

PURPOSE

To expand students' knowledge of hormones and their relation to the brain, and the important role of nutrition, exercise and sleep in supporting a healthy body.

LEARNING OBJECTIVES

By the end of the lesson students will be able to:

1. Understand that things that affect your brain affect your physical and emotional health.
2. Understand the importance of nutrition, exercise and sleep on the brain, the body and hormones.
3. Learn important hygiene habits.

MATERIALS & RESOURCES

- Lesson 6 teenFEMM powerpoint
- **Worksheet: Charting** (preparation needed)
- **Healthy Habits Restaurant Menu** (preparation needed)
- **Worksheet: Healthy Choices** (preparation needed)

VOCABULARY

- **Hormones:** Chemical signals that travel in the bloodstream, directing the activity of every system in the body.
- **Exercise:** Physical activity to improve health and fitness.
- **Nutrition:** Foods that nourish the body, necessary for health and growth:
 - **Proteins:** build and maintain cells, help make hormones.
 - **Carbohydrates & fats:** provide energy, balance hormones.
 - **Vitamins & minerals:** build and maintain cells, balance hormones.
 - **Water:** carries nutrients, energizes muscle, clears waste.
- **Habit:** Something you do so often that it becomes natural to you.
- **Hygiene:** Habits that help keep you clean and healthy.

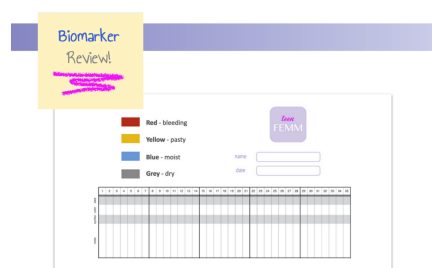
PREPARATION

- Print the **Charting Worksheet** and cut along the dotted line to provide one chart per student. Students will need pencil crayons in colors: gray, red, yellow, blue.
- Print the **Healthy Habits Restaurant Menu(s)**.
- Print the **Healthy Choices Worksheet** for each student.

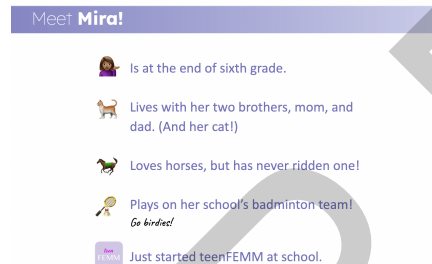
PROCEDURE

Step 1 (5 minutes): Biomarker Review + Charting Worksheet

Hand out a **Charting Worksheet** to each student.



Let's meet Mira!



- Is at the end of sixth grade
- Lives with her two brothers, mom, and dad. (And her cat!)
- Loves horses, but has never ridden one!
- Plays on her school's badminton team.
- Just started teenFEMM at school.

Use the biomarker key on your **Charting Worksheet**, to help Mira fill in her chart as we go over her observations.

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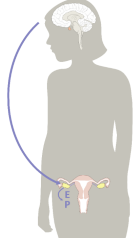
Help Mira chart

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course. Can you solve the sentences?

_____ & your growth



1. **HORMONES** cause all the growing & changing that your body does during puberty.
2. Your **BRAIN** sends hormonal signals throughout your body to trigger growth & development.

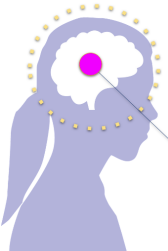
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Click on the slide to reveal letter by letter, as students guess the answer to fill in the blanks.

1. _____ cause all of the growing and changing that your body does during puberty.
HORMONES

2. Your _____ sends hormonal signals throughout your body to trigger growth and development. **BRAIN**

What influences the brain?




Because the **brain** is the organizing center for all this activity...

Things that affect your brain affect your physical & emotional health.

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Because the brain is the organizing center for all this activity, **things that affect your brain will also affect your physical and emotional health.** Can you think of 3 things that have a BIG impact on your physical and emotional health? *Click on the following slide to reveal each answer.*

What influences the brain?



3 things that have a BIG impact on your physical & emotional health?

- Nutrition
- Exercise
- Sleep

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Eating lots of healthy foods, moving your body, and getting eight to ten hours of sleep each night are so important that they are actually called the **three pillars of health**.

Step 3 (15 minutes): Nutrition + Healthy Habits Restaurant Menu Activity

The first pillar of health is nutrition. Nutrition is the nourishment that your body gets from the food you eat.



Good nutrition supports your brain and your body. The different types of nutrients we need to get from food are:

- **Proteins:** build and maintain cells, help make hormones.
- **Carbohydrates & fats:** provide energy, balance hormones.
- **Vitamins & minerals:** build and maintain cells, balance hormones.
- **Water:** carries nutrients, energizes muscle, clears waste & balances hormones.

When we eat, our body breaks down the food and uses the different nutrients in that food to support our health.



There are lots of foods that fit into each of the different categories, but here are a few examples:

- **Proteins:** nuts, eggs, beans, fish, meat
- **Carbohydrates:** whole wheat bread, pasta, rice, quinoa

- **Fats:** nuts, olive oil, butter, milk, cheese, yogurt (nuts and dairy products contain a lot of healthy fats our body needs.)

- **Vitamins & minerals:** fruits and vegetables!

Think of this like eating the colors of the rainbow:

Yellow: lemons, melons, yellow squash

Orange: oranges, butternut squash, sweet potatoes, carrots

Red: apples, strawberries, beets, tomatoes

Blue/Purple: blueberries, grapes, eggplant, plums

Green: Lettuce, Spinach, zucchini, green peppers

And water! Just water - not sugary drinks, gatorade, etc.

Every meal you eat should contain all of the different types of nutrients. There are so many foods that aren't listed here, so food combinations are endless!



Divide students into three groups. Handout one of the **Healthy Habits Restaurant Menus** to each group (ex: group 1: breakfast, group 2: lunch, group 3: dinner).

Healthy Habits Restaurant has asked for your help with their breakfast, lunch and dinner menu. As you can see from their sample breakfast menu on the slide, you are to:

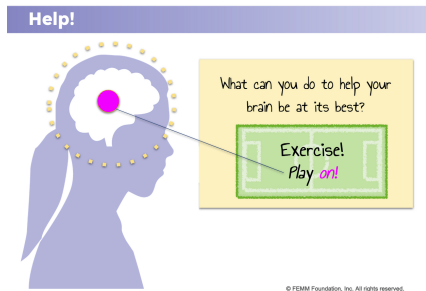
1. Come up with a nutritious meal that contains: protein, carbohydrates, vitamins and minerals and good fats.
2. Write a description of the meal. Describe it in the most delicious way possible!
3. List the parts of the meal in the different nutrient categories, so that customers know what nutrients they're getting from the meal.
4. Present your menu to the class. Groups can choose to present their menu acting

as the restaurant owner, chef, waiter, etc.

Give groups a couple of minutes to work on their menu. You may want to display the previous slide containing food examples, to provide ideas. Then, invite groups to present.

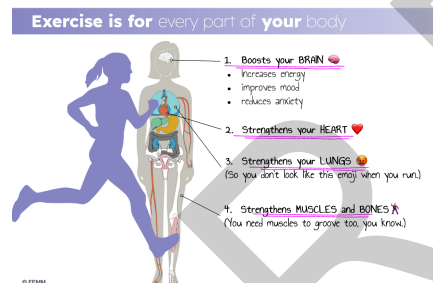
Step 4 (10 minutes): Exercise and Sleep + Health Checklist

The second pillar of health is exercise.

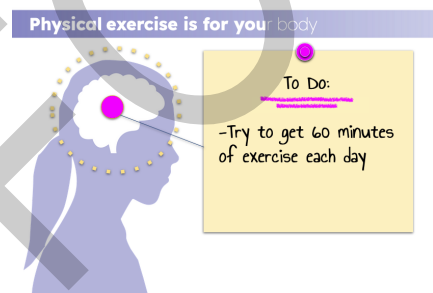


You may think exercise is for your muscles or your lungs. It is. But it's so much more!

Did you know that exercise also increases your energy, improves your mood, and reduces anxiety? How? Exercise releases endorphins, dopamine, and adrenaline. These are names of **hormones** that make you feel happier, more confident, and less stressed!



Exercise is for your brain, mood, energy, heart, lungs, muscles, bones, HORMONES... and too many more things to list!

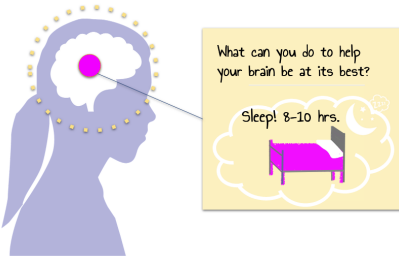


Exercise is about moving your body. Exercising is for EVERY body and it can be as simple

as taking a walk outside, playing tag with a group of friends, going for a bike ride, enjoying a dance class, playing on a sports team, etc.

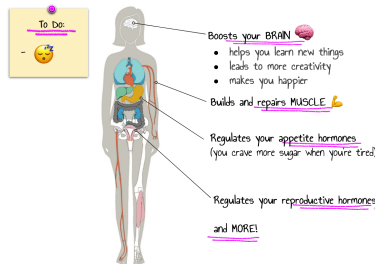
The third pillar of health is sleep. Maybe **sleep** doesn't sound very interesting to you; maybe you try to stay up as late as possible....

Help!



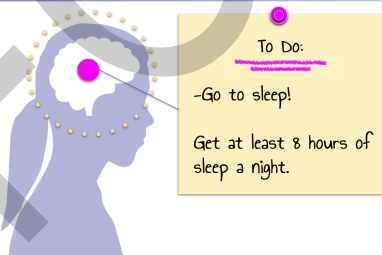
Do you know how much *happens* for your brain and your body when you sleep?!

Sleep is for every part of your body



Your body does most of its growth during sleep. Most of your reproductive hormones are produced while you sleep. Your brain even does a kind of “house cleaning” during sleep, clearing out toxins and improving your memory and creativity. Your body needs 8-10 hours of sleep each night. Making the choice to go to bed on time is one of the most important things you can do for your brain, your health, AND your mood. Getting 8-10 hours of sleep each night makes you happier. Putting your phone away and out of reach one hour before bedtime is a good habit to help you sleep more and scroll less!

Sleep is for every part of your body



Hand out the **Health Checklist** to each student.

Health checklist challenge!

This week, we're going to do the five-day **Health Checklist** challenge. The purpose of the checklist is to pay attention to our daily habits for five days. Does getting 8-10 hours of sleep improve your mood the next day? Does eating healthy food impact your energy? Check it out. Make any notes on the back.

CONCLUSION

Review

- Hormones are directed by our brain.
- Our brain is affected by the foods we eat, the exercise we do, and the sleep we get.
- We can help our hormones be at their best by practicing the 3 Pillars of Health!
- Nutrition, exercise, and sleep are key to giving us a good foundation for our health!

In this lesson, we reviewed what biomarkers will look like when we eventually start charting. We'll learn more about this next year! We also learned how important it is to make healthy food, exercise and sleep choices, because these choices have a really big impact on our brain and hormones. We'll learn more in the next lesson!

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