

LESSON TWO: OPTIMIZING YOUR BRAIN

FOCUS:

It is important that individuals be aware and careful of how they treat their brain. Major contributors to maintaining an optimal brain are: diet, exercise, rest and practicing safety habits. A deficiency in any of those areas may result in deterioration of the brain's function.

OBJECTIVES:

Students will:

- ▶ examine their daily behaviors and identify ways in which they can better maximize the use of their brain.
- ▶ will recognize the importance of protecting their brain through the construction of a device to protect the brain.

ACTIVITY 2A: FUNCTIONAL BRAIN LOG

Over the course of three days have students keep a log of what they eat, how many hours of sleep they get, and what activities they engage in for each day. At the end of the three-day period, students will record their results onto a chart. (See Functional Brain Log). After logging their results onto the chart, students will compare their data with that found on an information sheet presenting basic tips for maintaining optimal brain function (See Better Brain Log). Comparing the data will allow students to see that what they eat, how much they rest, and how much they exercise has a direct impact on how well their brain functions during the day. Students will answer the questions found at the bottom of their Functional Brain Log sheet and tally their scores for an indication of how they are or are not contributing to the well-being of their brain.

ACTIVITY 2B: DON'T BE AN EGG HEAD!

Students will design a container that provides an egg (*brain*) with maximum protection. Before beginning this activity, have students gently shake a raw (*uncracked*) egg. They will feel the inside of the egg slosh against the shell. Explain that the inside of the egg represents the human brain and the shell represents the skull. When the brain receives a blow or is severely shaken, it hits against the skull resulting in a concussion. Although the human brain is protected by the skull, it is wise to wear a helmet when engaging in any activity that can lead to head injuries—bicycling, boxing, football, skateboarding, and rollerblading to name a few. Because many of the head injuries that occur can be prevented, this activity will benefit many aspects of our lives. Taking measures to prevent injury to the brain may also reduce the risk of future dementias associated with aging.

2A. FUNCTIONAL BRAIN LOG — HABITS

Now that you have logged your diet, exercise, and sleep, record your responses to each statement using the following scores:

- 4 - Yes, always or usually
- 3 - Often
- 2 - Sometimes, maybe
- 1 - Occasionally, rarely
- 0 - Never, never or hardly ever

Diet

- 1. I pay attention to the quality or quantity of foods I eat. _____
- 2. I think my diet is well balanced and wholesome. _____
- 3. I drink fewer than 2 alcoholic drinks per week. _____
- 4. I drink fewer than 5 soft drinks per week. _____
- 5. I eat at least two raw fruits or vegetables each day. _____
- 6. I add little or no salt to my food. _____

Exercise

- 7. I climb stairs rather than ride elevators. _____
- 8. I enjoy dancing and/or moving my body in rhythm with music. _____
- 9. My daily activities include jogging or swimming. _____
- 10. I do aerobic exercise for 30 minutes, three times a week. _____

Sleep

- 11. I get adequate sleep and awake refreshed. _____
- 12. I sleep between 7–9 hours a night. _____
- 13. I am rested and refreshed when I awaken each day. _____
- 14. I allow myself time to unwind before going to bed. _____

Safety Habits

- 15. I wear a seat belt when I ride in a vehicle. _____
- 16. I wear shoes with laces and keep them firmly tied. _____
- 17. I wear a helmet when riding my bicycle, skateboarding or other such activities. _____
- 18. I often ride with drivers who obey traffic laws and speed limits. _____
- 19. I wear a helmet when I rollerblade or skateboard. _____

2A. FUNCTIONAL BRAIN LOG — SCORING YOUR HABITS

Students should tally their scores for each section. The following point scale will give the students an indication of how well they maintain their brain's optimal functioning capacity and the area(s) in which they need to improve.

76-61 points

You are putting forth a great effort to supply your brain with the opportunity to function at a high level for a long time. Keep up the good work—your brain will thank you for it!

60-41 points

You're doing a good job of making your brain work for you. Continue to work toward your future by maintaining high, realistic goals and a positive attitude.

40-21 points

You are approaching the danger zone. If you continue with your current routine you won't be doing yourself any favors in the long run. All is not lost yet—you can improve the quality of your life in the future. Review the tips on the Better Brain Log sheet.

20-0 points

A score that falls within this range indicates that you aren't doing a very good job of using your brain. It is time to think of ways in which you can immediately begin optimizing your brainpower! Work first on those areas where you are likely to be successful—tackle the tougher sections later. Good luck!

BETTER BRAIN LOG

Our brains play an active role in our every day functioning. All of the activities that our bodies engage in during the day are made possible by the brain. Whether or not the activities are completed satisfactorily is influenced by our diet and the amount of rest that we give our bodies. Our bodies and minds work together to make sure we function at our highest levels. Remember that we only have one brain; we must do all that we can to protect and maintain its optimal functioning capacity. Incorporating the following tips into our daily lives will start us on our way to developing a healthy brain.

1. Set a daily “rising and falling” course for your body—get up and go to sleep at the same time.
2. Get a set amount of sleep (at least 9 hours) daily.
3. Work that body! Aid your heart in keeping your brain healthy by walking, jogging—anything to keep you physically fit. Exercise will improve your mood and the quality of your rest at night!
4. Just like your body, your brain needs exercise! Give it a workout by making something, doing a puzzle, or solving a problem.
5. Include in your diet foods high in complex carbohydrates (rice, bread, potatoes, pasta). These foods provide glucose which provides energy needed for the brain to function.
6. Eat breakfast! This very important meal gets your brain ready for the day. (You’ll also do better in school!)
7. Be careful of your caffeine intake. Caffeine will cause your brain and body to fight with one another—your body will feel tired when bedtime nears, but the brain will tell you that it’s time to get up! You’ll feel really tired when the caffeine wears off, but it’s nothing that a good night’s sleep won’t cure.
8. Stay away from drugs and alcohol! These are enemies because they kill brain cells and destroy memory! Unlike caffeine, it will take much more than a night of sleep to get over the effects of drugs and alcohol!
9. Protect your skull and brain when playing potentially dangerous sports (*boxing, football, hockey*) or riding a bicycle (*skateboarding, rollerblading*) by wearing a helmet!

**ACTIVITY 2B — EGGHEAD ACTIVITY —
THE STUDENT WILL DESIGN A PROTECTIVE COVERING
STRONG ENOUGH TO KEEP AN EGG FROM BREAKING**

Sketch a design for a protective covering for your egg. Remember that it must be durable enough to withstand a six-foot drop with no damage to the egg!



Materials: List the materials you will need to construct your protective covering for an egg and test it.
