

50

ERRORS OF FACT overlooked in *BIOLOGY: THE DYNAMICS OF LIFE* (Glencoe, 2004)

Glencoe's editorial changes, submitted to TEA October 3, 2003, overlooked these errors. So did the Texas Education Commissioner's Report on Correction of Factual Errors, which included state textbook review panel findings. We have filed this list with TEA, for correction in the final Texas edition actually sold into classrooms statewide, and can send you Glencoe's written response to TEA, which admits these errors.

"prokaryote: unicellular organism composed of cells that lack a nucleus ..."

— p. 484, upper left, "Review Vocabulary," lines 1-3

"prokaryotes: unicellular organisms, such as bacteria, composed of prokaryotic cells."

— p. 1142, col. 1

"The prokaryotes, organisms with cells that lack distinct nuclei bounded by a membrane, are microscopic and unicellular."

— p. 456, col. 2, par. 2, lines 1-4

"The great majority of bacteria are unicellular."

— p. 487, top left, "Figure 18.10," caption, lines 1-2

"... most plant life cycles include an alternation of generations."

— p. 633, par. 1, lines 1-2

"However, the dominant trait is merely one that masks an alternate allele that may be present in the heterozygous condition."

— p. 256, left margin, "Revealing Misconceptions," par. 1, lines 4-8, Teacher's Edition

"acid precipitation: rain, snow, sleet, or fog with a pH below 7"

— p. 1113, col. 1

wrong descriptions

These illogical definitions state that a "unicellular organism" is "composed of cells" — i.e., there is such a thing as a unicellular multicellular organism.

The phrase "organisms with cells ..." wrongly defines prokaryotes as multicellular, contradicting the rest of the sentence, which correctly says they are unicellular.

wrong description

All bacteria — not "the great majority of" them — are unicellular. The text itself admits this on p. 486, col. 2, par. 2, lines 1-2; and on p. 550, col. 1, bottom par., line 1.

wrong description

All — not most — plant life cycles include alternation of generations. The text itself admits this on p. 562, col. 2, par. 4, lines 1-3; on p. 562, "Figure 21.5," caption; on p. 577, par. 2, lines 1-2; on p. 581, bottom par., lines 1-2; and on p. 1114, col. 1, "alternation of generations."

wrong description

It is incorrect to say that "an alternate [i.e., recessive] allele ... **may** be present in the heterozygous condition." By definition, the recessive allele is *always* present in heterozygotes. The text itself admits this on p. 259, col. 1, par. 1.

wrong definition

All precipitation has a pH below 7. The cleanest rainwater picks up carbonic acid from dissolved carbon dioxide.

Q: "Describe two features that are unique to arthropods."

— p. 746, "Section Assessment," no. 2

A: "jointed appendages, ..."

— p. 746, bottom margin, "Section Assessment," no. 2, Teacher's Edition

Q: "Describe two features that are unique to arthropods."

— p. 746, "Section Assessment," no. 2

A: "... segmented bodies, ..."

— p. 746, bottom margin, "Section Assessment," no. 2, Teacher's Edition

"Show students ... slime molds, or other examples of fungi that are available."

— p. 528, bottom margin, "Two-Minute Chapter Launcher," col. 1, Teacher's Edition

"During mitosis, metaphase is the stage that distributes identical chromosomes to what will become two new cells."

— p. 279, right margin, no. 30, lines 1-5, Teacher's Edition

"In meiosis, metaphase I is the point where alleles in a cell, diploid for a characteristic, separate from one another, thereby becoming haploid."

— p. 279, right margin, no. 30, lines 8-13, Teacher's Edition

Spiral time line showing the Precambrian Era (blue portion) in Earth history extending back long before 5 billion years ago

— p. 466

"At the beginning of the Precambrian, unicellular prokaryotes ... appear to have been the only life forms on Earth."

— p. 376, col. 2, par. 3, lines 4-9 (as revised in Glencoe's October 3, 2003 editorial changes filed with TEA)

wrong uniqueness

Jointed appendages are not "unique to arthropods." Many non-arthropod animals have them, including reptiles, birds, and mammals.

wrong uniqueness

Segmented bodies are not "unique to arthropods." Annelids (segmented worms) are non-arthropods with segmented bodies. The text itself admits this on p. 728, bottom section, par. 1, line 1.

wrong kingdom

Slime molds are protists, not fungi. The text itself admits this on p. 517, bottom section, par. 1, lines 1-2; and on p. 553, col. 1, par. 2, line 1.

wrong stage

This stage in mitosis is anaphase, not metaphase.

wrong stage

This stage in meiosis is anaphase I, not metaphase I.

wrong timeframe

The caption to this artwork claims that the Earth is 4.6 billion years old. Therefore the Precambrian Era of Earth history could not extend back long before 5 billion years ago — before Earth began.

wrong chronology

Prokaryotes could not have existed "at the beginning of the Precambrian" Era in the evolutionary scenario. In that view, the Precambrian Era began 4.6 billion years ago with the formation of the Earth. Life appeared "between 3.9 and 3.4 billion years ago" — 700 million to 1.2 billion years after the Precambrian Era began. The text itself admits this on p. 466, top par., lines 4-5 (as revised in Glencoe's October 3, 2003 editorial changes filed with TEA).

Time line on which 300 B.C. precedes 350 B.C.
— p. 670, top

"The bubonic plague — a disease that swept through Europe in the 1400s"

— p. 1027, col. 1, par. 5, lines 8-9

"Evolution is the result of organisms adapting to environmental change."

— p. 28, left margin, no. 12, Teacher's Edition

"Have students ... use the main ideas of the concept of natural selection to explain the evolution of the organism."

— p. 394, bottom margin, "PROJECT," Teacher's Edition

Q: "What major group first appeared after dinosaurs became extinct?"

— p. 376, "MiniLab 14.2," "Analysis," no. 3

A: "primates"

— p. 376, left margin, "Analysis," no. 3, Teacher's Edition

Q: "The earliest primates were most like _____ ."

- A. [picture of a man]
- B. [picture of a squirrel]
- C. [picture of a New World monkey]
- D. [picture of a mouse]"

— p. 440, no. 9

A: "B"

— p. 440, left margin, no. 9, Teacher's Edition

Q: "The element in the graph above would best be used to date rocks from what era? Explain why."

— p. 391, no. 24

A: "Precambrian; because only rocks that have ages over one billion years could be dated using this isotope"

— p. 391, right margin, no. 24, lines 1-4, Teacher's Edition

wrong chronology

350 B.C. precedes 300 B.C.

wrong century

The Black Death decimated Europe in 1347-50, not in the 1400s.

wrong concept

In evolutionary theory, organisms do not adapt to environmental change. Populations do.

wrong concept

In evolutionary theory, "an organism" cannot evolve. Populations evolve. But this passage directs students "to explain the evolution of the organism." The text itself admits this error on p. 395, right margin, "Revealing Misconceptions," par. 1-3, Teacher's Edition; and on p. 404, bottom par.

wrong sequence

According to the table referred to here (*as revised in Glencoe's October 3, 2003 editorial changes filed with TEA*), primates appeared at the same time — not after — dinosaurs became extinct, 65 million years ago.

wrong organism

According to the evolutionary theory referred to here, the correct life form in this answer would be "C. [New World monkey]," not "B. [squirrel]." The text itself claims this on p. 423, "Figure 16.3."

wrong limitation

The element referred to here has a half-life of 1 billion years. It is possible to date rocks less than 1 billion years old with such an isotope, just as Carbon-14 can date objects less than 5730 years old.

"SEMs ... use live specimens."

— p. 174, bottom margin, "Section Assessment," no. 5, lines 2-3, Teacher's Edition

"Mollusk shells can also be used to determine an exact age because these structures contain the radioactive element strontium. By measuring the amounts of different isotopes of strontium in the shell, scientists are able to compute the exact age of the shell, and, by extension, the exact age of the rocks containing the shell."

— p. 736, col. 2, par. 4

"1974 The nearly complete skeleton of *Australopithecus afarensis*, known as 'Lucy,' is discovered in Ethiopia."

— p. 367, time line (as revised in Glencoe's October 3, 2003 editorial changes filed with TEA)

"The somatic nervous system is made of the ... 31 cranial nerves from the spinal cord"

— p. 968, left margin, no. 12, lines 1-5, Teacher's Edition

Q: "Hominids include humans and the apes."

— p. 440, no. 2

A: "true"

— p. 440, left margin, no. 2, Teacher's Edition

"The time it takes for a population to double varies depending on the current population and growth rate."

— p. 102, col. 2, par. 1, lines 5-8

Q: "Explain the different ways in which a new species can evolve as a result of natural selection. Give examples of species that illustrate and support your conclusions."

— p. 418, no. 11

A: "An example is polydactyly in the Amish community of Lancaster County, PA."

— p. 418, left margin, no. 11, lines 4-7, Teacher's Edition

wrong description

Scanning electron microscopes (SEMs) do not use live specimens. The text itself admits this on p. 192, left margin, no. 16, Teacher's Edition.

wrong description

This reference to the rubidium-strontium method of radiometric dating contains two errors. First, strontium-87, the strontium isotope into which rubidium-87 decays, is not radioactive. Second, the method measures the ratio of rubidium to strontium, not "the amounts of different isotopes of strontium."

wrong description

"Lucy" was not "nearly complete." Only about 40% of her skeleton exists. See "40 Percent of Lucy After 3 Million Years," *Science News*, Vol. 107, no. 1 (January 4, 1975), 4.

wrong description

31 *pairs* of spinal nerves from the spinal cord — not "31 cranial nerves from the spinal cord" — are part of the somatic nervous system. The text itself admits this on p. 948, col. 2, par. 2, lines 1-4.

wrong classification

In the current evolutionary scenario, apes are hominoids, not hominids. The text itself admits this on p. 423, "Figure 16.3"; and on p. 431, right margin, "Uncover the Misconception," lines 1-4, Teacher's Edition.

wrong factor

"Current population" has nothing to do with doubling time. If growth rates are the same, large and small populations will double in equal times.

wrong example

Instances of polydactyly among the Amish are not "a result of natural selection" because they are not a favorable variation and have no survival advantage. Nor are the Amish an instance of speciation.

"Taiga is so cold that trees do not grow."
— p. 88, left margin, no. 3, Teacher's Edition

Q: "Which biomes have the least productivity per square meter per year?
A. desert and tundra
B. open ocean and tundra
C. lake/stream and desert
D. desert and open ocean"
— p. 89, no. 19

A: "B"
— p. 89, right margin, no. 19, Teacher's Edition

Q: "Have students identify the biome that makes up most of the area directly above the equator."
A: "desert"
— p. 1063, right margin, "Visual Learning," bullet 1, Teacher's Edition

"Point out that the biomes that make up the United States, in order from largest to smallest, are grassland, temperate/deciduous forest, and desert."
— p. 1063, right margin, "Visual Learning," bullet 3, Teacher's Edition

"**parasympathetic nervous system:** division of the automatic nervous system"
— p. 1139, col. 1

"**sympathetic nervous system:** division of the automatic nervous system"
— p. 1148, col. 1

Q: "What is the total number of endangered species that are wetland dependent?
A. 102
B. 157
C. 296
D. 510"
— p. 131, no. 18

"Species A and B do not exist in the Gulf of California and the Galápagos."
— p. 718, left margin, no. 12, lines 2-5, Teacher's Edition

wrong biome

The tundra, not the taiga, is treeless. The text itself admits this on p. 76, col. 1, par. 1, lines 4-5; and on p. 77, col. 1, par. 1, lines 2-8.

wrong biome

On the chart referred to here, *desert* and *open ocean* — not open ocean and tundra — have the least productivity per square meter per year. The correct answer to this question is "D," not "B."

wrong biome

On the world map referred to here, most of the land area directly above the equator is tropical rain forest, not desert. There is no desert directly above the equator.

wrong biome

On the map of the U.S. referred to here, the largest biome is temperate/deciduous forest and the second largest is grassland — not grassland first and temperate/deciduous forest second.

wrong term

These are parts of the *autonomic* nervous system, not the "automatic" nervous system. The text itself admits this on p. 949, col. 1, par. 3, lines 1-4; and on p. 950, "Figure 36.9."

wrong choices

None of the answers is correct. The total number of wetland dependent endangered species is 398. (65% of 157 + 58% of 510 = 102 + 296 = 398)

wrong distribution

On the map referred to here, species A constitutes over 80% of the life forms in the Gulf of California and the Galápagos.

Q: "What approximate percent of the total life-forms on Earth are in each kingdom?"

— p. 456, "Thinking Critically," no. 2

A: "Archaeobacteria = 0.028%"

— p. 456, left margin, "Thinking Critically," no. 2, line 1, Teacher's Edition

Q: "What approximate percent of the total life-forms on Earth are in each kingdom?"

— p. 456, "Thinking Critically," no. 2

A: "Protista = 2.8%"

— p. 456, left margin, "Thinking Critically," no. 2, lines 2-3, Teacher's Edition

Q: "What approximate percent of the total life-forms on Earth are in each kingdom?"

— p. 456, "Thinking Critically," no. 2

A: "Fungi = 5.6%"

— p. 456, left margin, "Thinking Critically," no. 2, line 3, Teacher's Edition

Q: "What approximate percent of the total life-forms on Earth are in each kingdom?"

— p. 456, "Thinking Critically," no. 2

A: "Plants = 15%"

— p. 456, left margin, "Thinking Critically," no. 2, lines 3-4, Teacher's Edition

Q: "What approximate percent of the total life-forms on Earth are in each kingdom?"

— p. 456, "Thinking Critically," no. 2

A: "Animals = 76%"

— p. 456, left margin, "Thinking Critically," no. 2, line 4, Teacher's Edition

Q: "A little brown bat's diet consists of 20% mosquitoes. It eats 4 grams of food per night. How many mosquitoes does it eat in one night if a mosquito weighs 2.2 milligrams?"

A: "354 per night"

— p. 1087, right margin, "Teaching Strategies," bullet 1, lines 2-8, Teacher's Edition

Wrong percentage

According to the answer to the previous question, there are 3,600,500 total life forms on Earth, of which 500 are Archaeobacteria. $500 \div 3,600,500 \approx .014\%$, not .028%.

Wrong percentage

According to the answer to the previous question, there are 3,600,500 total life forms on Earth, of which 70,000 are Protists. $70,000 \div 3,600,500 \approx 1.9\%$, not 2.8%.

Wrong percentage

According to the answer to the previous question, there are 3,600,500 total life forms on Earth, of which 110,000 are Fungi. $110,000 \div 3,600,500 \approx 3.1\%$, not 5.6%.

Wrong percentage

According to the answer to the previous question, there are 3,600,500 total life forms on Earth, of which 510,000 are Plants. $510,000 \div 3,600,500 \approx 14.2\%$, not 15%.

Wrong percentage

According to the answer to the previous question, there are 3,600,500 total life forms on Earth, of which 2,900,000 are Animals. $2,900,000 \div 3,600,500 \approx 80.5\%$, not 76%.

Wrong figure

20% of 4 g = 800 mg. $800 \text{ mg} \div 2.2 \text{ mg} = 364$, not 354.

"**1863** The Emancipation Proclamation ends slavery in the United States."
— p. 250, *time line*

"... 269 meters (884 feet)."
— p. 240, *col. 2, par. 1, line 7*

"The three most common shapes [of bacteria] are spheres, called coccus; rods, called bacillus; and spirals, called spirillum."
— p. 488, *col. 2, par. 2, lines 5-8*

"**adrenal** from the Latin ... *ren*, meaning 'the kidneys';"
— p. 932, "*Word Origin*," *lines 1-5*

"**deciduous** from the Latin word *deciduus*, meaning 'to fall off';"
— p. 592, "*Word Origin*," *lines 1-4*

"**mono-, di-, tri-** from the Latin words *mono*, *di*, and *tri* ..."
— p. 222, "*Word Origin*," *lines 1-4*

"**cytoskeleton** from the Latin word *cyte*, meaning 'cell';"
— p. 185, "*Word Origin*," *lines 1-4*

"... the Latin word *odium*, meaning 'hateful';"
— p. 519, "*Word Origin*," *lines 4-7*

"**adrenal** from the Latin ... *ad*, meaning 'attached to,' ..."
— p. 932, "*Word Origin*," *lines 1-4*

Wrong enactment

The 13th Amendment (1865), not the Emancipation Proclamation (1863), ended slavery in the U.S. The Emancipation Proclamation ended slavery only in territory still under Confederate control as of January 1, 1863. It did not end slavery in Union-held areas as of that date, such as the border states of Missouri, Kentucky, and Maryland.

Wrong equivalent

269 m = about 882.5 ft., not 884 ft.

Wrong equivalents

This passage wrongly equates Latin singular noun forms with English plural noun forms. The Latin for "spheres" is *cocci*, not *coccus*; for "rods" is *bacilli*, not *bacillus*; and for "spirals" is *spirilla*, not *spirillum*.

Wrong word

Latin for "kidneys" is *renes*, not *ren*.

Wrong form

The Latin infinitive meaning "to fall off" is *decidere*, not *deciduus*, which is an adjective.

Wrong etymologies

Mono and *di* are Greek, not Latin.

Wrong etymology

Latin for "cell" is *cella*. *Cyte* is from the Greek.

Wrong etymology

The Latin noun *odium* means "hate," not "hateful." The Latin adjective for "hateful" is *odiosus*, not *odium*.

Wrong etymology

The Latin preposition *ad* means "to," "near," or "toward," not "attached to." The Latin perfect passive participle meaning "attached to" is *affixus*.

"meso (L)"

— p. 1096, col. 1, "Origin," letter M, line 3

wrong etymology

Meso is from the Greek, not the Latin. Latin is *medius*.

"... Guam, an island in the South Pacific"

— p. 97, col. 2, line 1

wrong location

At 13° N latitude, Guam is not in the South Pacific.

38

ERRORS OF FACT

overlooked in
HOLT BIOLOGY
(Holt, 2004)

Holt's editorial changes, submitted to TEA October 3, 2003, overlooked these errors. So did the Texas Education Commissioner's Report on Correction of Factual Errors, which included state textbook review panel findings. We have filed this list with TEA, for correction in the final Texas edition actually sold into classrooms statewide, and can send you Holt's written response to TEA, which admits these errors.

"With each successive half-life, the total amount of material decayed decreases."

— p. 252, left margin, "Using the Figure," lines 11-13, Teacher's Edition

"Identify how changes in DNA cause mutations."

— p. 189, "Quick Review," no. 4

"Photosynthesis is the process by which plants use carbon dioxide and the energy from sunlight to make sugar and carbon dioxide."

— p. 115, top right margin, "Answers to Before You Begin," no. 1, Teacher's Edition

"endothermic" describes a process in which heat is absorbed from the environment (724)"

— p. 1089, col. 3

Q: "What is the function of the structure labeled A?"

...

C moving proteins through the cell"

— p. 69, "TAKS Test Prep," no. 3(C)

A: "**C**. Incorrect. This structure is not a ribosome."

— p. 69, bottom margin, "Standardized Test Prep," no. 3(C), Teacher's Edition

"... different-colored pushpins to represent the four different nitrogen bases"

— p. 225, right margin, "Answers to Procedure," no. 2, lines 4-6, Teacher's Edition

wrong concept

In radiometric dating, with each successive half-life, the *total amount* of decayed material does not decrease. It *increases*. The **additional** amount of decayed material decreases.

wrong concept

Changes in DNA do not *cause* mutations. They *are* mutations. The text itself admits this on p. 8, par. 3, lines 1-2; and on p. 1094, col. 3, "**mutation**."

wrong product

Photosynthesis produces sugar and oxygen, not sugar and carbon dioxide. The text itself admits this on p. 97, par. 3 — par. 4, line 6.

wrong definition

This is the definition for "ectothermic," the process in which animals absorb heat from the environment. In the context of animal metabolism cited on p. 724, "endothermic" refers to some animals' ability to produce their own heat internally, independent of the environment.

wrong organelle

The endoplasmic reticulum, not ribosomes, moves proteins through a cell. This answer should say, "This structure is not the endoplasmic reticulum."

wrong number

There are five — not four — different nitrogen bases in DNA and RNA, to which this passage refers. The text itself admits this on p. 224, box, "You Choose," (d).

"vertebra one of the 33 bones in the spinal column (backbone)"
— p. 1102, col. 3

Q: "What is the significance of the relationship between structures A and B?"

- A B releases undigested food into the water that leaves the body through A.
- B B releases gametes into the water that leaves the body through A.
- C B collects food from the water that enters the body through A.
- D B extracts oxygen from the water that enters the body through A."

— p. 705, "TAKS Test Prep," no. 3

A: "A. Incorrect. Undigested food does not leave the body through the incurrent siphon. B. Incorrect. Gametes do not leave the body through the incurrent siphon. C. Correct. D. Incorrect. Both incurrent siphon and pharynx are involved in circulating materials through the tunicate's body."

— p. 705, bottom margin, "Standardized Test Prep," no. 3, Teacher's Edition

"You can see the Malpighian tubules on the grasshopper in *Up Close: Grasshopper*, in Section 2 of this chapter."

— p. 669, par. 1, lines 10-12

Q: "How much grain was produced per person in 1990?"

A 280 kg"

— p. 403, "TAKS Test Prep," no. 1, lines 1-2 and (A)

A: "Incorrect. This is the world grain production in 1960."

— p. 403, bottom margin, "Standardized Test Prep," no. 1(A), Teacher's Edition

Q: "How much grain was produced per person in 1990?"

D. 360 kg"

— p. 403, "TAKS Test Prep," no. 1, lines 1-2 and (D)

A: "Incorrect. This is the world grain production in 1990."

— p. 403, bottom margin, "Standardized Test Prep," no. 1(D), Teacher's Edition

wrong number

The human backbone has 26 vertebrae, not 33. The text itself admits this on p. 850, par. 2, lines 9-12.

wrong identification

On the diagram of the adult tunicate to which this question refers, A is the excurrent siphon, not the incurrent siphon as the Teacher's Edition answer thrice misidentifies it. Therefore the correct answer is "A," not "C." The text itself admits this on p. 701, "Figure 11;" and on p. 701, par. 2, lines 11-12.

wrong arthropod

The arthropod profiled in this *Up Close* feature in Section 2 is the brown recluse spider, not a grasshopper. Section 3 features the grasshopper.

wrong figure

On the graph to which this question refers, world grain production in 1960 was about 700 billion kg, not "280 kg." 280 kg was the amount of grain produced per person in 1960.

wrong figure

On the graph to which this question refers, world grain production in 1990 was about 1,400 billion kg, not "360 kg."

"Tell students that the average life span of a mouse is 2 years and that each mouse needs 1 square meter of grass-covered land to survive. Suppose that every 3 months each female mouse gives birth to a litter of 8, half of which are female.

"A pair of adult mice — a male and a pregnant female — arrives, floating on a log, at a grassy island. The island is the size of a football field (91 m X 49 m). The day they arrive, the female gives birth. There are no predators on the island, and the mice and their descendants survive until the island can no longer provide enough space and food. Have students calculate the following:

1. How many mice will there be after 3 months? after 6 months? after 9 months? after 1 year? (after 3 months, 41; after 6 months, 210; after 9 months, 1,050; after 1 year, 5,250)"

— p. 811, bottom margin, "MATH CONNECTION," col. 1 — col. 2, no. 1, Teacher's Edition

Q: "Which sequence reflects the life cycle of *Obelia*?"

- a. polyp → medusa → planula
- b. medusa → polyp → planula
- c. planula → medusa → polyp
- d. polyp → planula → medusa"

— p. 636, no. 9

A: "b"

— p. 636, left margin, no. 9, Teacher's Edition

"*Archaeopteryx* ... had teeth and a long reptilian tail. These are features of dinosaurs, not of birds."

— p. 725, par. 1, lines 3-7

"Unlike their reptilian relatives, birds lack teeth"

— p. 784, par. 2, line 2

"Refer students to **Table 1**. Ask them how much time it took for the world's population to double from 1 billion to 2 billion. (123 years)"

— p. 394, left margin, "Interpreting Graphics," lines 1-5, Teacher's Edition

"Ask them how much time it took for the world's population to double from 2 to 4 billion. (48 years)"

— p. 394, left margin, "Interpreting Graphics," lines 5-8, Teacher's Edition

wrong totals

After 3 months there would be 50 mice, not 41.

After 6 months there would be 250, not 210. After 9 months, 1,250, not 1,050. After 1 year, 6,250, not 5,250. These textbook totals do not factor in the original founding mice pair, the female of which is still producing. That throws subsequent figures progressively off.

wrong sequence

The life cycle sequence of *Obelia* is (a) polyp → medusa → planula, not (b) medusa → polyp → planula. The text itself admits this on p. 625, "Figure 10."

wrong distinction

Teeth do not distinguish reptiles from birds. Some birds (hoatzins) have teeth today. Some reptiles (turtles) lack teeth. The text itself admits (p. 725, par. 3, line 1) that other fossil birds besides *Archaeopteryx* also had teeth.

wrong timeframe

According to the table referred to here, it took 130 years (from 1800 to 1930), not 123 years, for the world's population to double from 1 billion to 2 billion.

wrong timeframe

According to the table referred to here, it took 44 years (from 1930 to 1974), not 48 years, for the world's population to double from 2 billion to 4 billion.

"Ask them to project how long it will take for the world's population to double from 4 billion to 8 billion. (51 years)"

— p. 394, left margin, "Interpreting Graphics," lines 8-12, Teacher's Edition

"... Lucretius, a Roman philosopher who lived nearly 2,000 years ago"

— p. 276, par. 1, lines 1-2

"In the mid-1850s, Dr. Lister became the first physician to treat patients with an antiseptic during surgery."

— p. 409, top box, "Yesterday ...," lines 5-7

"Watson and Crick determined the structure of DNA in 1952"

— p. 201, "2 The Structure of DNA," bullet 4, line 1

"A 5K race is about 16,393 ft, which is equal to 5,464 yd"

— p. 15, right margin, "Real Life — Answer," lines 1-2, Teacher's Edition

"227 kg (550 lb)"

— p. 277, right margin, "Galapagos Giant Tortoises," line 11, Teacher's Edition

"300 m (969 ft)"

— p. 386, par. 2, line 2

"30 meters (100 feet)"

— p. 420, bottom margin, "OCEANOGRAPHY CONNECTION," col. 1, lines 2-3, Teacher's Edition

"100 m (330 ft)"

— p. 560, par. 1, line 3

"12 to 37 m (40 to 120 ft)"

— p. 562, top, bullet 2, line 1

wrong timeframe

According to the table referred to here, it will take 47 years (from 1974 to 2021), not 51 years, for the world's population to double from 4 billion to 8 billion.

wrong timeframe

Lucretius, who died in 55 B.C., lived over 2000 years ago, not "nearly 2000 years ago."

wrong decade

Lister pioneered antiseptic surgery in the mid-1860s, not the mid-1850s.

wrong year

Watson and Crick determined DNA's structure in 1953, not 1952. The text itself admits this on p. 196, par. 5, lines 6-14.

wrong equivalents

5 km = about 16,404 ft, not about 16,393 ft; or about 5,468 yd, not 5,464 yd.

wrong equivalent

227 kg = about 499 lb, not 550 lb.

wrong equivalent

300 m = about 984 ft, not 969 ft.

wrong equivalent

30 m = almost 98.5 ft, not 100 ft.

wrong equivalent

100 m = 328 ft, not 330 ft.

wrong equivalent

12 to 37 m = 40 to 121 ft, not 40 to 120 ft.

"14 m (45 ft)"

— p. 562, top, bullet 2, line 1

wrong equivalent

14 m = about 46 ft, not 45 ft.

"40 cm (almost 15 in.)"

— p. 649, par. 3, line 4

wrong equivalent

40 cm = about 15.75 in, not "almost 15 in."

"about 2.5 kg (about 6.5 lb)"

— p. 722, bottom margin, "did you know?," col. 2, line 4,
Teacher's Edition

wrong equivalent

2.5 kg = 5.5 lb, not 6.5 lb.

"6,000 m [9,000 ft]"

— p. 885, right margin, "Discussion/Question," line 11,
Teacher's Edition

wrong equivalent

6,000 m = 19,685 ft, not 9,000 ft.

"about 5 L (2.6 gal)"

— p. 913, right margin, "SKILL BUILDER — GENERAL," line 2,
Teacher's Edition

wrong equivalent

5 L = about 1.3 gal, not 2.6 gal.

Q: "Identify the experimental groups in the experiment."

— p. 20, "DATA LAB: Analyzing Experimental Design," "Analysis," no. 2

A: "groups that received tea, coffee, or ethanol"

— p. 19, right margin, "Answers to Analysis," no. 2, Teacher's Edition

wrong enumeration

In the exercise referred to here, no group received tea.

"Incorrect. Family is represented by B."

— p. 313, bottom margin, "Standardized Test Prep," no. 2(G),
Teacher's Edition

wrong level

In the diagram referred to here, Family is represented by "E," not by "B." "B" represents Phylum.

"1. Describe the shape of the curve that resulted from the graph you made in step 4. ...

"3. Predict how the distribution curve that you made in step 4 would change if the data for males were deleted."

— p. 331, "MATH LAB: Building a Normal Distribution Curve,"
"Analysis," no. 1 and 3

wrong step

The graph and the curve based on it in this exercise, were made in step 5, not in step 4.

"The curve would match the curve from step 5."

— p. 331, bottom right margin, "Answers to Analysis," no. 3,
Teacher's Edition

wrong step

In the exercise referred to here, the curve with the data for males deleted would match the curve from step 6, not from step 5.

"... Carolus Linnaeus Latinized his own name; it originally was Carol von Linne."

— p. 303, top right margin, "Real Life," lines 2-5, Teacher's Edition

"The word *science* is Latin for 'to know.' "

— p. 7, par. 1, line 3

"Explain how the table shows the possible blood types, and the use of 'I' with the subscripts A, B, AB

...."

— p. 179, right margin, "Using the Figure," lines 2-4, Teacher's Edition

wrong form

Before he Latinized his name, Linnaeus' first name was Carl (or Karl), not Carol.

wrong etymology

"Science" is not the Latin word for "to know." The Latin word for "to know" is *scire*. "Science" derives from the Latin noun *scientia*, "knowledge," which in turn derives from the verb *scire*. It would be correct to say that "science" *comes from* the Latin word for "to know."

wrong notation

These are superscripts, not subscripts.