



## FIGHTING OUR EVOLUTIONARY HISTORY

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### **Introduction**

This lesson plan introduces students to the conflicts of modern humans with our genetic evolutionary history. The very means that enabled us to survive and flourish as *Homo sapiens* are now harming us: a desire for foods rich in carbohydrates and fats; better nutrition through cooked foods; efficiency in storing this energy; and agriculture. Today, the ease and readiness of obtaining nutrients, combined with our increasingly sedentary lifestyle brought on by technology (including television and computers) are bringing forth diseases that our ancestors as little as 100 years ago did not face. As an American society, we have not placed enough time and financial effort into prevention of such diseases. In fact, advertising, the food industry and government spending contribute to their onslaught.

With this lesson plan, students will examine their own eating and exercise habits; consider social and public policy aspects of this conflict; and ultimately suggest practical means of prevention and remedy.

The lesson plan itself incorporates a multi-media approach to background information (PowerPoint, articles, video). It combines hands-on work of data analysis and creation of a food pyramid and exercise regime, along with writing recommendations for social and public policy changes.

### **Target Audience**

Honors Biology, Anatomy and Physiology

### **Time**

5 class periods

### **Plan and Activities**

#### *Survey and Survey Analysis*

The self-survey: gets students thinking about their own diet and exercise habits

The Analysis: students analyze their own behaviors, the behaviors of the class(es) and compare them to each other and the national averages

#### *Fast-Food Restaurant Quiz*

A fun, but telling, quiz about the effects and inundation of advertising fast-food

#### *Article Reading and Questions*

Provides the necessary genetic and evolutionary history of *Homo sapiens*, along with the social, technological and political influences on modern humans

#### *Video Clip, "Exercise in a Pill" and questions*

Introduces students to some of the medical means of prevention/remedy of modern living and the importance of exercise

### *Project/Product*

Culminates with the production of a new food pyramid based on our ancestral eating habits but influenced by modern society and an exercise regimen

Makes written recommendations to enact these changes in behavior by addressing changes in social and public policies

### **Recommended order of activities**

#### Day 1

- Start with the survey. This can be given for homework the night before. Data can be input directly by students if a computer is readily available or by the teacher. Process this data as soon as possible for analysis.
- (optional) Fast Food Restaurant Quiz
- Present Unit Introduction PowerPoint up to and including the slide, “Would you take this pill?” Promote discussion of the data and public policies addressed. Record how many students would take the pill
- With time remaining or just for homework, students will read and answer the questions for the article, “The Way We Eat Now.”
- (Process data yourself if students will be unable graph and analyze data on a computer.)

#### Day 2

- Return to PowerPoint. Ask students what the magic pill is. Then watch the video clip, answering the questions that accompany it. (There are other clips to watch if you’d like.)
- *(The rest of the work can be done in small groups (except for homework.))*
- In small groups, students should discuss some of the issues addressed in the reading. They should begin brainstorming recommendations and changes that can be made to public and social policies.
- (Process data yourself if students will be unable graph and analyze data on a computer.)

#### Day 3

- If available, students can graph and analyze data on a computer program like Excel. They should create graphs of their own data and the class data. They should also answer the accompanying questions.
- For homework, students should read the sidebar articles from the article, “The Deadliest Sin.” They should create lists of changes and recommendations to bring to class the

#### Day 4-5

- Students to create their new food pyramids, exercise recommendations and changes in social and public policy. This can be done on the computer or by hand.