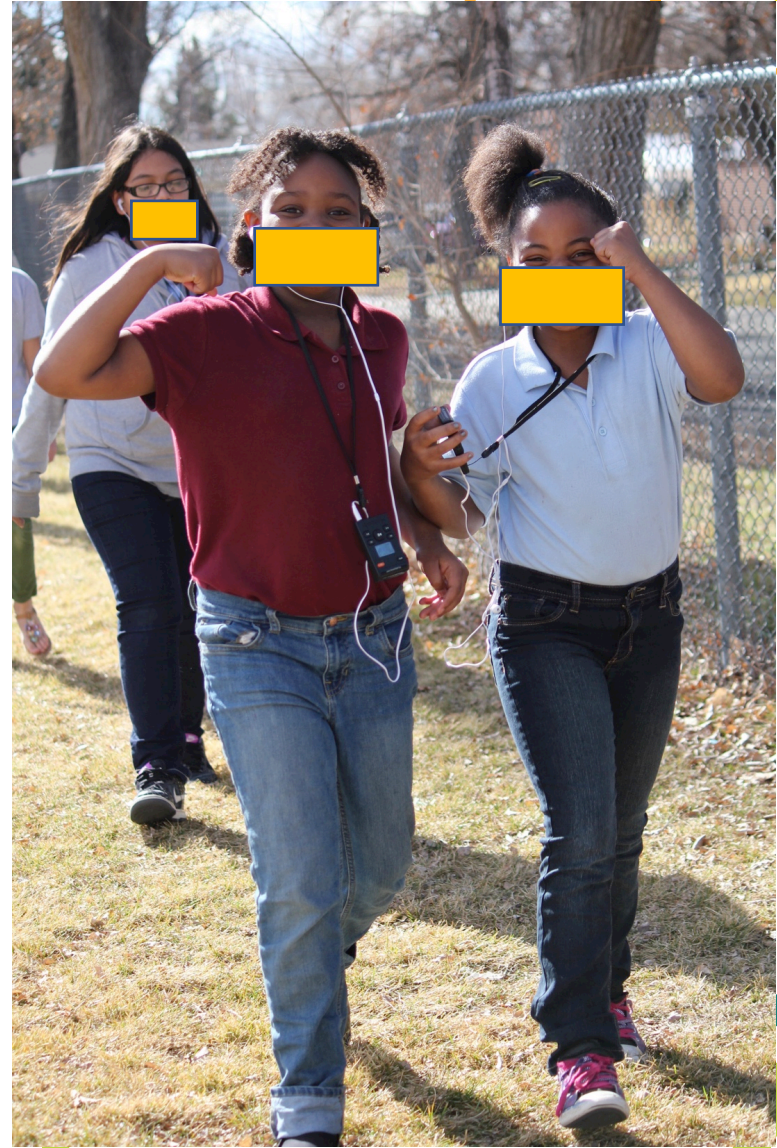
Hybrid / Remote Learning

Fun Friday

- Students get to pick any podcast they want to listen to and share summary with classmates

Map Your Walk

- Using [Google Maps](#), students plot their walk
- Create scavenger hunts for other students using cardinal directions



UNC Research Summary.pdf | Powered by Box

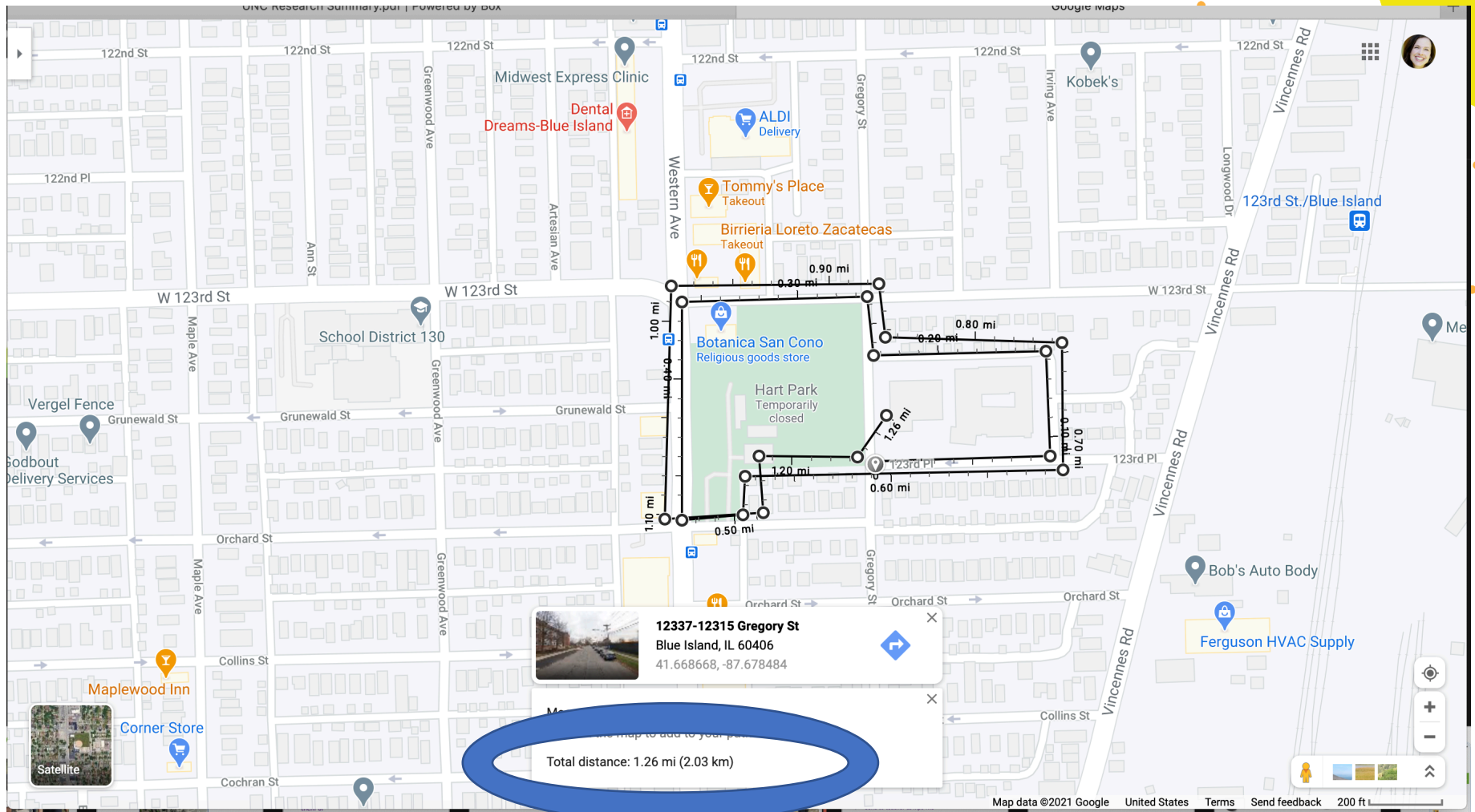
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Google Maps

41.66868, -87.67852

- Directions from here
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- Add your business
- Report a problem
- Measure distance

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Hybrid / Remote Learning

Students Create Their Own Podcast

- Students record a story or research report they've written
 - Lots of free recording options available (even voice memo on phone)
 - Send to teacher as mp3 file
 - Teacher posts on her website / Google Classroom



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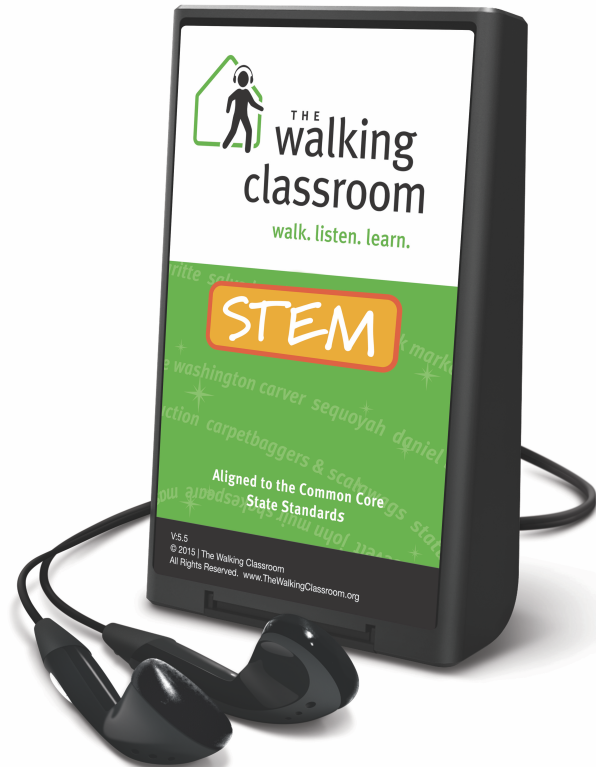


The Nitty Gritty





OR



Pre-loaded “WalkKit” audio player

No WiFi or data needed

Can be shared among students

\$125 per device

STEM “WalkKit”

Spanish introductions

\$100 per device



Mobile App

starting at

\$3.99 per device /month

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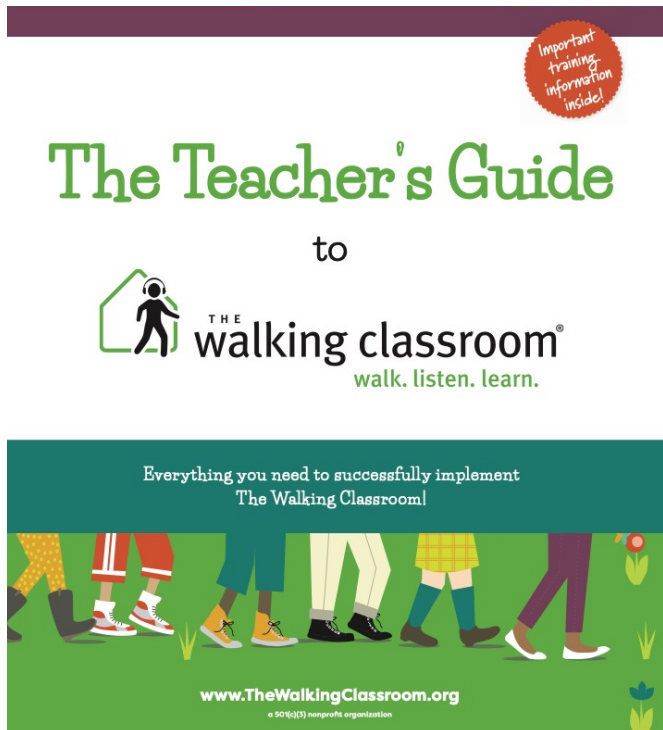


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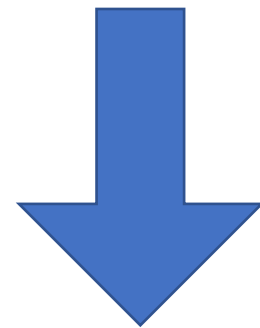




As a thank you for attending today and working so hard for your students, please add your name and email into the chat and I will send a link to the electronic version Teacher's Guide



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- ☒ Higher levels of cognitive performance
(short-term AND long-term learning!)
- ☒ Improved mood
- ☒ Increased classroom engagement
- ☒ Greater enjoyment of walking



We Are Here for You!

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or

