

# Cost of Materials

**Did You Know?** Engineers perform math calculations to create their desired product. They may work towards many goals, such as using the least amount of materials, spending the least amount of money, or using the least amount of space.

The Grade 3 team is building structures using the materials shown in the table. Each team is given 145 points. Kendra's team buys 30 gumdrops. She needs to know if they have enough points left to buy 30 toothpicks. Kendra says her team has enough points.

**Building Project Materials**

Material	Cost
Toothpick	2 points
Gumdrop	3 points
Cotton ball	4 points
Rubber band	5 points
Fabric strip	7 points
Tin foil	9 points

Kendra's work

$$30 \times 3 = 90$$

The team has used 90 points.

145 is about 150.  $150 - 90 = 60$  and  $30 \times 2 = 60$

30 toothpicks cost 60 points.

The team has enough points to buy 30 toothpicks.

## Sample answers given.

- 1 What is Kendra's argument? How does she support it?

**The team has enough points. Kendra finds the points they used. She rounds the total points up to 150 and subtracts the points used.**

- 2 **Extension** Critique Kendra's reasoning.

**Kendra's reasoning does not make sense. Rounding up the points makes it seem as if her team has more points available. Her team only has 55 points left, and 30 toothpicks cost 60 points.**