

## LEARNING GOALS

### (a) Knowledge and conceptual understanding

Understand the basic elements (e.g. the difference between expenses and cost of goods sold, the difference between accrual and cost accounting) of financial statements and how they are bound together through the accounting equation ( $A=L+SE$ ).

### (b) Thinking and other skills

Create an income statement, balance sheet and cash flow statement for a very simple business.

### (c) Attitudes, values, dispositions and habits of mind

Critically evaluate erroneous financial statements by pointing out errors and discussing them e.g., point out what might be wrong with a balance statement which doesn't balance and justify suggested changes.

## PRE-TEST

### **Part A: Creation of the financial statements (homework to be submitted to the professor at the start of the accounting class) – NOT GRADED**

Fill in the blanks of the templates (see appendix A) for the balance sheet, income statement and cash flow statement based on the following information:

You start a business and this is what you do in your first week:

- You invest \$5 in your ice cream selling business
- You get a \$25 loan from the bank.
- You go to the grocery store to buy 2 liters of heavy cream, 1 liter of milk, 1 pound of sugar and vanilla extract. This is enough for 20 scoops. You purchase these ingredients on credit. You are charged \$10.
- You make a batch of ice cream for 20 scoops.
- You sell the 20 scoops at \$1 each. You receive cash for 10 scoops and the other 10 scoops are purchased on credit.
- You repay \$5 of the bank loan.
- The banker wants \$1 in interest.
- The neighbors where you have your ice cream stand ask you to buy an insurance policy. The insurance agent offers you a three-year policy which costs \$3 payable in advance.
- You purchase an ice cream stand for \$5. You also buy a tiny patch of land from a friend's family for \$2. You depreciate the ice cream stand \$1/week.
- A customer pays \$2 for two scoops he bought on credit.
- You pay \$5 towards the credit you had at the store for the ingredients.

**Part B: Critical evaluation of financial statements (homework to be submitted to the professor at the start of the accounting class)**

ASSETS		LIABILITIES	
CASH	5	ACCOUNTS PAYABLE	10
ACCOUNTS RECEIVABLE	20	NOTES PAYABLE	20
INVENTORY	10	TOTAL LIABILITIES	30
RAW MATERIALS	10		
FINISHED GOODS	0		
PREPAID EXPENSE	2	OWNER'S EQUITY	
FIXED ASSET	12	ORIGINAL INVESTMENT	10
	1	RETAINED EARNINGS	0
	11	EARNINGS WEEK TO DATE	15
		TOTAL OWNER'S EQUITY	25
TOTAL ASSETS	48	TOTAL LIABILITIES + OWNER'S EQUITY	55

B1) You might notice that the above balance sheet doesn't balance! Let's try to fix it.

Let's assume that you had \$16 in sales this week. You had to buy insurance for three years payable immediately (\$3) and you depreciated your fixed assets with \$1. You used inventory worth \$5 to make the products that you sold this week. You also paid the bank \$5 back to pay off a loan as well as \$1 in interest.

- What is your gross profit?
- What is your net profit?
- How can you fix the balance statement?

B2) Imagine that you sell \$50 worth of lemonade this week (accounting period of one week). A/R was \$50 at the beginning of the week and \$80 at the end of the week.

- How much cash was collected from customers during the period?

## **POST-TEST**

### **Part A: Creation of the financial statements (homework assignment)**

Fill in the blanks of the templates (see appendix A) for the balance sheet, an income statement, and a cash flow statement.

You start a business and this is what you do in your first week:

- You invest \$10 in your ice cream selling business
- You get a \$50 loan from the bank.
- You go to the grocery store to buy 6 liters of heavy cream, 3 liter of milk, 3 pound of sugar and vanilla extract. This is enough for 60 scoops. You purchase these ingredients on credit. You are charged \$10 and you pay \$20 cash.
- You make a batch of ice cream for 40 scoops.
- You sell the 40 scoops at \$1 each. You receive cash for 20 scoops and the other 20 scoops are purchased on credit.
- You repay \$20 of the bank loan.
- The banker wants \$3 in interest.
- The neighbors where you have your ice cream stand ask you to buy an insurance policy. The insurance agent offers you a three-year policy which costs \$3 payable in advance.
- You purchase an ice cream stand for \$10. You also buy a tiny patch of land from a friend's family for \$2. You depreciate the ice cream stand \$1/week.
- A customer pays \$4 for four scoops he bought on credit.
- You pay \$5 towards the credit you had at the store for the ingredients.

**Part B: Critical evaluation of financial statements**

ASSETS				LIABILITIES	
CASH			15	ACCOUNTS PAYABLE	10
ACCOUNTS RECEIVABLE			25	NOTES PAYABLE	20
INVENTORY	RAW MATERIALS	5	5	TOTAL LIABILITIES	30
	FINISHED GOODS	0			
PREPAID EXPENSE			2	OWNER'S EQUITY	
FIXED ASSET		12	1	ORIGINAL INVESTMENT	10
				RETAINED EARNINGS	0
				EARNINGS WEEK TO DATE	15
				TOTAL OWNER'S EQUITY	25
TOTAL ASSETS			58	TOTAL LIABILITIES + OWNER'S EQUITY	55

B1) You might notice that the above balance sheet doesn't balance! Let's try to fix it.

Let's assume that you had \$31 in sales this week. You had to buy insurance for three years payable immediately (\$3) and you depreciated your fixed assets with \$1. You used inventory worth \$10 to make the products that you sold this week. You also paid the bank \$5 back to pay off a loan as well as \$1 in interest.

- A. What is your gross profit?
- B. What is your net profit?
- C. 1) What is wrong with the balance statement?  
2) Given the information that you have, is it possible that other things are wrong with the balance statement?

B2) Imagine that you sell \$50 worth of lemonade this week (accounting period of one week). A/R was \$40 at the beginning of the week and \$30 at the end of the week.

- A. How much cash was collected from customers during the period?

## SCORING RUBRIC

### 1) Part A (for financial statements)

# correct boxes (last column only; totals boxes do not count) for balance sheet (up to 10 pts) \_\_\_\_

# correct boxes for income statement (up to 13 pts; all boxes count) \_\_\_\_\_

# correct boxes for cash flow statement (up to 8 pts) \_\_\_\_\_

### 2) Part B

Question B1)

Question A. Did the student answer correctly (1 point)? \_\_\_\_\_

Question B. Did the student answer correctly (1 point)? \_\_\_\_\_

Question C.

C1) Did the student understand that adjusting earnings-week-to-date would result in a balanced balance sheet?

Yes. Even though the student was not able to calculate earnings-week-to-date correctly, s/he acknowledged that there might be an error with the value for earnings-week-to-date.	Yes. The student was able to calculate earnings-week-to-date correctly and understood that by replacing the incorrect value with the correct value, the balance sheet would balance.	No.
1 point	1 point	0 points.

C2) Did the student understand that there might be other issues with the balance sheet?

Yes. Student acknowledged that there might have been other errors, and that this cannot be determined with the information s/he has (e.g. accounts receivable, accounts payable, notes payable...)	No.
1 point	0 points
Bonus point: the student mentions the accounting equation.	
1 point	

Question B2)

A. Did the student answer correctly?

Yes.	No.
1 point	0 points

### APPENDIX A: Templates

ASSETS	LIABILITIES
CASH <input style="width: 50px;" type="text"/>	ACCOUNTS PAYABLE <input style="width: 50px;" type="text"/>
ACCOUNTS RECEIVABLE <input style="width: 50px;" type="text"/>	NOTES PAYABLE <input style="width: 50px;" type="text"/>
INVENTORY <span style="font-size: small;">RAW MATERIALS <input style="width: 30px;" type="text"/></span> <input style="width: 50px;" type="text"/> <span style="font-size: small;">FINISHED GOODS <input style="width: 30px;" type="text"/></span> <input style="width: 50px;" type="text"/>	TOTAL LIABILITIES <input style="width: 50px;" type="text"/>
PREPAID EXPENSE <input style="width: 50px;" type="text"/>	OWNER'S EQUITY
FIXED ASSET <input style="width: 25px;" type="text"/> <input style="width: 25px;" type="text"/> <input style="width: 25px;" type="text"/>	ORIGINAL INVESTMENT <input style="width: 50px;" type="text"/>
	RETAINED EARNINGS <input style="width: 50px;" type="text"/>
	EARNINGS WEEK TO DATE <input style="width: 50px;" type="text"/>
	TOTAL OWNER'S EQUITY <input style="width: 50px;" type="text"/>
	TOTAL LIABILITIES + OWNER'S EQUITY <input style="width: 50px;" type="text"/>
TOTAL ASSETS <input style="width: 50px;" type="text"/>	

INCOME STATEMENT	Begin: Monday AM. End: Sunday PM
SALES	\$ <input style="width: 50px;" type="text"/>
Beginning inventory	\$ <input style="width: 50px;" type="text"/>
+Purchases	<input style="width: 50px;" type="text"/>
+Labor	<input style="width: 50px;" type="text"/>
Total available for sale	\$ <input style="width: 50px;" type="text"/>
-Ending inventory	<input style="width: 50px;" type="text"/>
-COST OF GOODS SOLD	<input style="width: 50px;" type="text"/>
GROSS PROFIT =	<input style="width: 50px;" type="text"/>
EXPENSES	
• <input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 50px;" type="text"/>
• <input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 50px;" type="text"/>
• <input style="width: 100%; height: 20px;" type="text"/>	<input style="width: 50px;" type="text"/>
= TOTAL EXPENSES	<input style="width: 50px;" type="text"/>
NET PROFIT BEFORE TAXES (=earnings week to date)	<input style="width: 50px;" type="text"/>

### CASH STATEMENT WEEK 4

COLLECTIONS	\$	<input style="width: 95%;" type="text"/>
INVENTORY PAID		<input style="width: 95%;" type="text"/>
FIXED ASSET INVESTMENT		<input style="width: 95%;" type="text"/>
EXPENSES PAID		<input style="width: 95%;" type="text"/>
BORROW/PAYBACK	\$	<input style="width: 95%;" type="text"/>
CHANGE IN CASH		<input style="width: 95%;" type="text"/>
BEGINNING CASH		<input style="width: 95%;" type="text"/>
ENDING CASH		<input style="width: 95%;" type="text"/>

### APPENDIX B1: PRE-TEST PART A; CORRECT STATEMENTS

ASSETS				LIABILITIES	
CASH	<input style="width: 50px;" type="text" value="21"/>			ACCOUNTS PAYABLE	<input style="width: 50px;" type="text" value="5"/>
ACCOUNTS RECEIVABLE	<input style="width: 50px;" type="text" value="8"/>			NOTES PAYABLE	<input style="width: 50px;" type="text" value="20"/>
INVENTORY	RAW MATERIALS	<input style="width: 50px;" type="text" value="0"/>	<input style="width: 50px;" type="text" value="0"/>	TOTAL LIABILITIES	<input style="width: 50px;" type="text" value="25"/>
	FINISHED GOODS	<input style="width: 50px;" type="text" value="0"/>			
PREPAID EXPENSE	<input style="width: 50px;" type="text" value="2"/>			OWNER'S EQUITY	
FIXED ASSET	<input style="width: 50px;" type="text" value="7"/>	<input style="width: 50px;" type="text" value="1"/>	<input style="width: 50px;" type="text" value="6"/>	ORIGINAL INVESTMENT	<input style="width: 50px;" type="text" value="5"/>
				RETAINED EARNINGS	<input style="width: 50px;" type="text" value="0"/>
				EARNINGS WEEK TO DATE	<input style="width: 50px;" type="text" value="7"/>
				TOTAL OWNER'S EQUITY	<input style="width: 50px;" type="text" value="12"/>
TOTAL ASSETS	<input style="width: 50px;" type="text" value="37"/>			TOTAL LIABILITIES + OWNER'S EQUITY	<input style="width: 50px;" type="text" value="37"/>

INCOME STATEMENT		Begin: Monday AM. End: Sunday PM
<b>SALES</b>		\$ 20
Beginning inventory	\$ 0	
+Purchases		
Ingredients	10	
Total available for sale	\$ 10	
-Ending inventory	0	
<b>-COST OF GOODS SOLD</b>		10
<b>GROSS PROFIT =</b>		10
<b>EXPENSES</b>		
• Interest	1	
• Insurance	1	
• Depreciation	1	
<b>= TOTAL EXPENSES</b>		3
<b>NET PROFIT</b>		\$ 7

CASH STATEMENT WEEK 4	
COLLECTIONS	\$ +10 sales; +2 A/R
INVENTORY PAID	0
FIXED ASSET INVESTMENT	-7 Stand and Land
EXPENSES PAID	-1 Interest; -3 Insurance
BORROW/PAYBACK	\$ +25 Loan; - 5 Loan payback
CHANGE IN CASH	+21
BEGINNING CASH	0
ENDING CASH	+21

**APPENDIX B1: POST-TEST PART A; CORRECT STATEMENTS**

ASSETS				LIABILITIES	
CASH			21	ACCOUNTS PAYABLE	5
ACCOUNTS RECEIVABLE			16	NOTES PAYABLE	30
INVENTORY	RAW MATERIALS	10	10	TOTAL LIABILITIES	35
	FINISHED GOODS	0			
PREPAID EXPENSE			2	<b>OWNER'S EQUITY</b>	
FIXED ASSET		12	1	ORIGINAL INVESTMENT	10
			11	RETAINED EARNINGS	0
				EARNINGS WEEK TO DATE	15
TOTAL ASSETS			<u>60</u>	TOTAL OWNER'S EQUITY	<u>25</u>
				TOTAL LIABILITIES + OWNER'S EQUITY	<u>60</u>

INCOME STATEMENT		Begin: Monday AM. End: Sunday PM	
<b>SALES</b>			\$ <u>40</u>
Beginning inventory	\$	<u>0</u>	
+Purchases			
Ingredients		<u>30</u>	
Total available for sale	\$	<u>30</u>	
-Ending inventory		<u>10</u>	
<b>-COST OF GOODS SOLD</b>			<u>20</u>
<b>GROSS PROFIT =</b>			<u>20</u>
<b>EXPENSES</b>			
• Interest		<u>3</u>	
• Insurance		<u>1</u>	
• Depreciation		<u>1</u>	
<b>= TOTAL EXPENSES</b>			<u>5</u>
<b>NET PROFIT</b>	\$		<u><u>15</u></u>

CASH STATEMENT WEEK 4		
COLLECTIONS	\$	+20 sales; +4 A/R
INVENTORY PAID		-20 ingredients; -5 A/P
FIXED ASSET INVESTMENT		-12 Stand and Land
EXPENSES PAID		-3 Interest; -3 Insurance
BORROW/PAYBACK	\$	+10 investment; +50 Loan; - 20 Loan payback
CHANGE IN CASH		+21
BEGINNING CASH		0
ENDING CASH		+21

#### APPENDIX C1: PRE-TEST PART B; CORRECT ANSWERS

1a)  $\$11 = \$16 - \$5$

1b)  $\$8 = \$11 - \$1 - \$1 - \$1$

1c) Change earnings-week-to-date to reflect \$8

2) We collected \$20 cash from customers (in either new sales or from customers paying of their credit).

A/R = \$50 at start and \$ 80 at the end, so A/R change was +\$30

We sold \$50 worth of lemonade, but A/R changed +\$30 so we only received \$20 in cash.

#### APPENDIX C2: POST-TEST PART B; CORRECT ANSWERS

Let's assume that you had \$31 in sales this week. You had to buy insurance for three years payable immediately (\$3) and you depreciated your fixed assets with \$1. You used inventory worth \$10 to make the products that you sold this week. You also paid the bank \$5 back to pay off a loan as well as \$1 in interest.

1a)  $\$21 = \$31 - \$10$

1b)  $\$18 = \$21 - \$1 - \$1 - \$1$

1c) Change earnings-week-to-date to reflect \$18

2) We collected \$60 cash from customers (in either new sales or from customers paying of their credit).

A/R = \$40 at start and \$ 30 at the end, so A/R change was -\$10

We sold \$50 worth of lemonade, but A/R changed -\$10 so we received \$60 in cash.