

AP Biology Extra Credit Assignment Due Friday, May 24th by 3:45pm
Modified from Andrea Galuska [agaluska@avon.k12.ct.us]

You will be reading *Your Inner Fish* by Neil Shubin. This book address the core themes of the AP Biology curriculum:

Evolution	Regulation	Continuity and Change
Energy Transfer	Science as a Process	Science, Technology, and Society
Interdependence in Nature	Relationship of Structure to Function	

Assignment: For each chapter in the book, complete BOTH of the following options. Handwritten and legible.

- Project 1: During the assigned reading, students will find a relationship between the graphic image and the text.
 - In 2 to 3 sentences describe how the graphic relates to the reading in the chapter. Include the page and paragraph where the information came from that helped you develop your summation.
- Project 2: After reading the chapter, students will be asked to consider the statement & dispute it using the text.
 - Find two quotes from the chapter that dispute the disputable question. Include the page and paragraph where the quote can be found.

Disputable Statements (for project 2)

Definition of dispute - A disagreement, argument, or debate (keep this in mind when you are discussing each statement)

Chapter 1 Finding Your Inner Fish

Dispute: Most living organisms fossilize after death, so fossils in exemplary condition are easily found all over the world.

Chapter 2 Getting a Grip

Dispute: Humans and fish are nothing alike: we have hands with fingers, they have fins.

Chapter 3 Handy Genes

Dispute: Each cell in a human body contains a unique set of DNA. This allows some cells to build muscle or skin and some cells to become arms versus fingers.

Chapter 4 Teeth Everywhere

Dispute: Teeth evolved through time, after bones, as they became a beneficial adaptation for protection against predation.

Chapter 5 Getting Ahead

Dispute: Humans and sharks both have four gill arches as embryos, but the germ layers and arches develop into unrelated structures in each organism.

Chapter 6 The Best-Laid (Body) Plans

Dispute: Scientists work in isolation: it is counter-productive to repeat another scientist's experiments or to consider research that is not directly related to the organism you are studying.

Chapter 7 Adventures in Bodybuilding

Dispute: All tissues in the human body are made of similar cells that connect to each other in similar fashion.

Chapter 8 Making Scents

Dispute: There are few genes dedicated to olfactory sense & they are similar in all organisms capable of detecting smell.

Chapter 9 Vision

Dispute: All organisms with vision have similar eyes and similar vision genes.

Chapter 10 Ears

Dispute: In humans, eyes and ears function independently of one another; sensation in one does not affect sensation in the other.

Chapter 11 The Meaning of It All

Dispute: Maladies of the human body are not related to our evolutionary past.

Graphic Images

Chapter 1 Finding Your Inner Fish



Chapter 2 Getting a Grip



Chapter 3 Handy Genes

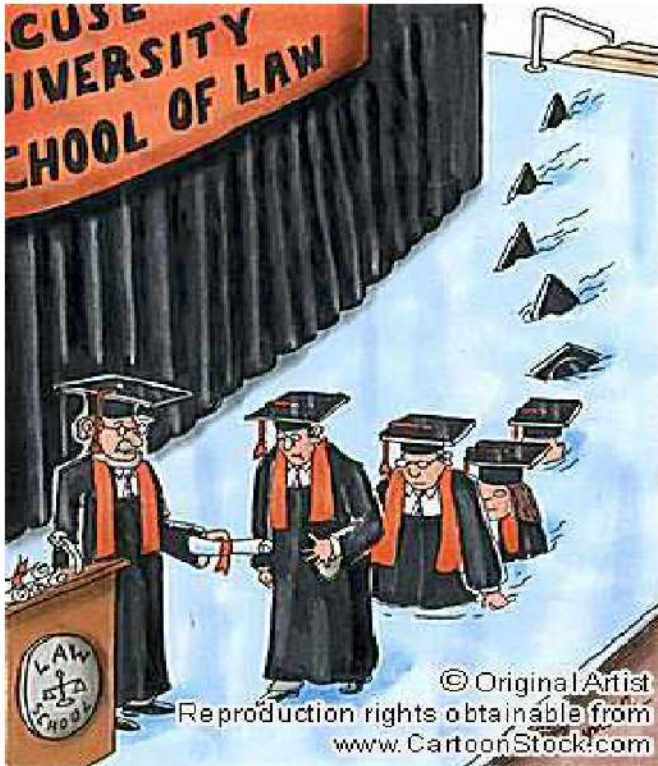
SONIC HEDGEHOG GENE



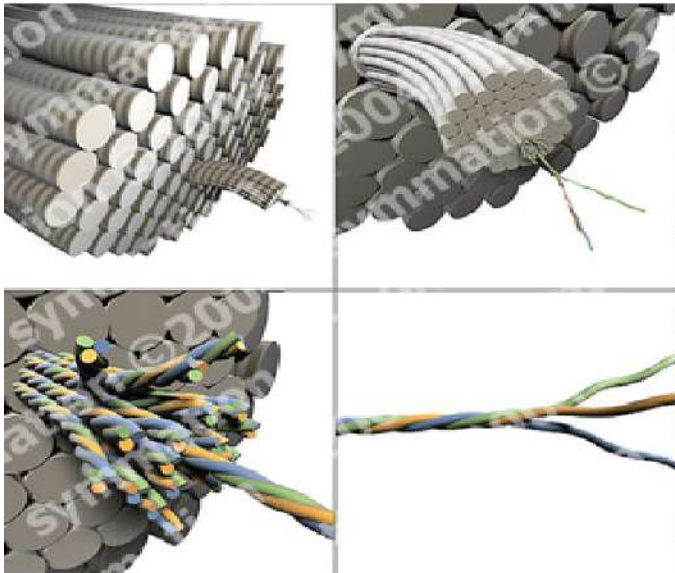
Chapter 4 Teeth Everywhere



Chapter 5 Getting Ahead



Chapter 7 Adventures in Bodybuilding

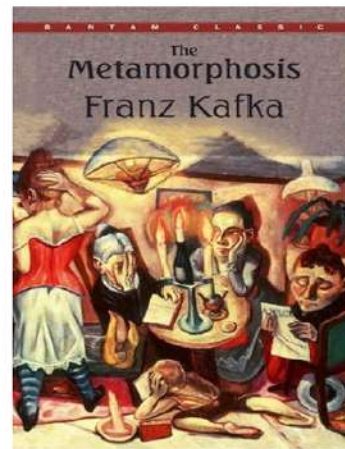


Chapter 8 Making Scents

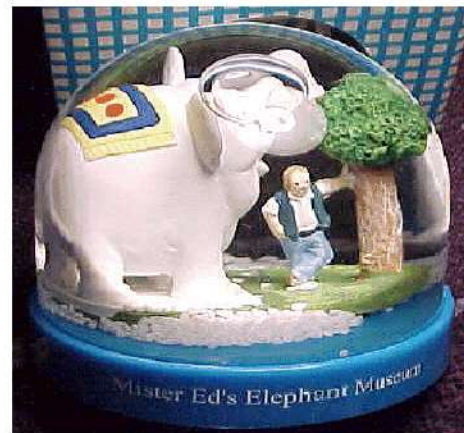


Chapter 6

Chapter 9 Vision



Chapter 10 Ears



Chapter 11 The Meaning of It All



Chapter 6

Chapter 6: The Best-Laid (Body) Plans

- FOR OLD-FASHIONED • Chocolate Chip Cookies (With Variations)
- 2 1/4 cups flour
- 1 teaspoon baking soda
- 1 teaspoon salt
- 1 cup butter, softened
- 3/4 cup granulated sugar
- 3/4 cup packed brown sugar
- 1 teaspoon vanilla
- 2 eggs
- 2 cups semi-sweet chocolate chips (12 oz.)
- 1 cup chopped nuts (optional)

- FOR THIN, CHEWY COOKIES: Reduce granulated sugar to 1/2 cup and increase packed brown sugar to 1 cup.

THICK, CHEWY, OLD COOKIES:

Use half the amount of butter called for and drop by well-rounded tablespoon onto ungreased baking sheets. Bake in preheated 350 degrees oven for 9 to 12 minutes or until lightly browned. Store in airtight container to prevent drying.

- FOR PUFFIER COOKIES: Reduce butter to 1/2 cup and add 1/2 cup solid shortening.

- FOR SOFT CAKEY COOKIES: Omit the granulated sugar and use 3/4 cup butter, 1 cup packed brown sugar and 3 eggs. Drop by well-rounded
- For more rounded cookie, do not flatten before baking; bake 9 to 11 minutes.

CRISPIER 1/2 cups flour, 1 1/4

cups granulated sugar, 1/4 cup packed brown sugar and 1 egg. Drop by rounded tablespoon onto ungreased baking sheets. Flatten with bottom of glass dipped in water. Bake in preheated 375 degrees oven for 9 to 11 minutes.