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Thinking conceptually

The cell theory

Doing biology

Outline

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Example: cards and drinks

Logical inference

The cell theory

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Experiments

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Deductive thinking

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Algebra

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Hockey



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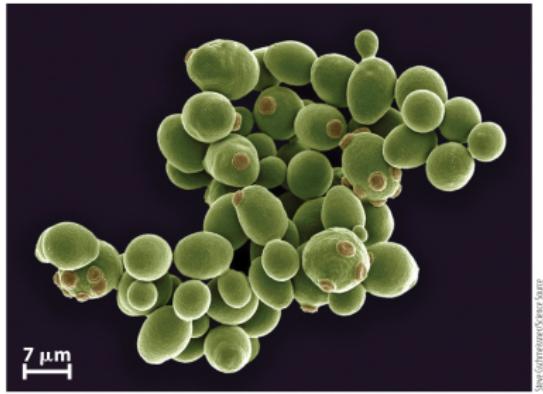


Figure 1.16b
Biology: How Life Works
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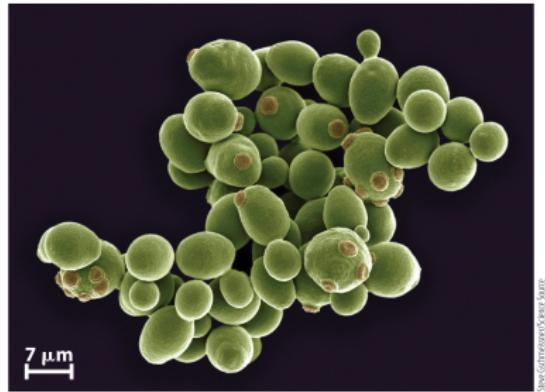
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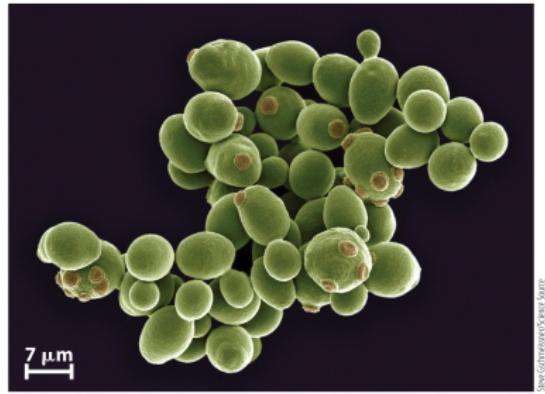


Figure 1.16b
Biology: How Life Works
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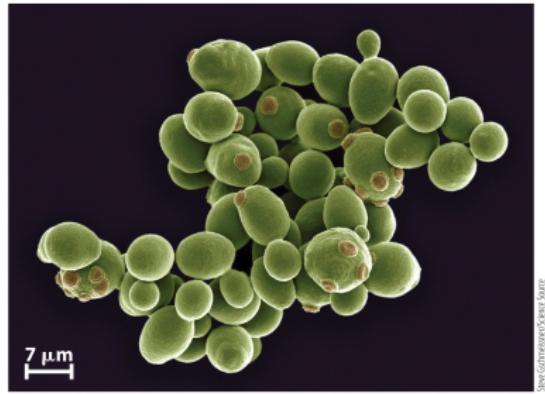


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Cells (see textbook)

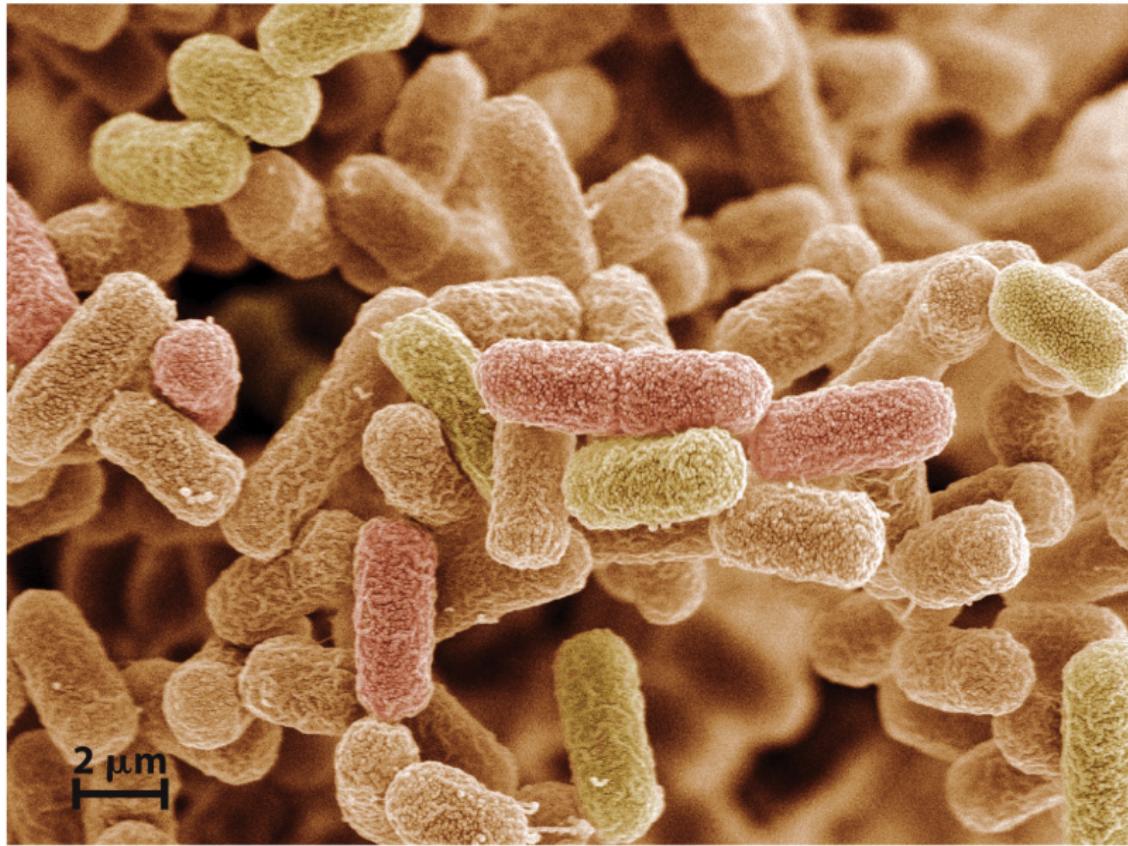


Figure 1.9a
Biology: How Life Works

Steve Gschmeissner/Science Source

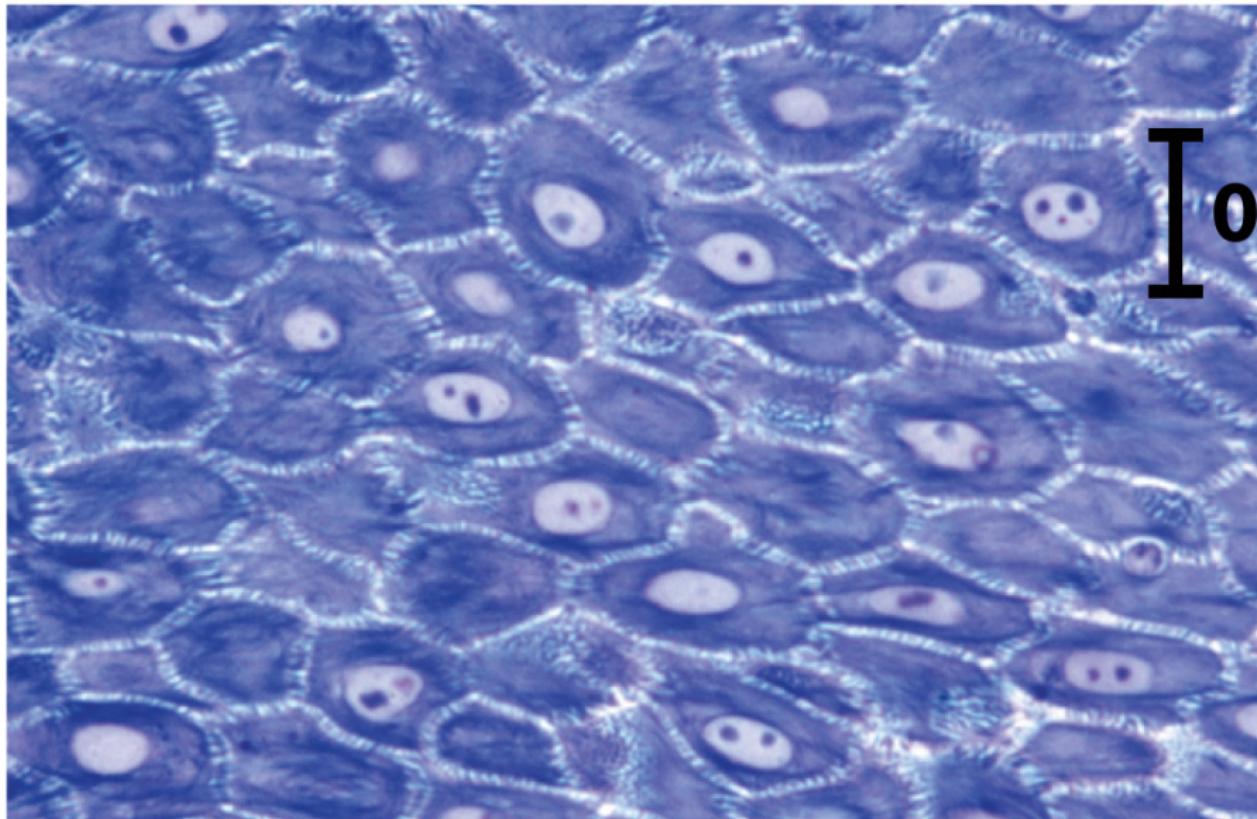


Cells (see textbook)



Figure 1.9d
Biology: How Life Works

Cells (see textbook)



10

Figure 1.10a
Biology: How Life Works

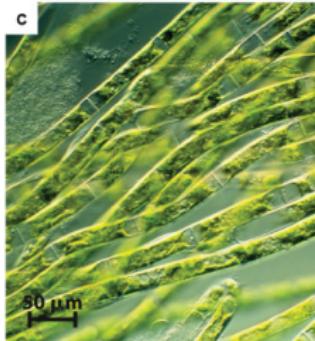
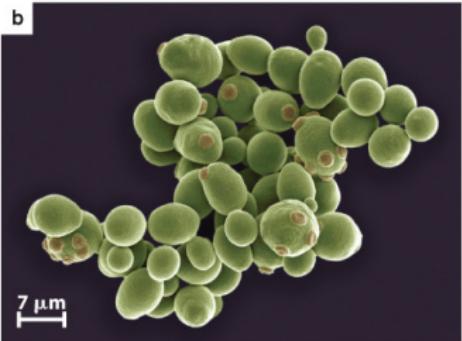


Figure 1.9
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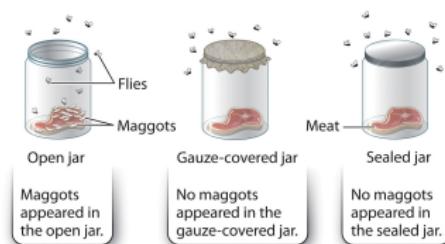


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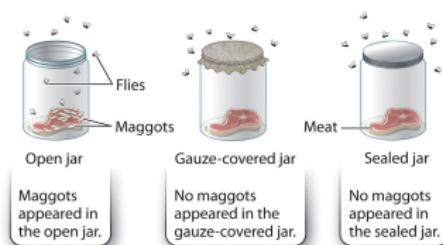


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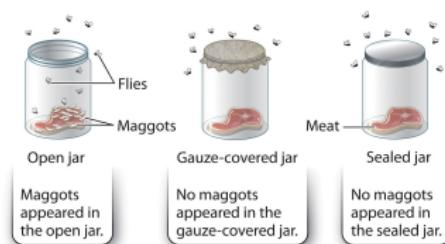


Figure 1.7
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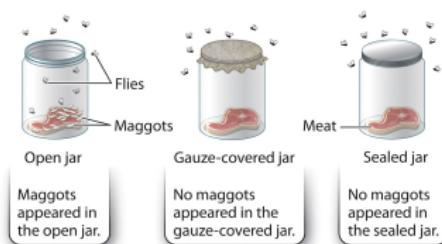


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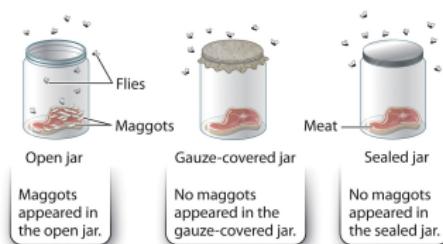


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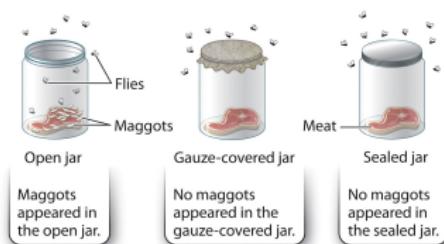


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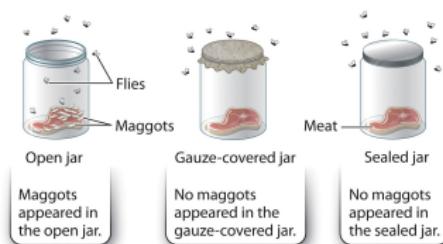


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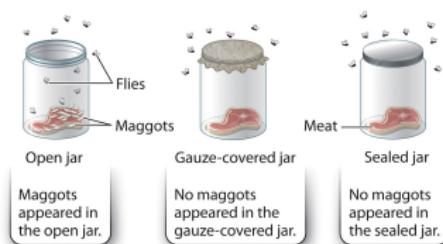


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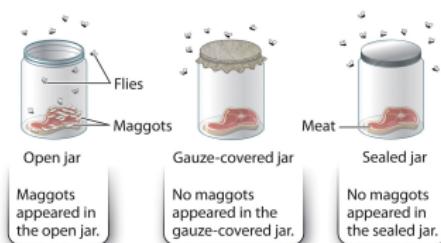


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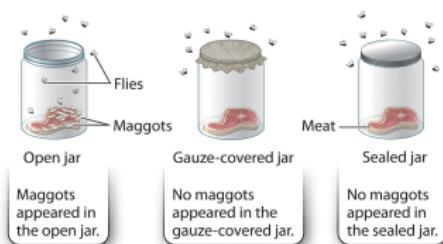


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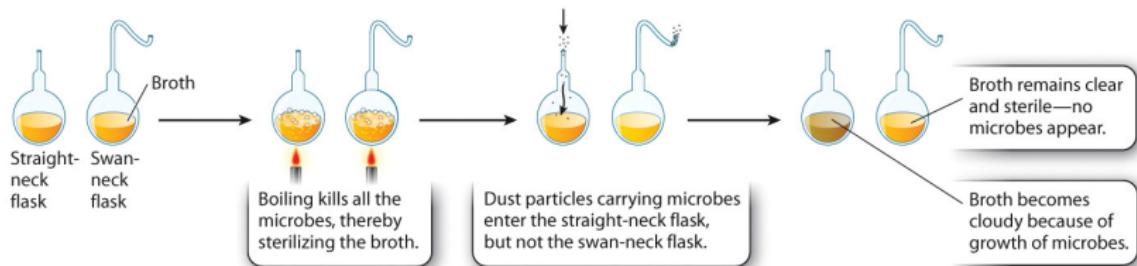


Figure 1.8
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The cell theory

Doing biology

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Scientific inquiry (see textbook)

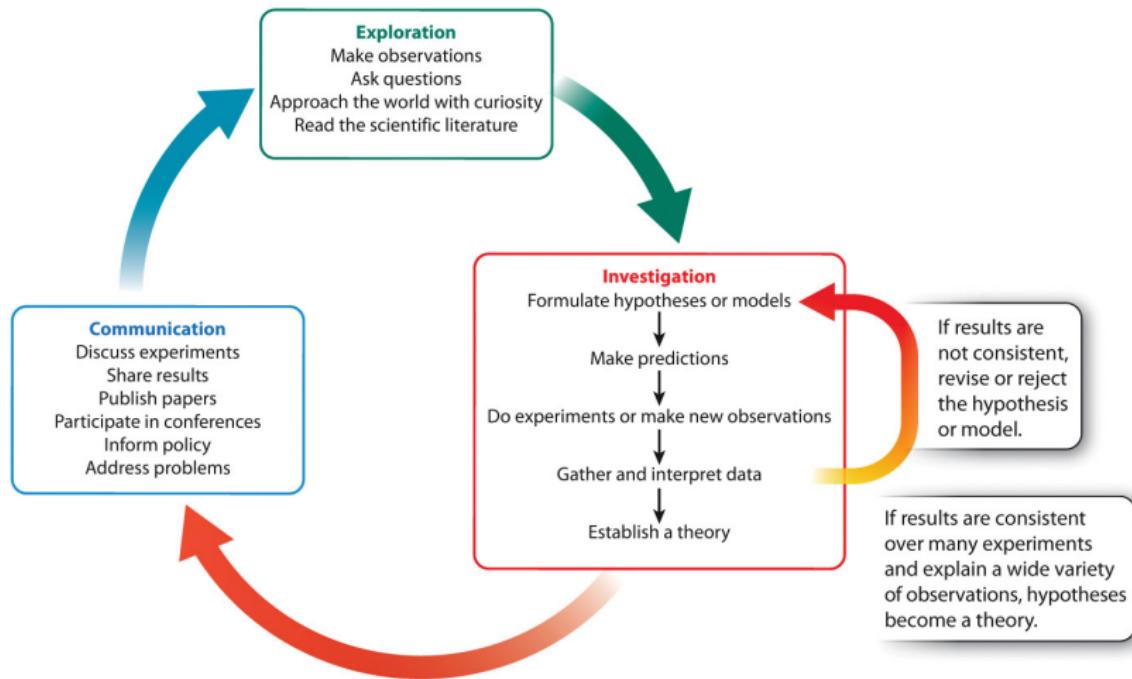


Figure 1.2

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Where do flies come from? (see textbook)



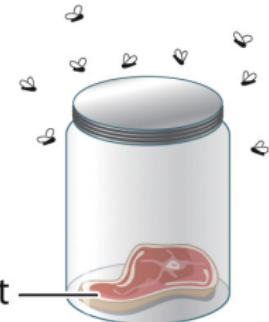
Open jar

Maggots
appeared in
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Gauze-covered jar

No maggots
appeared in the
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Sealed jar

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Figure 1.7
Biology: How Life Works
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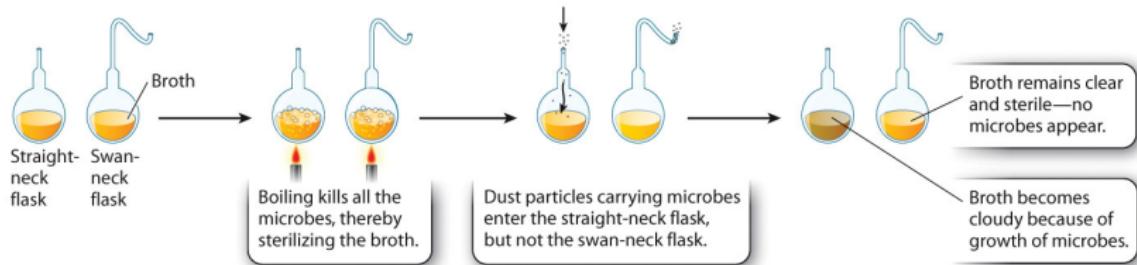


Figure 1.8
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Dinosaurs (see textbook)

At Gubbio, Italy, the recessed clay layer in the center of the photo (arrow) marks the end of the Cretaceous Period, when many species became extinct. As shown in the diagram on the right, this layer shows strong enrichment in iridium, rare in most rocks on Earth but relatively common in meteorites.



Andrew Knoll, Harvard University

Figure 1.3 (Part 1a)
Biology: How Life Works
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Dinosaurs (see textbook)

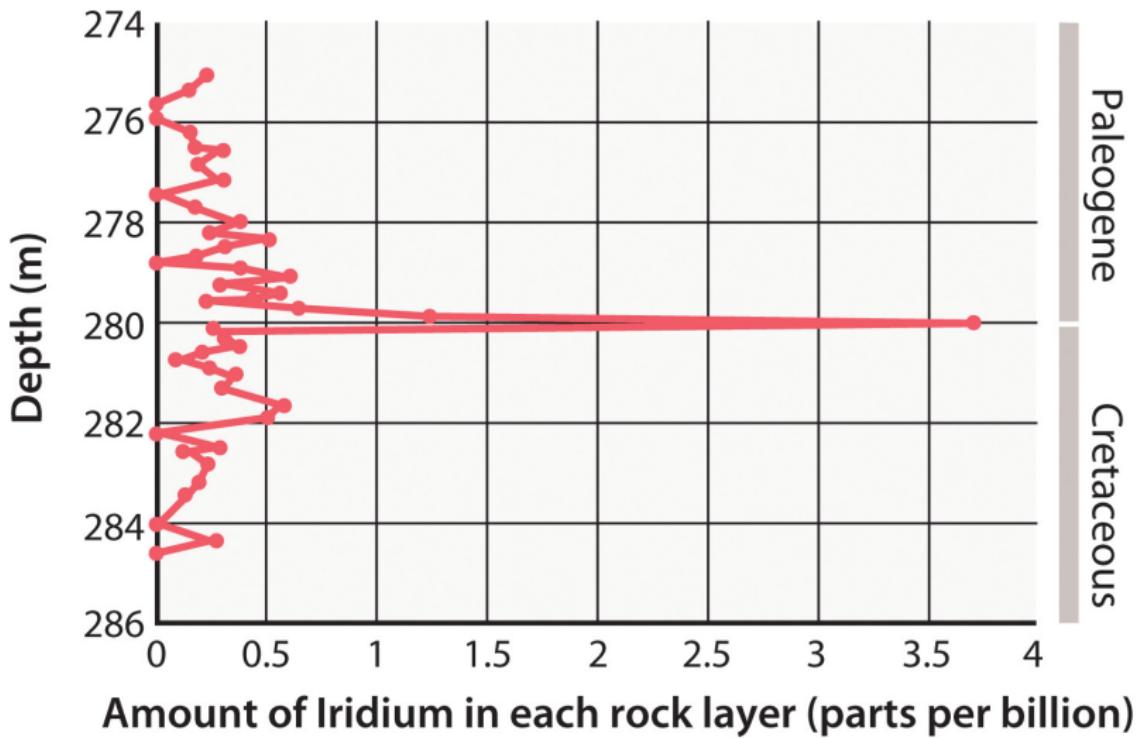
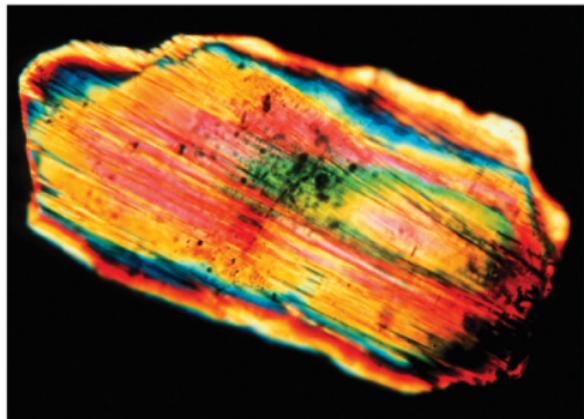


Figure 1.3 (Part 1b)
Biology: How Life Works
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Dinosaurs (see textbook)

Quartz crystals that form only at high temperature and pressure—conditions met by giant meteors as they crash into Earth—occur abundantly in rock layers dated to the time of the extinction.



Dr. David King/Science Source

Figure 1.3 (Part 2a)
Biology: How Life Works
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Dinosaurs (see textbook)

By 1990, geologists had located a crater of just the right size and age in the Yucatan Peninsula, Mexico (image to the right created by mapping subtle variations in Earth's gravitational field).



Figure 1.3 (Part 2b)
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