

The Accounting Equation

The resources controlled by a business are referred to as its assets. For a new business, those assets originate from two possible sources:

- Investors who buy ownership in the business
- Creditors who extend loans to the business

Those who contribute assets to a business have legal claims on those assets. Since the total assets of the business are equal to the sum of the assets contributed by investors and the assets contributed by creditors, the following relationship holds and is referred to as the **accounting equation** :

$$\text{Assets} = \text{Liabilities} + \text{Owners' Equity}$$

Initially, owner equity is affected by capital contributions such as the issuance of stock. Once business operations commence, there will be income (revenues minus expenses, and gains minus losses) and perhaps additional capital contributions and withdrawals such as dividends. At the end of a reporting period, these items will impact the owners' equity as follows:

Assets	=	Liabilities	+	Owners' Equity
				+ Revenues
				- Expenses
				+ Gains
				- Losses
				+ Contributions
				- Withdrawals

These additional items under owners' equity are tracked in temporary accounts until the end of the accounting period, at which time they are closed to owners' equity.

The accounting equation holds at all times over the life of the business. When a transaction occurs, the total assets of the business may change, but the equation will remain in balance. The accounting equation serves as the basis for the balance sheet, as illustrated in the following example.

The Accounting Equation - A Practical Example

To better understand the accounting equation, consider the following example. Mike Peddler decides to open a bicycle repair shop. To get started he rents some shop space, purchases an initial inventory of bike parts, and opens the shop for business. Here is a listing of the transactions that occurred during the first month:

Date	Transaction
Jan 1	Owner contributes \$7,500 in cash to capitalize the business.
Jan 8	Purchased \$2,500 supplies on account, payable in 30 days.
Jan 15	Paid first month's Office rent of \$1,000.
Jan 17	Provide the service for \$1,100; collected \$400 cash; billed customers for the \$700 balance.
Jan 18	\$275 in supplies were used.
Jan 25	Collected \$425 from customer accounts.
Jan 28	Paid \$500 to suppliers for parts purchased earlier in the month.

These transactions affect the accounting equation as shown below.

	Assets			=	Liabilities + Owner's Equity		
	Cash	+ Supplies	+ Accounts Receivable	=	Accounts Payable	+ Capital	+ Revenue (Expenses)
Jan 1	7,500			=		7,500	
Jan 8		2,500		=	2,500		
Jan 15	(1,000)			=			(1,000)
Jan 17	400		700	=			1,100
Jan 18		(275)		=			(275)
Jan 25	425		(425)	=			
Jan 28	(500)			=	(500)		
Totals:	6,825	+ 2,225	+ 275	=	2,000	+ 7,500	+ (175)
	<u>\$9,325</u>			=	<u>\$9,325</u>		



Note that for each date in the above example, the sum of entries under the "Assets" heading is equal to the sum of entries under the "Liabilities + Owner's Equity" heading. In most of these cases, the transaction affected both sides of the accounting equation. However, note that the Sep 25 transaction affected only the asset side with an increase in cash and an equal but opposite decrease in accounts receivable.

At the end of the month of September, the net income (revenues minus expenses) is closed to capital and the balance sheet for the business would appear as follows:

Assets		Liabilities & Owner's Equity	
Cash	6,825	Accounts Payable	2,000
Accounts Receivable	275	Capital	7,325
Other Assets	2,225		
	<hr/>		<hr/>
Total Assets	<u>\$9,325</u>	Total Liabilities	<u>\$9,325</u>

The bike parts are considered to be inventory, which appears as an asset on the balance sheet. The owner's equity is modified according to the difference between revenues and expenses. In this case, the difference is a loss of \$175, so the owner's equity has decreased from \$7,500 at the beginning of the month to \$7,325 at the end of the month.

Debits and Credits

The above example illustrates how the accounting equation remains in balance for each transaction. Note that negative amounts were portrayed as negative numbers. In practice, negative numbers are not used; in a double-entry bookkeeping system the recording of each transaction is made via debits and credits in the appropriate accounts.
