



Guitar Anatomy and Cost Estimate

In order to successfully estimate the cost of building an electric guitar, students must calculate the cost and quantity of the following components: body, neck, fret board, jack, potentiometers, capacitors, pick-ups, strap buttons, bridge, volume/tone knobs, ferrules, neck plate, screws, tuning machines, fret wire, fret board, nut, truss rod, fret dots, bridge, and strings. In doing so, students will learn basic business math computation, as well as the anatomy of an electric guitar.

Learning Objectives:

1. Students will demonstrate basic business math skills in computing the cost of purchasing the components necessary to build an electric guitar.
2. Students will demonstrate an understanding of the anatomy of an electric guitar.

Materials Required:

- Microsoft Excel
- Web browser with Internet access

Standards:

CCSS.Math.Content.HSN-Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

CCSS.Math.Content.HSN-Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities

Activity:

Step 1: Using the attached Guitar Anatomy Diagram, complete the Guitar Part Spreadsheet. To find vendor, manufacturer, part number, and unit cost, use your web browser to search for guitar components.

Recommended vendors include: Stewart-MacDonald - www.stewmac.com and Luthiers Mercantile International - www.lmii.com

Step 2: Using Microsoft Excel, construct a spreadsheet that uses formulas to calculate the total cost of the components necessary to build a guitar. Your calculation should include: unit cost, quantity, and total cost.





Guitar Part Spreadsheet

ITEM	VENDOR/ WEBSITE	MANUFACTURER	PART #	UNIT COST	QUANTITY
Body					
Neck					
Fretboard					
Pickups and mounting screws (QTY 2)					
Potentiometers 2 - 500K ohm					
Jack & jack plate					
Fuse & holder (.5 amp)					
Capacitor (.47 micro farads)					
Wire 1-1.5 feet					
Strap Buttons					
Bridge					
Knobs					
Ferrules - back of guitar for strings					
Neck plate and Neck mounting screws					
Tuning Machines					
Fret wire*					
Nut*					
Truss Rod*					
Fret Dots*					
String trees*					
Strings					

* If not included in neck assembly.





Guitar Anatomy Diagram

