

GROW YOUR PALS PROGRAM GUIDE



THE NATIONAL FFA MENTORING PROGRAM

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LESSON 3.11

Healthy Lifestyles Mobile

Unit:
EXERCISE

PRECEPTS

G – Physical Growth

G4. Set goals for long-term health



Lesson Type:
Large Group

NATIONAL STANDARDS

CS.02.01.03.c. Evaluate personal lifestyle as related to long-term health.

NL-ENG.K-12.12 – Applying Language Skills

NM-NUM.6-8.1 – Understand Numbers, Ways of Representing Numbers, Relationships Among Numbers and Number Systems

NS.5-8.6 – Science in Personal and Social Perspectives

STUDENT LEARNING OBJECTIVES

As a result of this lesson, the student will ...

- Describe how the number of hours of *sleep* you get affects how you feel the following day.
- Determine exercises that help strengthen your bones.





TIME

Instruction time for this lesson: **50 minutes.**

Also, after a week, a follow-up meeting of approximately 15 minutes should be held to discuss the results of the *sleep* diary information with your PALS.



RESOURCES

Bone Stress. Retrieved February 21, 2010. From Exploratorium website.
http://exploratorium.edu/snacks/bone_stress/



TOOLS, EQUIPMENT AND SUPPLIES

- ✓ Box of dry spaghetti, long type
- ✓ White poster board – one per student
- ✓ Assorted construction paper – one per student
- ✓ Markers or crayons – several per student
- ✓ Scissors – one per student
- ✓ Rulers – one per student
- ✓ Gold stars - seven per student
- ✓ PALS3.11.LG.TM.A
- ✓ PALS3.11.LG.TM.B
- ✓ Overhead projector and screen
- ✓ Two polarizing filters (*or two lenses from an old pair of polarized sunglasses*)
- ✓ Transparent plastic picnic fork
- ✓ Wire clothes hangers – one per student
- ✓ Colored yarn
- ✓ Seven different colors of poster board or card stock including red or pink
- ✓ Paper punch
- ✓ PALS3.11.LG.ASSESS.A – one per student

KEY TERMS



The following terms are presented in this lesson and appear in *bold italics*:

Sleep

Weight-bearing exercise



CONTENT OUTLINE

Objective 1. | Describe how the number of hours of *sleep* you get affects how you feel the following day.

- I. *Sleep* Diary
 - A. Energy Meter
 - B. *Sleep* Meter

Objective 2. | Determine exercises that help strengthen your bones.

- I. Bone stress simulation

Before class you will need to set up your overhead projector so that when you turn it on, the light shines on the screen. Practice placing one of the filters from this lesson's second activity on the stage of the overhead projector. If the second piece of polarizer is large enough to cover most of the lens on the arm of the projector, then tape it there. If you are using the lens from a pair of sunglasses, then devise a stand to hold the lens a few inches above the stage of the projector, right over the first filter. You will use this in the bone stress activity.

INTEREST APPROACH

*While **sleep** may not be an exercise, it is very important for your PALS health. By helping your PALS understand the importance of **sleep**, you are helping your PALS establish a healthy routine for years to come. Along those same lines, you will also be helping your PALS to understand that **weight-bearing exercise** can strengthen their bones and should be included, along with sufficient **sleep**, as part of their goals for long-term health.*

At the beginning of the lesson, you will need a box of long, dry spaghetti noodles. Pull out some spaghetti and hold it up in front of the class as you ask.



Show of hands, who has eaten spaghetti or another type of pasta?

Observe for who has eaten spaghetti or pasta.



Excellent! Many of us have eaten pasta. Have you ever noticed that our stomach feels full after eating it?

Pause for a few seconds while students think. Some may respond.



This is because pasta is full of carbohydrates that might make us sleepy. Now, show of hands, who has ever fallen asleep in class before?

Observe for hands and then continue.



Some of us have fallen asleep in class. It happens sometimes. Perhaps it is because we don't get enough **sleep** at night. Now, think about this question: What is the worst thing that could happen if we didn't get enough **sleep** at night?

Pause for a few seconds while students think.



Imagine this scene. You do not get enough **sleep** one night and are walking to class...there are steps that you must go up. As you walk up the steps, you yawn and shut your eyes. Then, you lose your balance and start to fall down! You automatically put your hand out to break the fall and as soon as you do, the weight of your body comes crashing down onto your arm!

At this point, hold up the spaghetti in both hands and snap it really quickly and unexpectedly!



You hear a snap, feel a sharp pain and you break the bone in your arm...all because you did not get enough **sleep** at night...a very scary thought! Today, we will be talking about these two topics, **sleep** and bones. Be very attentive as we learn why **sleep** is very important, but equally important, we will also learn about how we can protect our bones and even make them stronger!

SUMMARY OF CONTENT AND TEACHING STRATEGIES

OBJECTIVE 1. Describe how the number of hours of **sleep** you get affects how you feel the following day.



I. **Sleep** Diary

*Be sure the poster board, rulers, scissors and construction paper are distributed to the students before class. The students will be using the poster board and ruler to create a "**Sleep** Diary," which will consist of seven bar graphs to measure the length of time slept each weeknight (**Sleep** Meter) and seven bar graphs to measure the amount of energy they experienced the next day (Energy Meter). Each of the meters should be labeled for the days of the week (e.g. there should be a Monday **sleep** meter and a Monday energy meter right next to it on the poster). See PALS3.11.LG.TM.A.*



We have all heard the advice, “You need to get a good night’s **sleep**.” To begin our own discovery of how **sleep** affects us, we need to know how much **sleep** we get each night and be able to record the hours slept along with a record of how we felt after getting that many hours of **sleep**. We will accomplish this by making a **sleep** diary. When I say GRAPH, we will have two minutes to use the poster board and rulers to make our **sleep** diaries similar to the one being displayed for you.

Display PALS3.11.LG.TM.A.



Notice we are creating a bar graph for hours slept and a bar graph for daily energy for each day of the week. What questions do you have?

GRAPH

Allow students time to create their graphs. Circulate throughout the room to offer assistance and encouragement.



Great job on those graphs!

Display PALS3.11.LG.TM.B.

A. Energy Meter



Now, when I say ENERGY, we will have one minute to use evenly spaced horizontal lines to label each “Energy Meter” with a scale of 1–10. Remember, one is lowest so it should be put at nearly the bottom. What questions do you have?

ENERGY

Allow the students enough time to label their Energy Meter part of the graph.

B. Sleep Meter



Excellent! Now, when I say **SLEEP**, you will have one minute to use a scale from 1-12 hours and label the “**Sleep** Meters.” What questions do you have?

SLEEP

Allow students time to label the Sleep Meter part of their graph.



These are some good looking **sleep** diaries, but now we have to make the markers that will indicate our **sleep** record. When I say “Z,” we will have three minutes to use the construction paper on our tables to cut out seven large letter “Zs.” What questions do you have?

Z

Allow your PALS to cut out seven large letter “Zs” using the construction paper. Note: closely supervise your PALS as they work with the scissors. Make sure they use them safely.



Those are some impressive “Zs,” and I bet we already know what we are going to do with them! Every morning for the next week, we will get up, count how many hours of **sleep** we got and place our “Z” on the number of hours of **sleep** we got.

*Model this for the students by placing a “Z” into one of the **Sleep** Meters on the displayed PALS3.11.LG.TM.B.*



Then, each evening, we will place a gold star sticker on our Energy Meter. This measurement should reflect how much energy we felt for the day. What questions are there?

Model this for the students by placing a gold star sticker into one of the Energy Meters on the displayed PALS3.11.LG.TM.B.



We will keep our **sleep** diary records for one week, and then we will get back together and discuss how the amount of **sleep** we got affected how we felt.



*At the end of the week, have all of the students bring in their charts and discuss any correlations that they observed. Hopefully some will volunteer that when they did not get enough **sleep**, they did not have a lot of energy the next day. You should guide them to understand that in order to be healthy and have plenty of energy that they need eight hours of **sleep** most nights.*



Now, let’s pause and put away our **sleep** diaries.

OBJECTIVE 2. | Determine exercises that help strengthen your bones.



*Allow them time to safely store their **sleep** diaries. In this next activity, when certain plastics are placed between two pieces of polarizing material, their stress patterns become dramatically visible in a brightly colored display. A stressed plastic object can be used to illustrate stresses found in bones.*



Just as our **sleep** diaries are going to help us as we learn about goals we need to set for ourselves to have life-long healthy **sleep** habits, we will continue our lesson today and learn about another decision we need to make so that we can take care of and promote healthy bones. This is a demonstration of how squeezing a plastic fork shows stress areas very similar to when we stress our bones.

I. Bone stress simulation

- 1) *Turn on the overhead projector and shine it against the screen.*
- 2) *Place one filter on the projector bed.*
- 3) *Tape the other filter over the projector's arm, where the image is projected onto the screen. If using the lenses from polarized sunglasses, devise a stand to hold the lens a few inches above the projector bed.*
- 4) *Hold the fork over the projector bed and slowly squeeze the tines of the fork together.*
- 5) *Notice the colored stress pattern in the image of the plastic that is projected on the screen. Try rotating one of the polarizing filters. Some orientations will give more dramatic color effects than others.*



What are the areas of stress that appear on the screen?

Allow student volunteers to answer.



What are some ways our bones are exposed to stress?

Allow students to answer and guide to the fact that bones are stressed by many of life's activities, but where the bones are stressed is actually where the bone becomes the strongest!



So if we want to strengthen our bones, we do ***weight-bearing exercise*** because that is the type of exercise that builds muscle and bone strength. Whether you add weights to your current exercise routine or even get your exercise by playing basketball, baseball or soccer, you will be doing your bones a favor and helping to make them stronger. What is your favorite weight-bearing type exercise?



Allow students to respond.



REVIEW / SUMMARY



Wow, today we learned how ***sleep*** can help us to be healthy and have energy. We also learned that our bones experience stress and that can make them stronger if we add ***weight-bearing exercise*** to our daily lives! Let's take everything we have learned and have some fun making "Healthy Lifestyles Mobiles."

Your PALS will be completing a healthy lifestyle mobile. Have all of the materials ready to distribute and organized before class. Each student will need a hanger, some red or pink poster board or card stock to make their heart shape on, yarn to hang with and other colors of poster board or card stock for the other shapes.



When I say HEART, cut out a heart shape from the pink or red poster board and write your name on it with a marker. What questions do you have?

HEART

Allow the students' time to make their heart.



Great job! Now, when I say HANG, punch a hole in the heart and use a piece of yarn to hang the heart from the center of the top of the hanger. What questions do you have?

HANG

Allow the students' time to punch and hang heart.



Great job on those hearts! Now, when I say RECTANGLE, cut out a rectangle that will hang from the bottom wire of the hanger. We will write “My Healthy Lifestyle” on the rectangle, punch a hole and use a piece of yarn again. What questions do you have?

RECTANGLE

Allow students to create the hanger title and connect it to their mobile with a piece of yarn.



Hey, these mobiles are starting to come together! Now to add our ***sleep*** and ***weight-bearing exercise*** options! When I say SHAPES, we will cut out shapes, write ***sleep*** on one and ***weight-bearing exercise*** on the other and hang them on our mobile with yarn. What question do you have?

SHAPES

Let students complete this step of their mobile construction.



Great job on our healthy lifestyles mobiles! There are many other positive lifestyle goals we can have to add to our mobile, such as cardiovascular exercise and eating a healthy diet. We will use the remaining time we have today to add to our mobiles. Don’t forget to take them home and hang them where they will remind you to follow a healthy lifestyle.

APPLICATION



One-on-One Idea

Use a computer and research fitness plans with your PALS, or read about a sports or Olympic hero and discuss the lifestyle they have led to be successful.

Continued Discussion

*After a week, a follow-up meeting of approximately 15 minutes should be held to discuss the results of the ***sleep*** diary information with your PALS.*

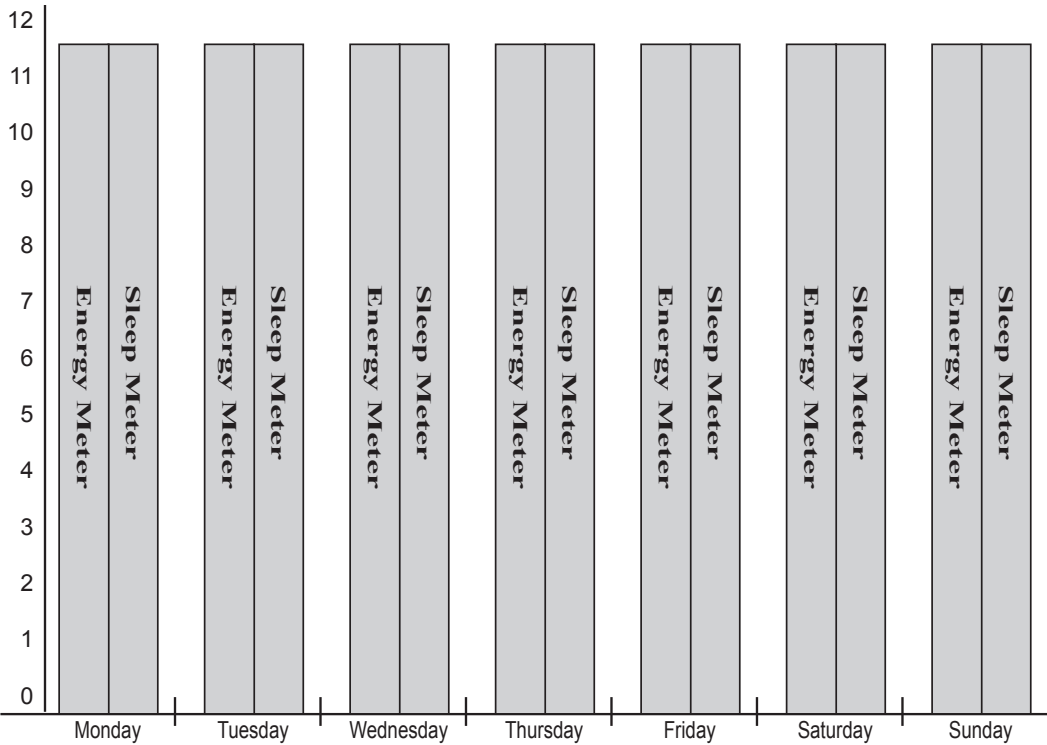


EVALUATION

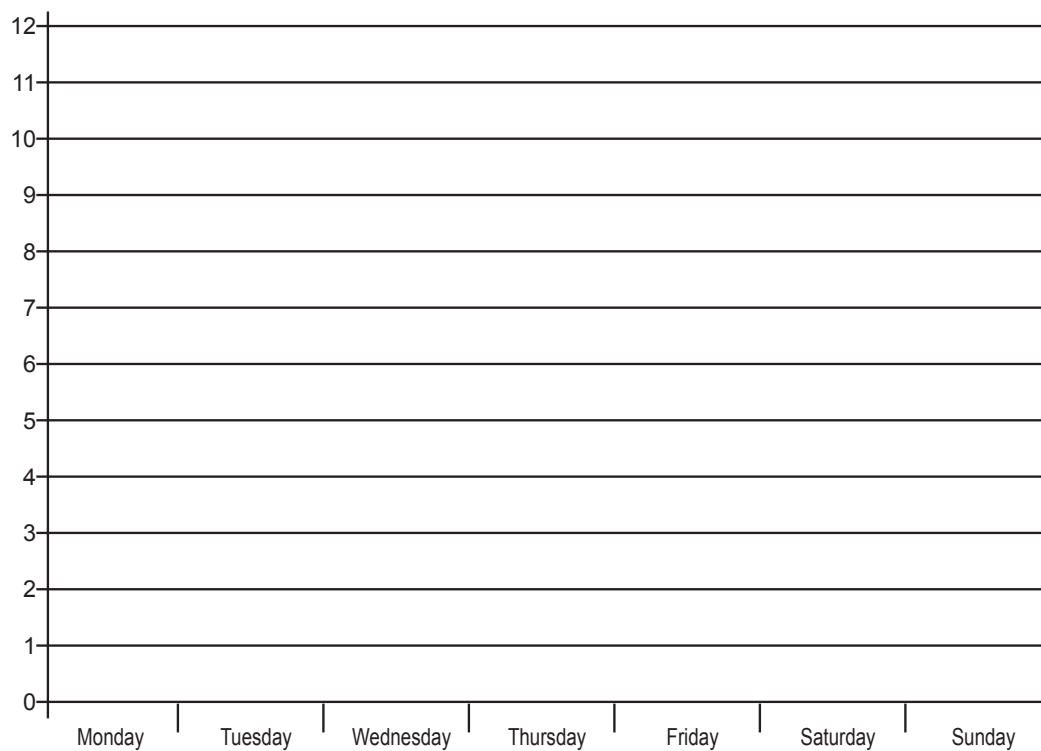
ANSWERS TO EVALUATION:

1. True
2. False
3. Sleep and weight-bearing exercise

PALS3.11.LG.TM.A



PALS3.11.LG.TM.B



PALS3.11.LG.ASSESS.A

Name _____

Directions: Answer true or false to the following questions:

1. _____ We need sleep to stay healthy and give us energy.
2. _____ Stressing our bones through weight-bearing exercise weakens them.
3. List two necessary parts of a healthy lifestyle that we learned about for our mobile.
