

## **BERT'S SKIRTS**

### **Teaching Guidelines**

**Subject:** Mathematics

**Topics:** Fractions, Decimals, Percents, Ratios

**Grades:** 5 - 9

**Concepts:**

- Understands the concept "percent"

**Knowledge and Skills:**

- Can use percents to describe real world situations
- Can solve problems of the form  $x\%$  of  $a = b$  when any two of the factors are known
- Can perform binary operations with decimal numbers

**Subject:** Technology

**Topics:** Information Science

**Grades:** 6 - 9

**Knowledge and Skills:**

- Can use a spreadsheet to do routine calculations

**Subject:** Arts

**Topics:** Information Science

**Grades:** 6 - 9

**Knowledge and Skills:**

- Knows that many fabrics are a blend of different materials

**Materials:** Spreadsheet program (optional)

Procedure: This activity is best done by students individually or in teams of two.

Distribute the activity sheet and review it to ensure students understand what is needed.

This can seem to be a complex problem and so the activity provides a good opportunity to review problem-solving strategies. Try not to give students more help than they really need; be willing to let them struggle. In many cases if they are having difficulty it will be because they don't really understand what the question is. Help them work through this by finding ways to model the idea of mixing the two types of material to make a fabric.

This is an excellent activity with which to teach the use of spreadsheets if that software is available to your students.

Bert Mertz  
President  
Bert's Skirts  
125 Park Ave.  
New York, NY 10010

Please fill in  
these numbers  
for me.

E.W.

Dear Bert,

Good to talk to you last week.

You asked me to work out how the cost of materials for a skirt would be changed if we used a blend of rayon and cotton in place of pure cotton.

Those figures are below. They are based on these assumptions:

- ◆ It takes .75 kilogram of material to make the skirt.
- ◆ Cotton costs \$3.00 per kilogram.
- ◆ Rayon costs \$1.50 per kilogram.

	A	B	C	D
Percent of cotton in skirt	50%	60%	70%	80%
Percent of rayon in skirt	50%	40%	30%	20%
Amount of cotton used (in kg)	??	??	??	??
Amount of rayon used (in kg)	??	??	??	??
Cost of cotton per skirt	??	??	??	??
Cost of rayon per skirt	??	??	??	?
Total cost	?	??	??	??

You can see that the difference in cost between the most expensive and least expensive skirt is \_\_\_\_\_??\_\_\_\_\_.

Of course these figures will be different for different types of skirts but you get the idea. Let me know what you would like to do.

Best,

Eli