5-1. Strategies will vary, see the “Suggested Lesson Activity” for possibilities.

5-2. See below:

   a. Strategies may vary: subdivide the line segment into twenty equal parts; then each of these represent 5% and 3 of these represent 15%.

   b. 3g should go with 15% because it represents the amount in one serving.

   c. 20g

5-3. See below:

   a. 3g is the part in one serving of Cheesy Mac. 20g represents the total saturated fat you should consume in a day.

   b. Sample justification: \( \frac{15}{100} = \frac{3}{20} = 0.15 \) or \( \frac{15}{100} \cdot \frac{0.2}{0.2} = \frac{3}{20} \)
5-4. See below:

a. See the “Suggested Lesson Activity” for completed diagram.

b. 25. \( \frac{16}{100} = \frac{4}{25} \cdot \frac{16}{100} \cdot \frac{1}{4} = \frac{4}{25} \)

c. 84%. \( \frac{21}{25} \cdot \frac{4}{4} = \frac{84}{100} \)

d. The total daily grams of fiber and the portion and percentage from other foods are missing. See the “Suggested Lesson Activity” notes for sample solution diagram.

e. Possible response: \( \frac{12}{25} \cdot \frac{4}{4} = \frac{48}{100} \)

5-5. See below:

a. Because 10 parts of 6 mg make a complete 60 mg.

b. The shaded portion should be labeled 6 mg on top and 10% below; the rest of the number line should be labeled 54 mg on top and 90% below; above the 100%, it should be labeled 60 mg.

c. The 6 mg is the part labeled above the diagram, and the 60 mg is the whole. The ratio \( \frac{10}{100} \) would be equal.

d. Answers vary. \( \frac{54 \text{ mg}}{60 \text{ mg}} = \frac{90}{100} \) or \( \frac{60 \text{ mg}}{60 \text{ mg}} = \frac{100}{100} \)
5-6. See below:
   a. Answers vary: students should note that there are 3 parts blue and 12 parts red, but some may also say there are 15 parts altogether.
   b. 20%. 80%. Possible justification: The segment representing 12 parts can be divided into four equal portions of 3 parts each, so that the full segment is divided into 5 equal portions; \(100\% / 5 = 20\%\).

5-7. See below:
   a. See diagram below.
   
   b. Sample reasoning: if 56% of students are girls, then 44% are boys; \(\frac{44}{100} \cdot \frac{2.5}{2.3} = \frac{110}{?}\), 250 total students.
   
   c. One way to reason: 56% are girls so 44% are boys; if 44% of the school is 110 students, then 4% is \(110 / 11 = 10\) students; then 56\% = 4\% \cdot 14\), which then represents \(10 \cdot 14 = 140\) girls.

5-8. 135 more flowers