

Biology 1400
Chapter 6 Study Guide
Fats and Other Lipids

1. What molecules are classified as lipids? What is the general characteristic of lipids?
2. How does chemist identify fatty acids? Give examples:
3. What is the difference between fats and oils?
4. What are essential fatty-acids? What are they used for? How can you get them?
5. What are cis and trans fatty acids? Why are trans fatty acids “bad”? Why do we hydrogenate oils?
6. Why is it important to understand the differences between saturated, unsaturated and trans fats?
7. How is the molecular structure of a triglyceride different than a phospholipid’s molecular structure? What are the two regions a phospholipid called? What is the major phospholipid in food?
8. Why do you add an egg yolk into the ingredients when baking a cake?
9. Cholesterol is a type of lipid. What is the source of cholesterol? Is cholesterol bad? Is cholesterol used as a source of energy? What is cholesterol’s structure? What are cholesterol’s functions?
10. Why is lipid digestion more complicated than carbohydrate digestion? What enteroendocrine secretion signals the start of intestinal fat digestion? What is the function of bile salts? What are the end products of lipid digestion?
11. How much fat is absorbed in the small intestines? What happens to “some” lipid molecules in the absorptive cells? After leaving the absorptive cells, where do the chylomicrons go? Study Fig 6.9
12. What is the role of lipoprotein lipase relative to the chylomicrons?
13. What is the significance of the enterohepatic circulation?
14. How do plants interfere with cholesterol and bile absorption?
15. “Most cells” can use fatty acids for energy. If you do not need the “energy”, where is the energy stored and how? What occurs if you “over eat” carbohydrates and protein? How does alcohol affect triglyceride metabolism?

16. What diseases are described by cardiovascular disease (CVD)?
17. Using the correct terms, explain the mechanism that causes atherosclerosis:
18. What are non-modifiable and modifiable risk factors for CVD?
19. What is good and bad lipoprotein? What is the function of these lipoproteins? Study Fig 6.19
20. What is the value of knowing your “lipid profile”?
21. Where is high-sensitivity C-reactive protein (CRP) produced and what is CRP an indicator for?
22. What do high levels of saturated fat affect the membranes of liver’s cell? How do high levels of trans fat affect LDL and HDL?
23. How can you reduce your blood concentration of total cholesterol and LDL?
24. What is better for you, omega-3 or omega-6 fatty acids?
25. Some people have CVD without elevated lipid levels. What is a “genetic” cause?
26. Should you avoid eggs?
27. Butter contains cholesterol and saturated fatty acids. Should you avoid butter and use margarine?
28. What are fat replaces?
29. Test Bonus Points: Drink to Your Health!