# TRANSPARENCIES

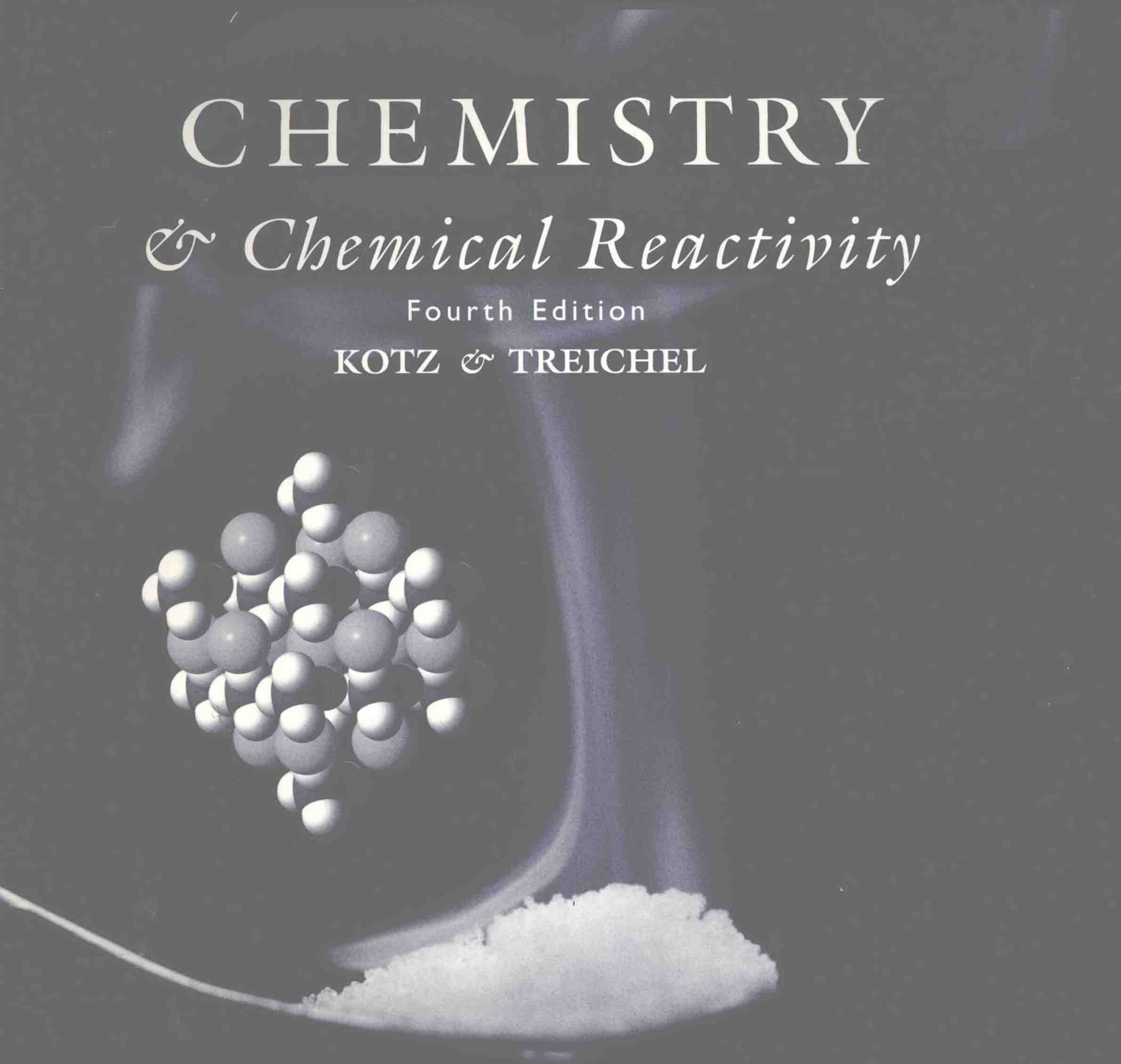
to accompany

# CHEMISTRY

## *& Chemical Reactivity*

Fourth Edition

KOTZ & TREICHEL



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# CHEMISTRY
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Fourth Edition

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Figure 5

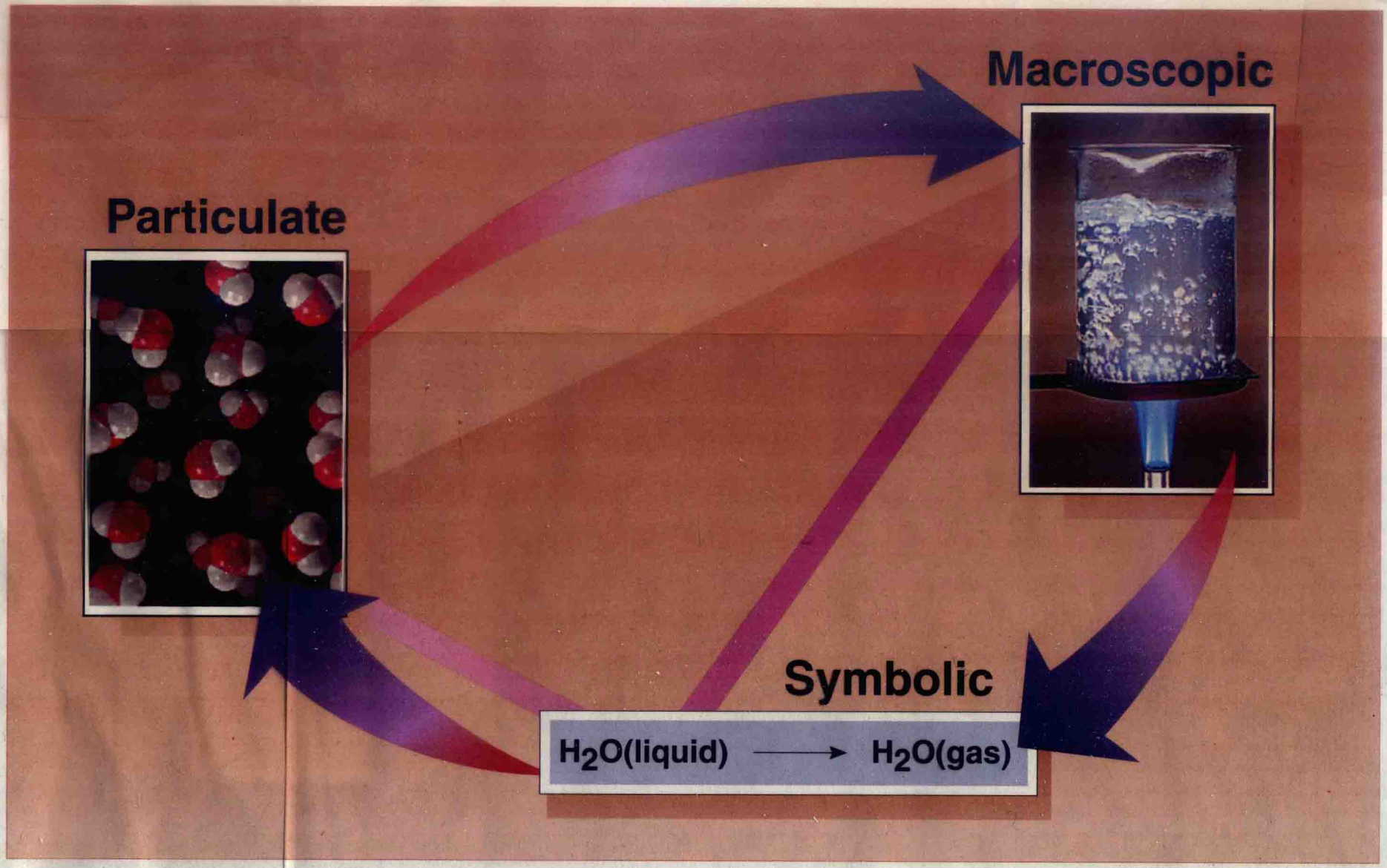


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**Figure 5**

**Chemistry can be represented as a triangular matrix of concepts.** We observe chemical processes on the macroscopic scale and then write symbols to represent those observations. To understand or illustrate those processes we try to view or imagine what has occurred at the particulate—atomic and molecular—level. *(Photo, C. D. Winters; model, Roy Tasker/University of Western Sydney, Australia)*

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Figure 1.1

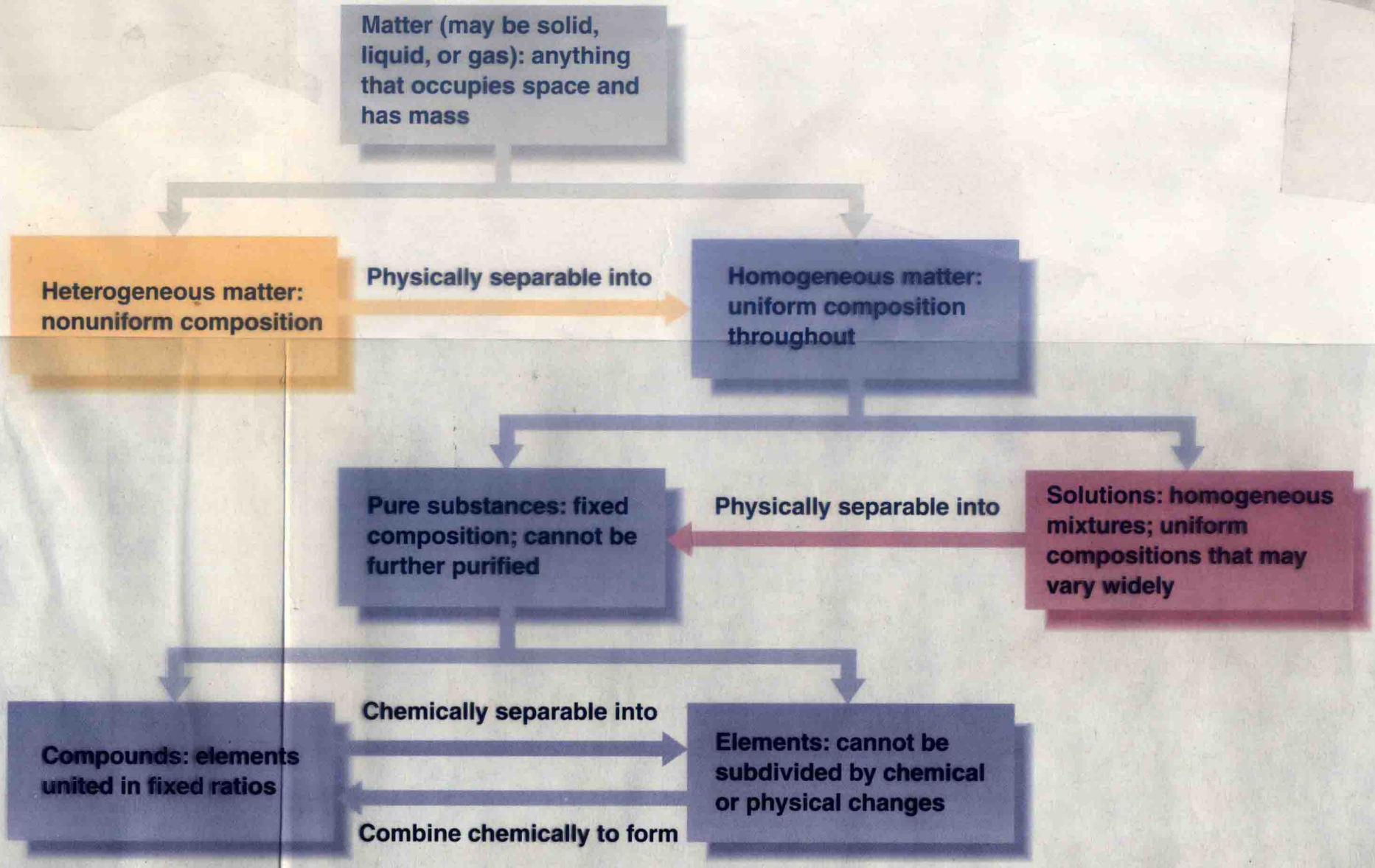


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**Figure 1.1**

A scheme for the classification of matter.

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Figure 1.11

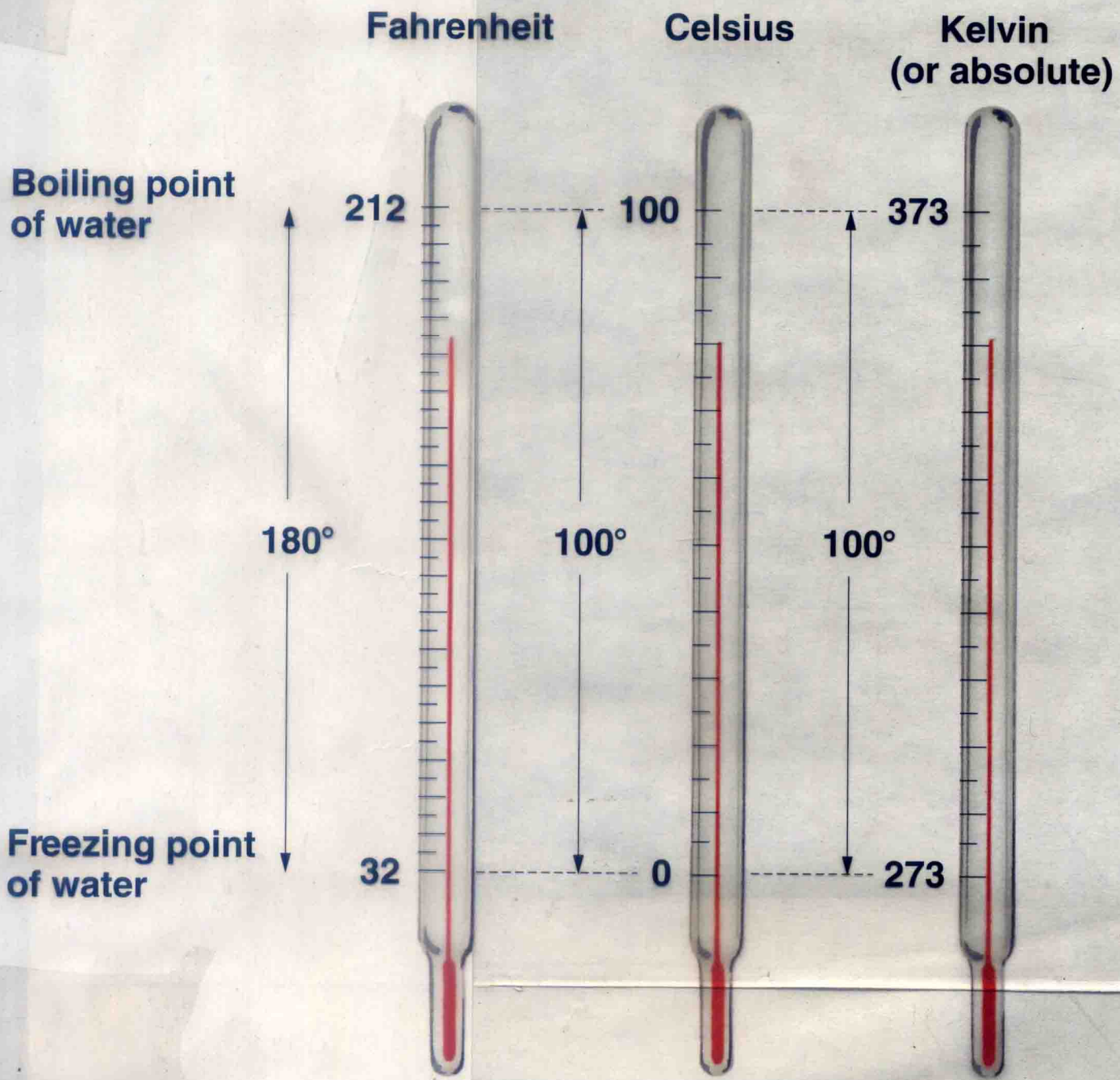


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**Figure 1.11**

**A comparison of Fahrenheit, Celsius, and Kelvin temperature scales.** The reference, or starting point, for the Kelvin scale is absolute zero (0 K = −273.15 °C), which has been shown theoretically to be the lowest possible temperature. Note that the abbreviation K for the kelvin unit is used *without* the degree sign (°). Also note that 1 °C = 1 K = (9/5) °F.

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**Figure 2.2**

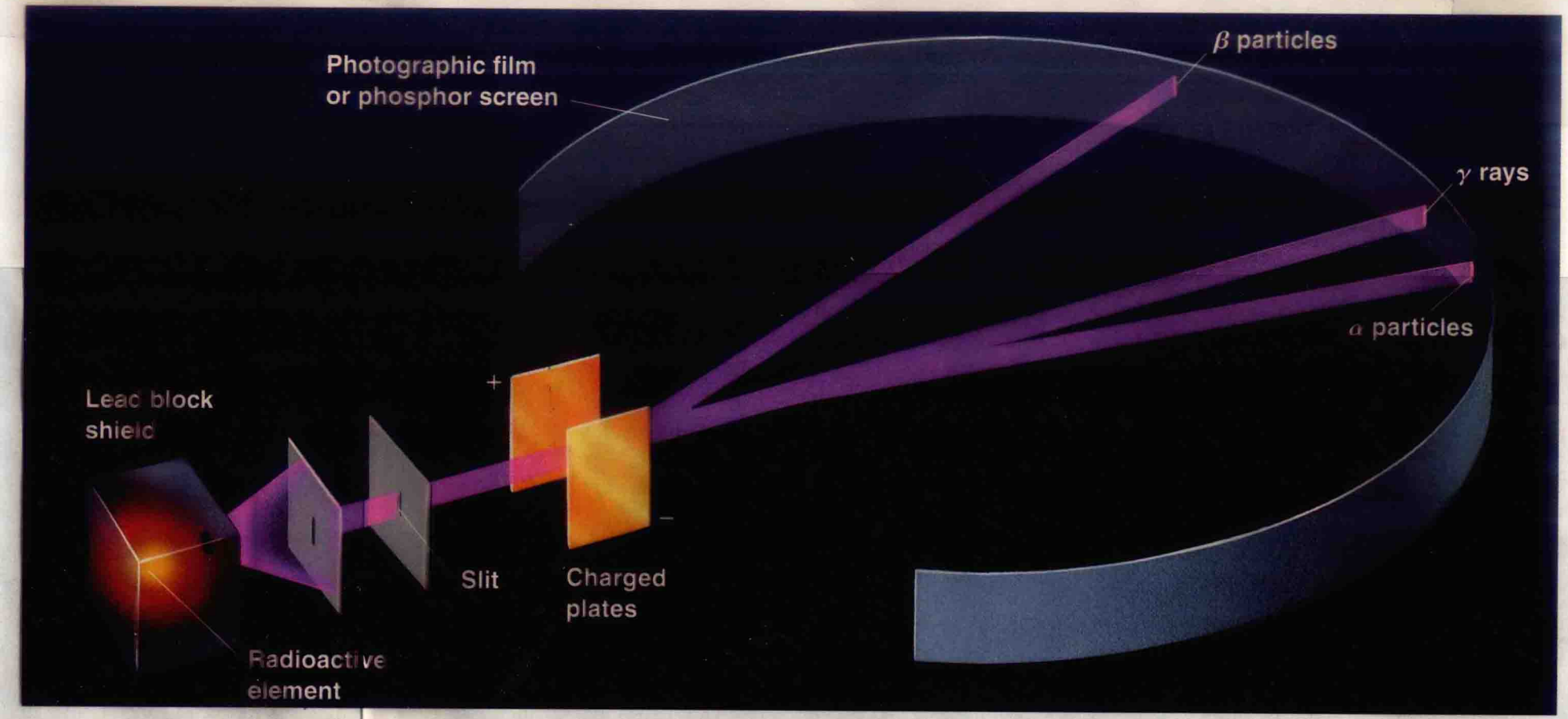


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**Figure 2.2**

**Separation of subatomic particles.** Alpha ($\alpha$), beta ($\beta$), and gamma ($\gamma$) rays from a radioactive element are separated by passing them through electrically charged plates. Positively charged $\alpha$ particles are attracted to the negative plate, and negative $\beta$ particles are attracted to the positive plate. (Note that the heavier $\alpha$ particles are deflected less than the lighter $\beta$ particles.) Gamma rays have no electric charge and pass undeflected between the charged plates.

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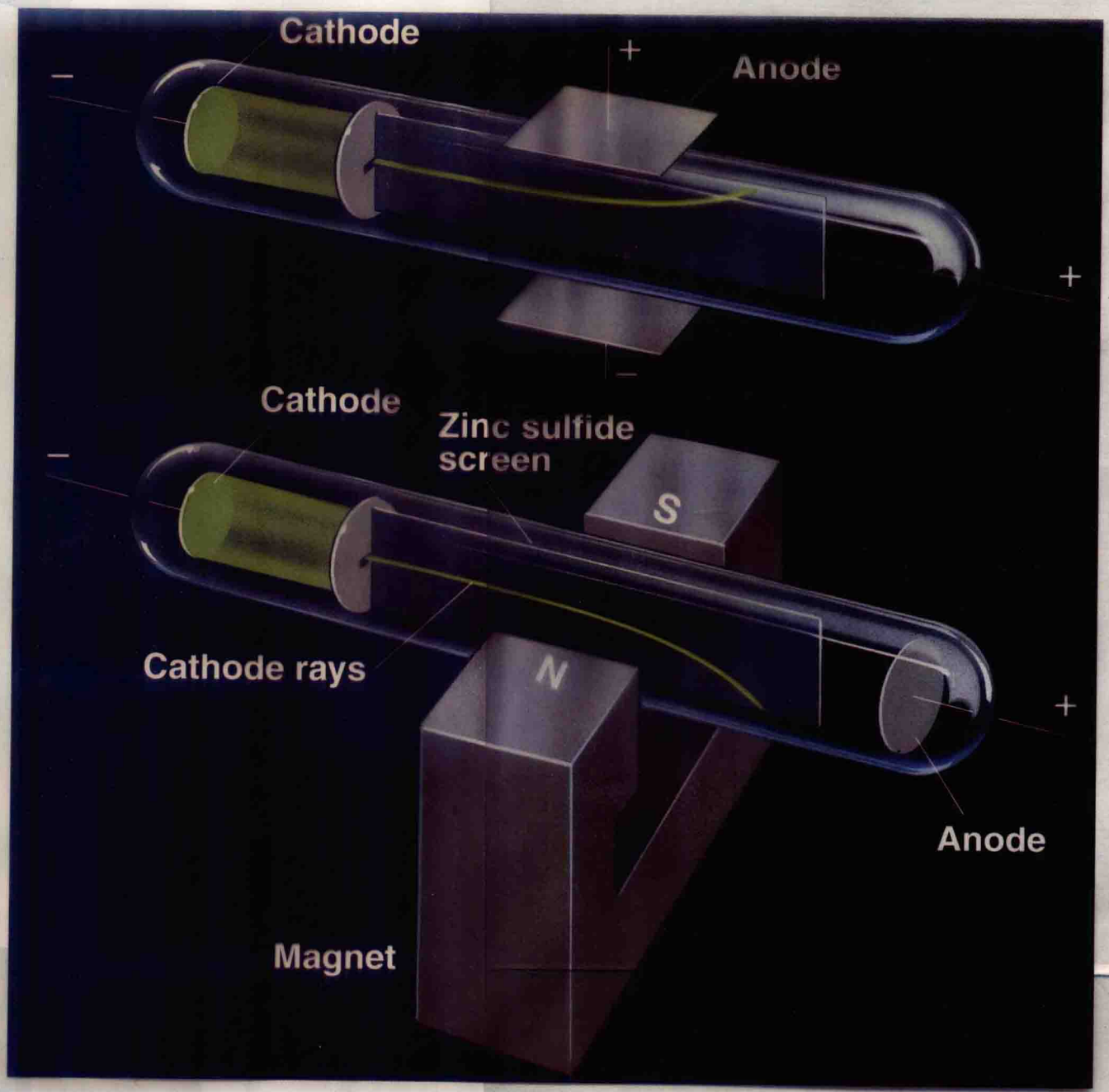
Figure 2.4

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