Samples From the

Hip Hop Healthy Heart Program for Children™

Module 3 – Bonus Unit:
Mineral Power!

Module 3 Bonus Unit Mineral Power! – includes 3 lessons:

Teacher Background
Lesson 1: One Quiet Giant!!
Lesson 2: Get Your Magnesium Here!
Lesson 3: Making a Difference!

Every day, students have opportunities to make choices about nutrition. **Bonus Unit: Mineral Power!** introduces students to essential nutrients that are easily overlooked. We only need minerals in small amounts, but minerals play a critical role in sustaining a healthy body. In:

- **Lesson 1 – *One Quiet Giant!*** students examine how essential minerals in general help sustain human health, then focus more deeply on the role of magnesium.
- **Lesson 2 – *Get Your Magnesium Here!*** students discuss how food, water and supplemental choices support the work of magnesium in the body.
- **Lesson *3 – Making a Difference!*** students examine the relationship between magnesium deficiency and heart disease as well as give attention to some activities that support the work of magnesium in the body.

The unit Includes:

- **Teacher Background Information**
- **Three lesson plans, worksheets and teacher guides designed for**
  - K – 3rd grade students or
  - 4th – 6th grade students
- **Enrichment activities for group or independent study in**
  - K – 3rd grade
  - 4th-6th grade
- **Appendix with additional worksheets and resources**
- **Aligns with the following:**
  - Common Core State Standards for English, Language Arts and Literacy/Social Studies, Science and Technical Subjects
  - Common Core State Standards for Mathematics
  - Center for Disease Control Health Education Standards and Performance Indicators
  - National Physical Education Standards & Grade Level Outcomes published by Shape America – Society of Health and Physical Educators.

In this document:

1. **Module 3: Mineral Power! Lesson Plan Summary *4-6th Grade* (pp. 3-4)**
2. **Lesson Plan for Lesson 1: *K-3rd Grade* (pp. 5 - 9)**
3. **Sample Activity from Lesson 3: *K-3rd Grade* (p 10)**
4. **Enrichment Activity from Lesson 2: *4th – 6th Grade* (p. 11)**
5. **Sample Activity from Lesson 2 : *4th–6th Grade* (p. 12 - 14)**
6. **Enrichment Activity Options: *4th – 6th Grade* (p.15)**
7. **Sample Rhyme: *4th – 6th Grade* (p.16)**
8. **Sample Quiz: *4th – 6th Grade* (p.17 - 18)**

Module 3 Bonus Unit: Mineral Power! Lesson Plan Summary – 4th – 6th Grade		
Lesson	**Objectives**	**Activities/Worksheets**
1 One Quiet Giant!	• Understand that minerals play a critical role in maintaining human health. • Understand the role of magnesium in the human body • Investigate sources of magnesium • Explain what a mineral is • Explain where minerals come from	*Mineral Power!* Worksheets *Magnesium Helps!* Worksheet *One Quiet Giant* Rhyme *Yours to Choose!* Handout *A Lot Goin' On!* Worksheet *Working Together!* Worksheet *Making Music Happen!* Worksheet *Mg Works for Me!* Worksheet *Get to Know Us Too!* Worksheet
2 Get Your Magnesium Here!	• Identify foods that can supply magnesium to the body • Discuss the mineral content of waters • Examine the role of nutritional supplements	*Not So Nuts!* Rhyme *Beans & Greens!* Worksheet *Make a Salad!* Worksheet *More and More!* Worksheets *Time for Cacao!* Worksheet *Check Out the Waters!* Worksheet *Scout the Store!* Worksheet *Spice It Up!* Worksheet *Bake a Potato!* Worksheet *Sleep Well!* Worksheet *Design a Poster!* Worksheet

Module 3: Bonus Unit: Mineral Power! Lesson Plan Summary – 4th – 6th Grade		
Unit	**Overview**	**Activities/Worksheets**
3 Making a Difference!	• Understand the role of magnesium deficiency as it relates to heart disease and high blood pressure • Identify some activities that help sustain magnesium levels in the human body • Be able to name and describe the role of additional macro-minerals • Be able to name and describe the role of some trace minerals • Know where and how to find information about minerals • Develop a workable plan for using minerals to support lifelong health	*Heart Works!* Handout *Circulation* Handout *Amazing Heart Facts* Handout *De-Stress!* Worksheet *Make a Plan!* Worksheet Take Notes! Worksheet
Appendix		*Mineral Power! Vocabulary* Worksheet & Key *Bonus Unit Quiz* & Key Letter to Parents Magnesium Images for display

Section 1

Teacher Notes

This section:

- Provides a template for designing the cover for students' ***My Mineral Workbook.*** Copy the template for each student.

- Provides guidelines for designing the cover. You u can provide a copy of the design ideas page for each student and/or discuss the possibilities aloud.

- Having coloring tools, scissors, glue, pictures of food to cut from magazines may be helpful now and throughout the unit.

- Introduces the topic of mineral nutrients.

- If possible, have a sample of soil available for students to see. You can refer to soil in a potted plant container. Or fill a clear jar or bag with soil. Sections 2 and 3 of the unit also refer to the soil sample.

Work Pages for Section 1	Page
My Minerals Workbook Cover Template	5
My Minerals Workbook Cover Page design suggestions	6
Meet the Ums! Rhyme	7
More about Minerals Work Page	8-9

My Mineral Workbook

Design Your Cover!

It's Time!

It's time to learn more about how minerals
can help keep you healthy!

It's time to create you own ***My Mineral Workbook!***
to help you remember what you learn.

Here are some suggestions:

1. Your teacher will give you a ***My Mineral Workbook*** title page. Start by coloring the words: My, Mineral, and Workbook. You can use one color for all three words. You can color each word a different color. You can color all the letters different colors or add designs inside the letters.

2. Write your name on the line.

3. Draw a picture of yourself in a blank space on the cover.

4. Draw pictures of family members, friends, pets – any one you care about. We all need minerals to stay healthy.

5. Draw pictures of yourself doing things you like to do.

6. Below are the official symbols for some of the minerals you will learn about. Color them. Cut them out and glue them onto your title page.

7. Use the blank side of the title page to create your own cover design.

Mg	Ca	K	Na

Great start! Now, whenever you finish a Work Page, keep it in your **My Mineral Workbook.**

Meet the …ums!

You can read the rhyme out loud together. You can clap as you read.
Or you can pretend your table or desk is a drum and tap the surface
every time you hear an "um" in the rhyme.

um…um…um…um…

OK!
Our names are not all easy to say
And we bet you did not know
That we are with you every day.

But you will want to get to know us
And all the good stuff that we do
To keep your body healthy
Strong and active too.

um…um…um…um…

So one by one we'll work with you
And share all that we know
About how to make the most of us
While you go and grow!

um…um…um…um…

We're *Mag-ne-si* – um!

Cal-ci-um!

Po-tas-si- um!

So-di-um!

Ummmmm!

More about minerals!

Do you remember some of the foods we talked about that are good for us to eat? In the list below, draw a circle around the foods that are good for us to eat. Draw a line to cross out any foods that are not so good for us to eat.

Beans	Lettuce	Potatoes	Avocados
Gumdrops	Broccoli	Apples	Bananas
Squash	Whole grains	Candy	Tomatoes

Talk about the food names through which you drew a line. They are not good for us to eat.

Talk about which food names you circled. One reason these foods are good for us because they contain minerals and other nutrients**.** Human beings need about *16* different minerals to function and grow.

We will talk a lot about minerals as you put your ***My Minerals Workbook*** together.

Question: Can you guess how the minerals get into the food?

Look around the classroom. Is there a jar or pot of soil in the room?

Look outside. Can you see some soil outside?

Can't see outside? Picture a playground or yard in which you like to play. Is there any soil in those spaces?

Key point: Minerals enter our food through soil.

The fruits and vegetables we eat grow in the soil.

Animals get their minerals from fruit and vegetables that grow in the soil too.

If we eat meat or fish or drink milk from animals,
the minerals they ate are passed on to us through those foods.

We don't need to take in a lot of any one mineral, but we do need to take in at least 100 milligrams or more each day of the *…ums.*

Draw some soil near the bottom of the page.

Now draw some things growing in the soil – a tree, some plants, some grass.

Now draw some foods growing on the plants that are growing in the soil.
You can draw fruit growing on the trees, beans and greens growing from the ground, potatoes growing under the ground, or any other healthy food that grows.

(You might also want to draw some animals eating the grass that grows in the soil.)

Sample Activity from Lesson 3 – K-3rd Grade

Hide & Seek!

Below is a list of some foods that I (Sodium) can hide in.
It isn't that I want to hide; it's that people want to put me there.

But there are things you can do to get rid of some of the extra me.
Here are some ideas that work!

Canned veggies , fruit, tuna	Rinse the food before eating it
Packaged fruit & veggies	Buy fresh or frozen options with no salt added
Instant foods	Make your own pasta, rice, sauces
Packaged turkey sandwich meat	Cook fresh meat instead
Bottled ketchup or sauces	Cut up fresh tomatoes
Nuts	Eat the unsalted varieties
Canned broths	Use a low-sodium variety
Ready to eat cereals	Eat oatmeal instead
Bagels	Choose whole grain bread
Potato salad	Have a baked potato

Question: Which one of these ideas will you try?

Try it. Tell or write about your experience in the space below.

Be sure to store all you Work Pages in your *My Mineral Workbook.*

Enrichment Activity from Lesson 1 Gr. 4 – 6

Mg: Works for Me!

The chart below names some benefits supplied by magnesium.
For each benefit listed, give one or more examples of how that helps you live your life.

Benefit	I need that to…
Helps build strong bones	
Helps muscles relax	
Helps manage my blood pressure	
Helps me sleep	
Helps my joints move easily	
Helps keep everything in my body in balance	

Beans & Greens!

Plant-based nutrition advises us to eat a variety of plant-based foods in their natural form or in as close to their natural form as possible. Those foods provide magnesium and other minerals. Use this handout for one week to record how many times you ate beans or greens that provide magnesium.

EAT!	Magnesium per serving	I ate this food on:
Black Beans	1 cup: 121 mg.	
Broccoli	1 cup: 18 mg.	
Chickpeas	1 cup: 78 mg.	
Kidney Beans	1 cup: 80 mg.	
Lentils	1 cup: 71 mg.	
Lima Beans	1 cup: 82 mg.	
Peas	½ cup: 31 mg.	
Pinto Beans	1 cup: 64 mg.	
Spinach	½ cup: 79 mg.	
Swiss chard	½ cup: 76 mg.	
White Beans	1 cup: 113 mg.	

Make a Salad!

Working with a partner, use two or more of the items listed on your ***Beans and Greens!*** **Worksheet** to design a main dish salad. Add more veggies, olive oil, vinegar, seasonings or whatever you would like to make your salad tasty. Write the ingredients below:

Based on information available, about how many milligrams of magnesium would you find in two cups of your salad?

After adding more ingredients, about how many milligrams would you find in two cups of your salad?

A. Check out the Waters!

Food sellers often carry bottled water, some of which are labeled as mineral waters. Visit a local store to see what brands of bottled waters they stock. Read labels to determine if magnesium is listed as well as to see what other essential minerals are listed. Record your findings on the ***Check Out the Waters!*** **Worksheet.**

B. Spice It Up!

You can even find magnesium in spices! Choose one or more of the activities suggested on the worksheet and write what you learn in the space below the activity name.

C. Scout the Store!

Visit a local store that sells vitamin and mineral supplements. Using the ***Scout the Store!*** Worksheet, list the names of five mineral supplements prepared for children, read the labels and, in the space next to the name of the supplement, write the names of the minerals included in the supplement. Do they contain magnesium?

D. Bake a Potato!

A medium-sized baked potato can supply around a lot of magnesium if you also eat the potato skin. Work with an adult to bake potatoes as part of a meal. Use seasonings other than salt to add flavor or try a plant-based topping such as mashed avocado for a flavor boost. (The ***More & More*** **Worksheets** may suggest other topping ideas.)

E. Sleep Well

Magnesium can help you get the nine to ten hours of sleep you need each night. Use the ***Sleep Well!*** **Worksheet** to plan a bedtime ritual for you to try. Write about the experience.

F. Design a Poster

Use the *Design a Poster Worksheet* to rough out a poster that helps people learn about magnesium. Focus exclusively on the role of magnesium in the body or incorporate what you are learning about other macro minerals. If you will be hosting a ***Nutrition Fair*** or display, consider including these posters among the exhibits.

Take Notes!

Jot down any steps you take from your plan. Make a note of what you did to support the work of magnesium in your body and when you did it.

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
With breakfast					
Before school starts					
During recess or morning break					
With lunch					
During recess or afternoon break					
After school					
With supper					
Evening					

Awww Nuts!

Just when I think we're done with all this stuff…
This stuff about nutrients and getting enough,
We start another unit! There's more stuff to learn
about healthy ways to keep our bodies making energy to burn.
This week it's minerals -- stuff that comes from rocks!
They've been around a million years.
Before lights, before cars, before socks!

We'll focus on magnesium so we won't take it for granted.
To be honest, I find myself slightly less than enchanted.
I'm ready to hear again 'bout greens, beans and fruit and
There's a lot of it, they say, in nuts and seeds to boot.

Wait! Magnesium's in dark chocolate?
I didn't know that before.
This stuff is getting interesting
Hey, why not? I'll learn more!

Take a Quiz!

1. The body requires more than 100 milligrams of certain_____ each day.

2. Minerals can help us maintain a healthy _____ and prevent_____.

3. Name three or more essential macro minerals: _____

_____ _____

4. The mineral that helps activate energy in the heart is _____.

5. Draw lines to match the following items:

Magnesium	Avocados and bananas
Calcium	A mineral we need but don't want too much of
Good sources of potassium	Builds strong bones and teeth
Sodium	Cofactor that helps carry out many body processes
Phosphorous	Helps keep arteries clear
Sulfur	Helps with cell growth

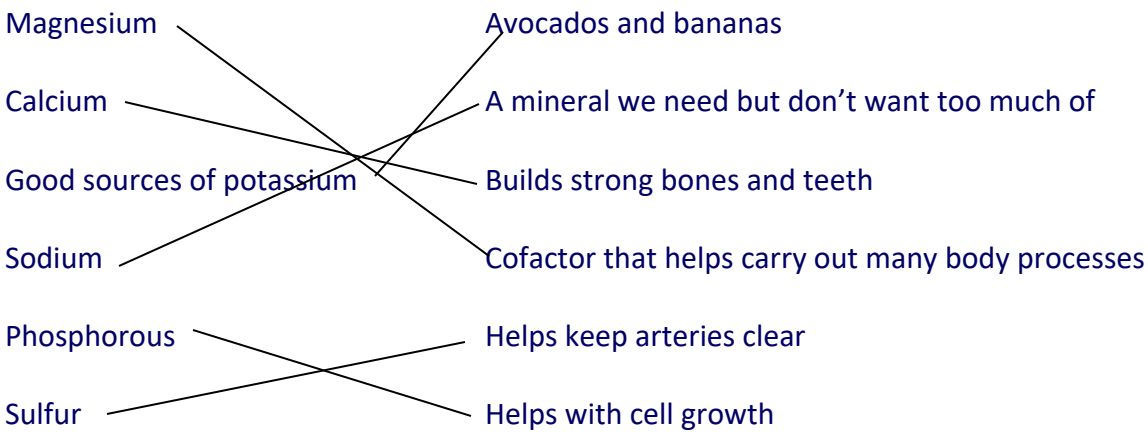
Take a Quiz!

Teacher Guide

1. The body requires more than 100 milligrams of certain macro minerals each day.

2. Minerals can help us maintain a healthy blood pressure and prevent heart disease.

3. Name three or more essential macro minerals: magnesium, calcium, potassium, phosphorous, sodium, sulfur.

4. The mineral that helps activate energy in the heart is magnesium.

5. Draw lines to match the following items: