Name: _____ Date: _____


# GOBBLE GOBBLE ZZZZzzzz

For years now, many people have claimed that after eating your Thanksgiving meal, the sleepy feeling that overcomes you isn't just in your head; ; many folks claim that it is related to a chemical in turkey called *tryptophan.*

Tryptophan is an amino acid Amino acids are the building blocks of proteins and are required for life. Tryptophan is an "essential" amino acid because the body cannot make it. Instead, you have to eat foods that contain tryptophan to get enough. You can also find tryptophan in oats, bananas, milk, eggs, peanuts and sunflower seeds. It is almost sure to be found in all common livestock and poultry.


Besides making thousands of proteins, the body uses tryptophan to make serotonin, a key brain transmitter. Serotonin plays a role in the regulation of mood. Tryptophan's sedative effects could be related to its role in the synthesis of serotonin. Serotonin also plays a small role in promoting sleep. Tryptophan is also necessary for making a form of vitamin B called niacin, which is important for the function of skin, nerves and the digestive tract.

1. What is tryptophan? _____.

2. Why is tryptophan "essential"? _____

3. Which foods contain tryptophan? _____
_____.

4. What is one theory as to why you get so tired after eating your Thanksgiving meal?
_____
_____.

5. Name two things that the body uses tryptophan for.
_____
_____.

6. What is one possible explanation as to why tryptophan makes you sleepy?
_____.

*Tryptophan supplements can be taken for insomnia (trouble sleeping). These supplements usually come in doses that range from 500 milligrams to 3,000 milligrams daily. However, a 3 ounce serving of turkey contains about 200 mg of tryptophan — about the same as chicken or beef contains and significantly less than peanuts or cheddar cheese contain.*

*Additionally, your body strictly regulates the synthesis of serotonin, so ingesting extra tryptophan will probably not cause increased serotonin levels in the brain (recall that the sleepiness tryptophan may cause might linked to serotonin synthesis).*

*Another thing to think about is the Thanksgiving meal as a whole. How much people eat (not just of turkey, but the other dishes, as well), and what time of day they eat. When digesting food, blood flow increases to the small intestines to absorb nutrients. This may mean a temporary decrease of blood flow to other parts of the body, including the muscles and brain.*

**Review the chart below. Graph the data by creating a bar graph. Be sure to clearly label your axes.**

| Tryptophan mg per 3 oz serving | |
|---|---|
| Turkey | 190 |
| Chicken | 160 |
| Beef | 180 |
| Peanuts | 210 |
| Cheddar Cheese | 220 |
| Banana | 20 |
| Oats | 60 |

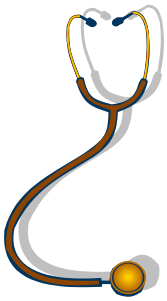
*Tryptophan Levels among Different Foods*

# ANALYSIS & CONCLUSION

1. According to the data, which food would make you the sleepiest?

2. According to the data, which food would hypothetically make you the least sleepy?

3. Do you think that the tryptophan in turkey is primarily responsible for making you sleepy after your Thanksgiving meals? Why or why not? (Does not necessarily need to be a yes or no answer!)



THE Doctors

You are a recent Harvard Medical Grad who is specializing in nutrition. You have finally received your big break- a guest seat on the hit television show "The Doctors". You are there for their Thanksgiving Special all about the nutrition behind the holiday. The big questions they want to know are: Does turkey make you sleepy? Why or why not? Are there other factors that could contribute to the post-Thanksgiving-meal-coma? ***Use all you know to give them a solid, scientific answer!***

Your Answer: _____

_____

_____

_____

_____

_____

_____

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