INTEGRATED MINI-LESSONS

Packet 2
What is it?

The Integrated Mini-Lessons combine nutrition education and physical activities with the Georgia Department of Education's Georgia Standards of Excellence. Each lesson aligns with the Choosing Healthy Habits planner.

What is the purpose?

The Integrated Mini-Lessons are a great way to promote healthy eating and physical activity in the classroom! The mini-lessons should be used in classes school-wide once a month. The lessons can be used at the beginning or end of class.

During digital learning days students or teachers can use mini-lessons to enhance content knowledge while focusing on health. For partnering sites, the Healthy Habits Day Planner is an excellent compliment to the mini lesson but is not required.

Show off your healthy behaviors by tagging us on social media!

@HealthMPowers
**MATH**

Convert the units below from Metric-to-English or English-to-Metric using dimensional analysis. After your conversions, pick one scenario and hold a wall-sit while you explain to a classmate the scenario’s health benefits.

- Sam ran a 5k on Friday with his best friend. How many miles did he run? (1 km = 0.62 mi)
- Dina ate 8 ounces of whole-grain foods yesterday. How many grams did she eat? (1 oz. = 28.350 g)
- During his football game, Mike ran 20 mph on a kick return. How many feet per second did he run? (1 mi = 5280 ft.)

Track your habits using the weekly charts in the bottom right corner of your *Choosing Healthy Habits* planner.  

**ELA**

Construct sentences about healthy eating and physical activity using each of the words below. Be sure each sentence incorporates context clues to imply the meaning of each word.

- Propitious
- Enervate
- Piquant
- Ebullient

Check out the “Healthy Habit Challenge” on p. 92 in your *Choosing Healthy Habits* planner.

**SOCIAL STUDIES**

Student Health Advocates (SHAs) are student leaders committed to improving the nutrition and physical activity behaviors of their peers. What are some ways you can be a student health leader at your school? Analyze the rise of the world leaders below. Why were these world leaders important to world standards of governance in the 1960s? How could these leaders’ views directly or indirectly affect the health of their citizens?

- Golda Meir
- Indira Gandhi
- Margaret Thatcher

Learn more about being a health leader in the “Bell Work Activity” on p. 105 in your *Choosing Healthy Habits* planner.

**SCIENCE**

Apply concepts and reasoning to prove the validity of the relationship between physical factors and organismal adaptations within terrestrial biomes. Use similar reasoning to identify patterns between health-injurious physical environments within communities and community members’ health decisions. Apprise a friend about the health-promoting physical environments in your community.

Learn more ways to teach about health in the “Take it Home” on p. 104 in your *Choosing Healthy Habits* planner.
MATH
Using algebraic properties and the properties of real numbers, solve the equations below and justify each step in finding the solution. After completing each step in solving the equation, do 10 crunches.

\[10x - 14 = -2\]

\[(4 \times 3) \times 2 = (2 \times 3) \times 4\]

\[\frac{x}{5} \times 5 = 3\]

Create a plan to complete the "Physical Activity Challenge" on p. 90 in your Choosing Healthy Habits planner. Standard: MGSE9-12.A.REI.1

ELA
Synthesize information about dynamic and static stretching found at www.move.va.gov to conclude which stretches would be good for gardeners. Cite strong textual evidence to support your stance. Be sure to include information that is explicitly stated on the website, as well as information that can be inferred, in your conclusion.

Learn more about stretching in the "Farm to School Connection" on p. 74 in your Choosing Healthy Habits planner. Standard: ELAGSE11-12RI1

SOCIAL STUDIES
Refer to the key ideas featured in the debate over ramification listed below. For each topic the Federalists favored, do 10 hops. For each topic the Anti-Federalists favored, do 10 jumping jacks. After considering each topic, develop a logical argument endorsing one of the issues and use relevant evidence to support your stance.

- Strong federal government
- Strong state government
- Only the educated should make decisions
- Protection of property rights

Track your physical activity using the chart in your Choosing Healthy Habits planner. Standard: SSCG3d

SCIENCE
Interpret data on global patterns of population growth, paying particular attention to fertility and mortality rates in developing countries compared to developed countries. Analyze the interconnectedness of healthy habits, such as eating fruits/vegetables and exercising daily, and mortality rates. How is the ability to adopt healthy habits nuanced when comparing developing and developed countries?

Learn more about having a healthier nation in the "Take it Home" on p. 142 in your Choosing Healthy Habits planner. Standard: SEV5b
MATH

Distinguish between correlation and causation, particularly in relation to linear models. With a partner, describe correlation and causation using examples about eating fruits and vegetables, exercising and being healthy.

Take the food literacy quiz in the "Farm to School Connection" on p. 126 in your Choosing Healthy Habits planner. Standard: MGSE9-12.S.ID.9

ELA

Write an informative text analyzing individual (e.g. eating and physical activity habits) and societal influences (e.g. access to healthy foods and physical environment) on health. Be sure to convey ideas, concepts and information clearly and accurately in your analysis.

Check out the "Farm to School Connection" on p. 138 in your Choosing Healthy Habits planner. Standard: ELAGSE11-12W2

SOCIAL STUDIES

Research shows that income inequality influences health disparities. Assess the challenges preventing individuals with a lower income from eating healthy foods and being physically active. Explain the importance of the growing economic disparity between the North and the South. Hypothesize the influence of this economic disparity on the health of northerners compared to southerners.

Find healthy eating tips in the "Farm to School Connection" on p. 142 in your Choosing Healthy Habits planner. Standard: SSUSH9a

SCIENCE

Evaluate and communicate to a classmate information about the interdependence of the integumentary, skeletal and muscular systems in making movement possible. Perform each of the movements below and identify how each body system contributes to completing the movement.

10 push-ups 10 sit-and-reaches 10 broad jumps

Learn about muscular fitness activities in the "Physical Activity Challenge" on p. 84 in your Choosing Healthy Habits planner. Standard: SAP2d
MATH
Use the Chain Rule to differentiate the following functions. If the derivative of the inner function contains an exponent, do 10 calf raises. If the derivative of the outer function contains an exponent, do 10 high-knees.

\[ h(x) = (5 - 6x)^4 \quad \sin(2x^3 - 5x) \quad h(x) = (-7 - 8x^3)^5 \]

Learn more about strength and muscular endurance in the “Top Tips” on p. 84 in your Choosing Healthy Habits planner. Standard: MC.D.2

ELA
With a partner, take turns formulating a short description of the three situations below. First use words and phrases with positive connotations, then use words and phrases with negative connotations. Be sure to choose words and phrases with similar denotations each time. While you are sharing your descriptions with your partner, do the exercise next to the description. Justify to your partner the words you chose and interpret the nuances in the meanings of your words.

1. Describe walking home in the rain (jumping jacks)
2. Describe watching a scary movie (jog in place)
3. Describe washing your dog (desk push-ups)

Learn more about aerobic fitness activities in the “Take it Home” on p. 98 in your Choosing Healthy Habits planner. Standard: ELAGSE11-12L5b

SOCIAL STUDIES
Analyze the Federal Reserve’s use of the three tools of monetary policy to promote price stability and full employment. Connect the price of foods to customers’ ability to purchase them and explain the effect of unemployment on one’s ability to purchase healthy foods and be physically active. How does price stability and full employment affect economic growth?

Learn more about purchasing healthy foods in the “Take it Home” on p. 100 in your Choosing Healthy Habits planner. Standard: SSEMA2e

SCIENCE
Did you know that solvation in water is also called “hydration”? Apply the concept of solvation to explain how you can become dehydrated when you do not drink enough water. Develop a model to illustrate the process of dissolving in terms of solvation versus dissociation. How can you be sure to drink more water throughout the school day?

Learn more about hydration in the Top Tips on p. 142 in your Choosing Healthy Habits planner. Standard: SC6a
**MATH**

Compute the integrals of the functions below using the Substitution Rule. If the integral has a solution, do an isometric exercise, such as push-ups or a plank. If the integral does not have a solution, do a bone-strengthening exercise, such as jumping, for one minute.

\[
\int 9x^3 \sqrt{3x^3 + 10} \, dx \quad \int \frac{x}{\sqrt{1-16x^2}} \, dx \quad \int 5(16x^2 - 4x^2 + 3)^2 \, dx
\]

Learn more about muscle fitness activities in the “Bell Work Activity” on p. 93 in your Choosing Healthy Habits planner.  
Standard: MC.I.1d

**ELA**

Read the “M2 Generation” section on p. 129 in your Choosing Healthy Habits planner. Determine the theme or central idea of the text and closely analyze its development over the course of the text, including how it is shaped by specific facts and details. When finished, complete the “How Do Your Media Habits Stack Up?” section and identify three activities you can substitute for screen time.

Learn more about your media habits on p. 129 in your Choosing Healthy Habits planner.  
Standard: ELAGSE9-10RL2

**SOCIAL STUDIES**

Explain the effect of the government’s actions in promoting each of the three factors below. After each explanation, complete the physical activity next to the factor. How can each of these three factors affect someone’s health?

- Price stability (10 toe touches)
- Full employment (10 desk push-ups)
- Economic growth (10 high jumps)

Learn more about physical activity campaigns in the “Bell Work Activity” on p. 105 in your Choosing Healthy Habits planner.  
Standard: SSEMA3b

**SCIENCE**

Assess the connection between the Law of Conservation of Energy and the Work-Kinetic Energy Theorem. For each problem below, calculate the kinetic energy of the object or the amount of work performed by a force on the object. If the answer is greater than 500 J, do 10 high-knees. If the answer is less than 500 J, do jumping jacks.

1. A 500g box moving at 2 m/s
2. An upward force is applied to lift a 15kg table to a height of 5 m at constant speed
3. A 71kg woman running at 5.0 m/s
4. A 2-ton truck is traveling at 60 mph

Learn more about balancing your energy in the “Top Tips” on p. 44 in your Choosing Healthy Habits planner.  
Standard: SP3b
MATH
Refer to the descriptions of a certain mapping in the $xy$ plane below. If it is a rotation, do 10 jumping jacks. If it is a reflection, do 10 crunches. If it is a translation, do 10 desk push-ups.

1. Each point is shifted 3 units to the left and 8 units up
2. Each point $R$ with coordinates $(x, y)$ is mapped to a point $R'$ with coordinates $(y, -x)$
3. A circle is flipped across the x-axis.

Track your physical activity using the weekly chart in the bottom right corner your Choosing Healthy Habits planner. Standard: MGSE9-12.G.CO.4

ELA
Write a short paragraph summarizing the healthy foods that are important to your culture. Then team up with a partner and analyze how your point of views and cultural experiences are reflected in your paragraphs. Discuss with your partner the way culture and views on healthy eating and physical activity can impact one's health.

Learn about cultural foods in the “Farm to School Connection” on p. 130 in your Choosing Healthy Habits planner. Standard: ELAGSE9-10RL6

SOCIAL STUDIES
Examine the impact of differing cultural beliefs in various regions on gender roles and perceptions of race and ethnicity for each of the three systems below. After each explanation, complete the exercise next to the system. Choose one system and critique its underlying effects on the health of the disadvantaged populations in each system.

1. Caste system (10 jumping jacks)
2. Apartheid (10 high-knees)
3. Legal rights for women (10 hops)

Learn more about the impact of culture and traditions on health at the top of p. 151 in your Choosing Healthy Habits planner. Standard: SSWG2d

SCIENCE
Design and implement an investigation determining the relationship between magnetism and the movement of electrical charges in electromagnets compared to generators. After your investigation, explain the properties of electricity and magnetism to a partner while jogging in place.

Learn more about aerobic physical activities in the “Top Tips” on p. 144 in your Choosing Healthy Habits planner. Standard: SPS10c
MATH

What is the value of $X$ in the figure shown below? If the value of $X$ is greater than $50^\circ$, provide a classmate with two benefits of eating fruits and vegetables. If the value of $X$ is less than $50^\circ$, provide a classmate with two benefits of participating in 60 minutes of physical activity every day.

ELA

Analyze Nelson Mandela’s Nobel Peace Prize speech, “The Universal Declaration of Human Rights.” In your analysis, be sure to include how Mandela addressed related themes and concepts and how his use of literary tools added to the seminal nature of the speech. Connect Mandela’s claims of universal human rights to universal access to health care. How could universal access to health care potentially improve the lives of disadvantaged citizens?

SOCIAL STUDIES

Laws and policies relating to health are effective tools to enhance the nutrition and physical activity behaviors of individuals. Based on your personal observations, draw conclusions about the role your school’s wellness policy plays in the health of students at your school. Then analyze the Supremacy Clause found in Article VI of the U.S. Constitution. Draw conclusions about the role the Constitution plays, as the “supreme law of the land,” in states’ autonomy.

SCIENCE

Draw models depicting the particle arrangement and motion in solids, liquids, gases and plasmas. Compare and contrast the different models. Analyze the models to identify correlation between the motion of the particles and their arrangements. With a partner, mirror the motions of the particles with your bodies.
MATH

A cylinder has a base area of $28.1\text{m}^2$ and a height of $3.2\text{m}$. Estimate the volume of the cylinder. If the volume is greater than $80\text{m}^3$, do 10 jumping jacks. Deliver an argument using Cavalieri's Principle for the formulas for the volume of a sphere and other solid figures to a partner. Hold a wall sit while you deliver your argument.

Check out the “Physical Activity Challenge” on p. 120 in your Choosing Healthy Habits planner.

Standard: MGSE9-12.G.GMD.2

ELA

Read the “Physical Fitness & Sports Nutrition” section on p. 141 in your Choosing Healthy Habits planner. Based on the information you read, write an informative paragraph to effectively relay the benefits of sports, fitness and nutrition. Be sure your paragraph contains complex thinking; you should anticipate obstacles that may prevent people from eating healthy and being active and present solutions to these obstacles.

Learn more about physical fitness and sports nutrition on p. 141 in your Choosing Healthy Habits planner.

Standard: ELAGSE9-12W2

SOCIAL STUDIES

Explain the influence the following key inventions had on U.S. infrastructure. After each explanation complete the physical activity next to the invention. How did the creation of these inventions improve the speed and accuracy of health services in the 19th century? Connect the improvements to health services by these new inventions in the 19th century to advances in telemedicine today.

- Telegraph  
  (10 chair dips)
- Telephone  
  (10 desk push-ups)
- Electric light bulb  
  (10 arm circles)

Find health-promoting online games in the “Take it Home” on p.130 in your Choosing Healthy Habits planner.

Standard: SSUSH11c

SCIENCE

Create a model to illustrate endothermic and exothermic chemical reactions. Use your model to explain to a partner how the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy. Connect endothermic and exothermic reactions (the release and absorption of energy) to eating fruits and vegetables and exercising.

Learn more about energy balance on p. 43 in your Choosing Healthy Habits planner.

Standard: SC2g
MATH
Find the distance between the set of points below. If the distance is a rational number, tell a partner about the Harvest of the Month and benefits from eating it. If the distance is an irrational number, tell a partner about your favorite physical activity.

1. A (-7, 6) and B (3, 6)
2. R (4 + 4i) and S (-4 + 4i)
3. A triangle has a width of 13 and a height of 6

ELA
Write a paragraph analyzing whether your community offers a health-promoting environment. Research the factors that contribute to a health-promoting environment and your county’s health ranking at https://www.countyhealthrankings.org. Include this information in your paragraph. Team up with a partner and reflect on the information in your paragraphs. Together, identify ways you can help your community become more health-conscious.

SOCIAL STUDIES
Differentiate between the three types of insurances listed below. How can each type of insurance aid in the health and well being of individuals? Explain why an individual’s lack of each type of insurance below would be a hindrance to daily physical activity. Formulate strategies to overcome these obstacles.

10 push-ups
Health
Disability

SCIENCE
Analyze the interdependence of the cardiovascular and respiratory systems. Create a diagram illustrating the responses of these systems and the body’s homeostatic mechanisms to physical activity, such as running or swimming. How does physical activity improve the cardiovascular and respiratory systems?
MATH
Prove the Pythagorean Identity and then use it to find the values below. After completing each problem, do 10 jumping jacks.

1. The angle $A$ is located in Quadrant I and $\cos(A) = \frac{20}{34}$. What is the value of $\sin(A)$?

2. The angle $B$ is located in Quadrant IV and $\cos(B) = \frac{2}{3}$. What is the value of $\sin(B)$?

3. The angle $C$ is located in Quadrant II and $\cos(C) = \frac{3}{8}$. What is the value of $\sin(C)$?

ELA
In a group of three, create a short presentation highlighting the benefits of eating fruits and vegetables and exercising. Make sure your presentations use digital media (e.g. textual, graphical, audio, visual and interactive elements) strategically to enhance your reasoning and to add interest. At the end of your presentation, lead your class in a quick chair exercise.

SOCIAL STUDIES
Assess the influence of the Internet and social media on society. Identify ways you can use these mediums to encourage others to eat more fruits and vegetables and to be physically active for 60 minutes each day.

SCIENCE
Construct an explanation of the effects of a catalyst on chemical reactions and apply it to everyday examples involving physical activity and healthy eating. Theoretically, how can you be a catalyst in improving your family’s activity levels at home?