

ABOUT THIS ACTIVITY UNIT

Malletech, Incorporated involves your students in the running of a company that produces wooden mallets. It requires no accounting.

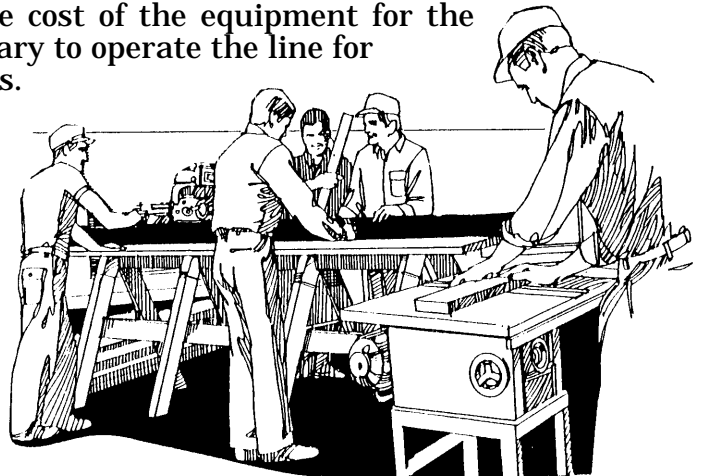
The arithmetic includes the four basic operations and percentages. The math activities vary in difficulty from simple addition and subtraction to multi-step computations.

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Use the price lists shown below to determine the cost of the equipment for the assembly line and the cost of the materials necessary to operate the line for one year under the following production conditions.

1. The assembly line will operate three, 8 hour shifts each day.
2. The assembly line will operate an average of 20 days per month.
3. The assembly line will produce 900 mallets each shift.



Assembly Line Equipment	Price	#	Cost	Sales Tax (5.5%)	Total Cost
Saw and Accessories.....	\$3,999.95	x 2 =	<u>7,999.90</u>	+ <u>439.99</u>	= <u>8,439.89</u>
Lathe and Accessories.....	\$4,499.95	2	_____	_____	_____
Drill Press and Accessories.....	\$1,999.95	1	_____	_____	_____
Glue Equipment and Accessories...	\$ 49.95	1	_____	_____	_____
Sprayer and Accessories	\$2,799.95	1	_____	_____	_____
Dryer and Accessories... ..	\$2,999.95	1	_____	_____	_____
TOTAL COST					_____

Materials	Price	Number Needed	Cost	Sales Tax (5.5%)	Total Cost
Hardwood:					
4" X 4" X 5'	\$17.00	x 64,800*	= <u>972,000.00</u>	+ <u>53,460.00</u>	= <u>1,025,460.00</u>
2" X 2" X 5'	\$ 7.50		_____	_____	_____
Sand Paper: Per Case (1 case per 2,000 mallets)	\$19.95		_____	_____	_____
Wood Glue: Per 1 Gallon Can (1 gallon per 1,000 mallets)	\$14.95		_____	_____	_____
Wood Varnish: Per 5 Gallon Can (1 gallon per 400 mallets)	\$49.99		_____	_____	_____
Shipping Cartons: Each (20 mallets per carton).....	\$.75		_____	_____	_____
TOTAL COST					_____

*5' x 12" = 60" / 6" = 10 648,000 / 10 = 64,800

Name: _____ Class: _____ Period: _____

The following chart lists the employees in the production and maintenance departments and their hourly wages. Use the chart to answer the questions below and on page 6.

Production:	Assembly Line Worker (24)*	\$ 6 / Hour
number of employees	Forklift Operator (3)	\$ 8 / Hour
	Foreman (3)*	\$12 / Hour
Maintenance:	Maintenance Crew (3)*	\$12 / Hour
number of employees	Custodians (3)	\$ 6 / Hour

A. Each 8 hour shift on the assembly line requires 8 assembly line workers, 1 forklift operator, 1 maintenance man, 1 custodian, and 1 foreman.

B. Production and maintenance workers are paid every two weeks (10 working days).

C. All work over 40 hours per week is considered overtime and is paid at 1.5 times the normal hourly rate. (40 hours = 5 days = 1 work week).

1. Compute the gross pay for each of the following workers:

Worker	Hours Worked Per Week	Gross Pay
Assembly Line Worker	(Week 1) 40..... (Week 2) 40	\$ _____
Forklift Operator	(Week 1) 40..... (Week 2) 45	\$ _____
Maintenance Worker	(Week 1) 42..... (Week 2) 48	\$ _____
Foreman.....	(Week 1) 40..... (Week 2) 46	\$ _____
Custodian.....	(Week 1) 48..... (Week 2) 44	\$ _____

2. Sheila Sprayer varnishes mallets on the assembly line. Her paycheck showed that she had worked 87 hours. She had the following paycheck deductions:

- (1) 7.10% for federal income tax
- (2) 6.20% for social security tax
- (3) 1.45% for medicare tax
- (4) 3.00% for state income tax

What was Sheila's net pay? \$ _____

3. What's the difference in wage costs to the company between working three, 8 hour shifts or two, 12 hour shifts and paying overtime? \$ _____



Complete the following chart to determine the company's net income for the year.

Revenue	
Sales Revenue (see page 20)	\$ _____
Shipping and Handling Revenue	\$ _____
Total Revenue.....	\$ _____
Expenses:	
Material Expense (see page 3).....	\$ _____
Labor Expense (see page 9)	\$ _____
Building Expense (see page 13).....	\$ _____
Depreciation Expense (see page 15).....	\$ _____
Travel Expense (see page 16).....	\$ _____
Utility Expense (see page 17)	\$ _____
Interest Expense	\$ <u>35,495.23</u>
Office Supplies	\$ <u>6,283.12</u>
Office Equipment Maintenance	\$ <u>5,329.30</u>
Production Equip. Maintenance.....	\$ <u>2,654.84</u>
Advertising Costs.....	\$ <u>212,495.23</u>
Shipping Expense	\$ <u>306,568.41</u>
Total Expenses	\$ _____
Net Income From Operations.....	\$ _____

What percentage of total expenses is each of the following? Material expense is done for you as an example.

- | | | |
|-------------------------------|---------------|--|
| 1. Material Expense | <u>46.3</u> % | → (Divide material expense by total expense and round to the nearest 1/10th percent) |
| 2. Labor Expense | _____ % | |
| 3. Building Expense | _____ % | |
| 4. Depreciation Expense | _____ % | |
| 5. Travel Expense | _____ % | |
| 6. Utility Expense..... | _____ % | |
| 7. Advertising Expense..... | _____ % | |

WHAT PERCENTAGE OF TOTAL EXPENSES IS NET INCOME?
