

Tutorial 8 - Accounting for Inventories***A Point for discussion (understanding WAC)***

WAC: Weighted average cost.

Q: 10 eggs at RM 0.30 averaged with 5 eggs at RM 0.15

$(0.3 + 0.15) / 2 = \text{RM}0.225$ midpoint

$$\frac{(10 \text{ eggs at RM}0.30 + 5 \text{ eggs at RM}0.15)}{(10 + 5)}$$

RM0.27 vs RM0.16

= RM0.27 per egg.

How would the weighted average change if RM0.15 priced eggs were increased to 12 eggs?

Points for understanding

Cost vs selling price

Sales 100 units (selling price) – Inventory 100 units (cost) =
Gross Profit

Section A:

1. An organisation's inventories as at 1 April (opening inventory) are 15 units @ RM3.00 (cost) each. The following movements occur:

05 April 2022 10 units sold at RM3.30 each

11 April 2022 20 units bought at RM3.50 each

18 April 2022 16 units sold at RM4.00 each

What is the value of the closing inventories (cost) at 31 April if the **FIFO** method of inventory valuation is used?

FIFO									
	Good Received			Good issued/sold			Balance		
Date	Qty	@	RM	Qty	@	RM	Qty	@	RM
1-Apr							15	3	45
5-Apr				10	3	30	5	3	15
11-Apr	20	3.5	70				5	3	15
							20	3.5	70
18-Apr				5	3	15			
				11	3.5	38.5	9	3.5	31.5
			70			83.5			31.5
			purchase			COGS			C/Inv

WAC									
	Good Received			Good issued/sold			Balance		
Date	Qty	@	RM	Qty	@	RM	Qty	@	RM
1-Apr							15	3	45
5-Apr				10	3	30	5	3	15
11-Apr	20	3.5	70				25	3.4	85
18-Apr				16	3.4	54.4	9	3.4	30.6
			70			84.4			30.6
			purchase			COGS			C/Inv

2. Your organisation uses the **weighted average cost** method of valuing inventories. During May 2022, the following inventories details were recorded:

Opening balance	30 units valued at RM2.00 each
06 May 2022	purchases of 50 units at RM2.40 each
13 May 2022	issue of 40 units (40 units left)
21 May 2022	purchases of 60 units at RM2.50 each
25 May 2022	issue of 25 units

What is the value of inventories on 31 May 2022? Show the movements of the inventories in the form of an inventory card.

WAC									
Good Received			Good issued/sold			Balance			
Date	Qty	@	RM	Qty	@	RM	Qty	@	RM
1-May							30	2	60
6-May	50	2.4	120				80	2.25	180
13-May				40	2.25	90	40	2.25	90
21-May	60	2.5	150				100	2.4	240
25-May				25	2.4	60	75	2.4	180
			270			150			180
			Purchase			COGS			C/Inv

extra

FIFO									
Good Received			Good issued/sold			Balance			
Date	Qty	@	RM	Qty	@	RM	Qty	@	RM
1-May							30	2	60
6-May	50	2.4	120				30	2	60
							50	2.4	120
13-May				30	2	60			
				10	2.4	24	40	2.4	96
21-May	60	2.5	150				40	2.4	96
							60	2.5	150
25-May				25	2.4	60	15	2.4	36
							60	2.5	150
			270			144			186
			Purchase			COGS			C/Inv

Question 3: FIFO

TaufooFa Sdn. Bhd. commenced trading on 1 January 2018 and trading activities during the next five years were as follows:

	Units purchased	Units sold	Purchase price (per unit) RM	Sales price (per unit) RM
2018	12,000	6,000	28	40
2019	18,000	12,000	32	46
2020	24,000	18,000	36	54
2021	24,000	18,000	40	58
2022	24,000	48,000	44	60

TaufooFa Sdn. Bhd. adopted the inventories flow assumption of first-in first-out (FIFO) when matching purchases with sales for each of the five years.

Required:

Prepare a trading account for each of the five years.

Illustration for purchase and sales from 2018-2022						
Year	Purchase			Sales		
	Units	Unit Price	Total	Units	Unit Price	Total
			RM '000			RM '000
2018	12000	28	336	6000	40	240
2019	18000	32	576	12000	46	552
2020	24000	36	864	18000	54	648
2021	24000	40	960	18000	58	696
2022	24000	44	1056	48000	60	2880

FIFO								
	Good Received			Good issued/sold			Balance	
Date	Qty ('000)	@	RM ('000)	Qty ('000)	@	RM ('000)	Qty ('000)	@ RM ('000)
2018	12	28	336				12	28 336
				6	28	168	6	28 168
2019							6	28 168
	18	32	576				18	32 576
				6	28	168		
				6	32	192	12	32 384
2020	24	36	864				12	32 384
							24	36 864
				12	32	384		
				6	36	432	18	36 648
2021	24	40	960				18	36 648
							24	40 960
				18	36	648	24	40 960
2022	24	44	1056				24	40 960
							24	44 1056
				24	40	960		
				24	44	1056	0	0 0

Trading Account for the years ended 31 December						
	2018	2019	2020	2021	2022	
	RM'000	RM'000	RM'000	RM'000	RM'000	
Sales	240	552	972	1044	2880	
Less: COGS						
Opening Inv.	0	168	384	648	960	
Purchase	336	576	864	960	1056	
Closing Inv.	-168	-384	-648	-960	0	
	168	360	600	648	2016	
Gross Profit	72	192	372	396	864	

Question 4

Lorenzo runs a workshop which sells several grades of petrol. On 30 April 2022, the tank containing unleaded petrol was empty. Set out below are the records for receipts and sales of unleaded petrol during May 2022.

	Purchase		Sales	
	Litres	Price per litre	Litres	Price per litre
1 May	75,000	RM0.50		
1 May - 7 May			67,500	RM0.60
				40500
8 May	75,000	RM0.52		
8 May - 14 May			75,000	RM0.65
				48750
15 May	60,000	RM0.54		
15 May - 21 May			45,000	RM0.68
				30600
22 May	60,000	RM0.56		
22 May - 28 May			37,500	RM0.70
				26250
			Total Sales: 146100	

Required:

- (a) Calculate Lorenzo's gross profit on his sales of unleaded petrol for the month ended 31 May 2022 if he values her inventories on a first-in first-out basis.

FIFO									
	Good Received			Good issued/sold			Balance		
Date	Qty	@	RM	Qty	@	RM	Qty	@	RM
1-May	75000	0.5	37500				75000	0.5	37500
1 - 7 May				67500	0.5	33750	7500	0.5	3750
8-May	75000	0.52	39000				7500	0.5	3750
							75000	0.52	39000
8 - 14 May				7500	0.5	3750			
				67500	0.52	35100	7500	0.52	3900
15-May	60000	0.54	32400				7500	0.52	3900
							60000	0.54	32400
15 - 21 May				7500	0.52	3900			
				37500	0.54	20250	22500	0.54	12150
22-May	60000	0.56	33600				22500	0.54	12150
							60000	0.56	33600
22 - 28 May				22500	0.54	12150			
				15000	0.56	8400	45000	0.56	25200
			142500			117300			25200
			purchase			COGS			C/Inv

- (b) Calculate Lorenzo's gross profit using the weighted average basis.

WAC									
	Good Received			Good issued/sold			Balance		
Date	Qty	@	RM	Qty	@	RM	Qty	@	RM
1-May	75000	0.5	37500				75000	0.5	37500
1 - 7 May				67500	0.5	33750	7500	0.5	3750
8-May	75000	0.52	39000				82500	0.52	42750
8 - 14 May				75000	0.52	39000	7500	0.52	3750
15-May	60000	0.54	32400				67500	0.54	36150
15 - 21 May				45000	0.54	24300	22500	0.54	11850
22-May	60000	0.56	33600				82500	0.55	45450
22 - 28 May				37500	0.55	20625	45000	0.55	24825
			142500			117675			24825
			purchase			cogs			C/Inv

Trading account for the month ended 31 May 2022				
		FIFO		WAC
Sales		146100		146100
Less: COGS				
Opening Inventories		0		0
Purchase		142500		142500
Less: Closing inventories		-25200		-24825
		117300		117675
Gross Profit		28800		28425

- (c) Lorenzo expects the cost of petrol to continue rising. In 4 weeks' time, at the end of June 2022, he expects the unleaded petrol tank to be full. Which inventory valuation method will give him the higher profit for this period?

FIFO. Under the FIFO inventory valuation method, the first inventory purchased is first to be sold. During inflation, the higher priced inventory (most recent purchases) will appear in the Statement of Financial Position and the lower priced inventory (earlier purchases) will be included in the cost of sales. Therefore, cost of sales will be lower and closing inventories reflect the latest market price, which is higher.

Under the WAC method, the goods sold are based on the weighted average of all purchases. During inflation, the most recent purchases (higher priced inventory) are also included in the weighted average cost, therefore, resulting in a higher cost of sales figure. The earlier purchases (lower priced inventory) are still included in the weighted average closing inventories, resulting in a lower closing inventory in the Statement of Financial Position.

Section B: Extra exercise questions (for students' own practice)**Question 1**

The following statement of profit or loss has been extracted from the financial statements of Surprise Trading for the year ended 31 December 2021.

Extract – Statement of Profit or Loss for the year ended
31 December 2021

	RM	RM
Sales		500,000
Opening stock	40,000	
Purchases	300,000	
Less: Closing stock	(50,000)	
COGS		(290,000)
Gross Profit		210,000
Less: Total expenses		(80,000)
Net Profit		130,000

As at the year end date, the following errors have been discovered:

- i. The closing stock was overstated by RM10,000 (-10000)
- ii. The opening stock was understated by RM20,000. (+20000)

Required:

- a. Explain the effects of the above errors on the values of cost of goods sold and net profit of Surprise Trading.
It causes the value of cost of goods sold to be understated by RM 30000 and the value of net profit to be overstated by RM 30000.
- b. Redraft the above Statement of Profit or Loss for the year ended 31 December 2021 to include the corrections of the errors.

Extract – Statement of Profit or Loss for the year ended
31 December 2021

	RM	RM
Sales		500,000
Opening stock	60,000	
Purchases	300,000	
Less: Closing stock	(40,000)	
COGS		(320,000)
Gross Profit		210,000
Less: Total expenses		(80,000)
Net Profit		100,000

Question 2

The following statement of financial position has been extracted from the financial statements of Kayaraya Enterprise for the year ended 31 December 2021.

Statement of Financial Position extract as at 31 December 2021

	RM	
<u>Current assets</u>		
Closing stock	40,000	
Debtors	220,000	
Cash in hand	10,000	
		<u>270,000</u>
<u>Owner's equity</u>		
Capital	200,000	
Net profit	70,000	
		<u>270,000</u>

At the end of the year, Kayaraya Enterprise discovered that its stock had been overstated by RM8,000. - 8000

Required:

- a. Explain the effects of the error on the total current assets and total owner's equity of Kayaraya Enterprise.

The 8000 overstated closing inventories caused:

- Total current assets overstated by RM 8000
- Total owner equity overstated by RM 8000

- b. Redraft the above Statement of Financial Position as at 31 December 2021 to include the correction of the error.

Statement of Financial Position extract as at 31 December 2021

	RM	
<u>Current assets</u>		
Closing stock	32,000	
Debtors	220,000	
Cash in hand	10,000	
		<u>262,000</u>
<u>Owner's equity</u>		
Capital	200,000	
Net profit	62,000	
		<u>262,000</u>

Question 3

- a. Using the following balances taken from the ledger, prepare the Trading Account for the year ended 31 July 2022:

	RM
Stock, 1 August 2021	4,780
Purchases	66,800
Sales	57,390
Returns inwards	450
Returns outwards	630
Duty on purchases	380
Stock, 31 July 2022	12,470

Extract – Statement of Profit or Loss for the year ended 31 July 2021

	RM	RM
Sales	57,390	
less: return inwards	450	56,940
<u>Less: COGS</u>		
Opening inventories	4,780	
Purchases	66,800	
Less: return outwards	(630)	
Add: Duty on purchase	380	
	71,330	
Less: Closing inventories	(12,470)	58,860
Gross Profit		1,920

- b. Write up the Inventories Account as it would appear in the ledger after the preparation of the Trading Account.

Inventories Account					
2017		RM	2018		RM
Aug-01	bal b/d (opening.inv)	4780	31-Jul	SPL (opening.inv)	4780
2018					
Jul-31	SPL (closing.inv)	12470		bal c/d (closing.inv)	12470
		17520			17520
Aug-01	bal b/d (closing.inv)	12470			

Question 4

(a) How will the closing inventory amount affect the profit for the period?

Explain.

The closing inventory is deducted from the opening inventories and purchases to arrive at the cost of goods sold in the trading account. Arithmetically, a higher closing inventory will result in a lower cost of goods sold, which in turn will result in a higher profit. Similarly, a lower closing inventory will result in a higher cost of goods sold and lower profit for the period.

(b) The inventories valuation rule **(LCM) - lower cost or market value** states that inventories should be valued at the lower of cost and net realisable value. Explain the statement.

The Prudence Concept states that assets should not be overstated. That's why we choose the lower between the cost and NRV. Similarly, the Prudence Concept also requires that any anticipated losses should be fully written off and profit should not be recognised until there is a reasonable degree of assurance that they have been earned. Where there is a disagreement over a particular amount, or a subjective judgement was made, the amount that gives a lower profit should be taken, otherwise profit may be overstated. A lower valuation will result in a lower closing inventory amount and a lower profit amount. Hence, the prudence concept is followed.