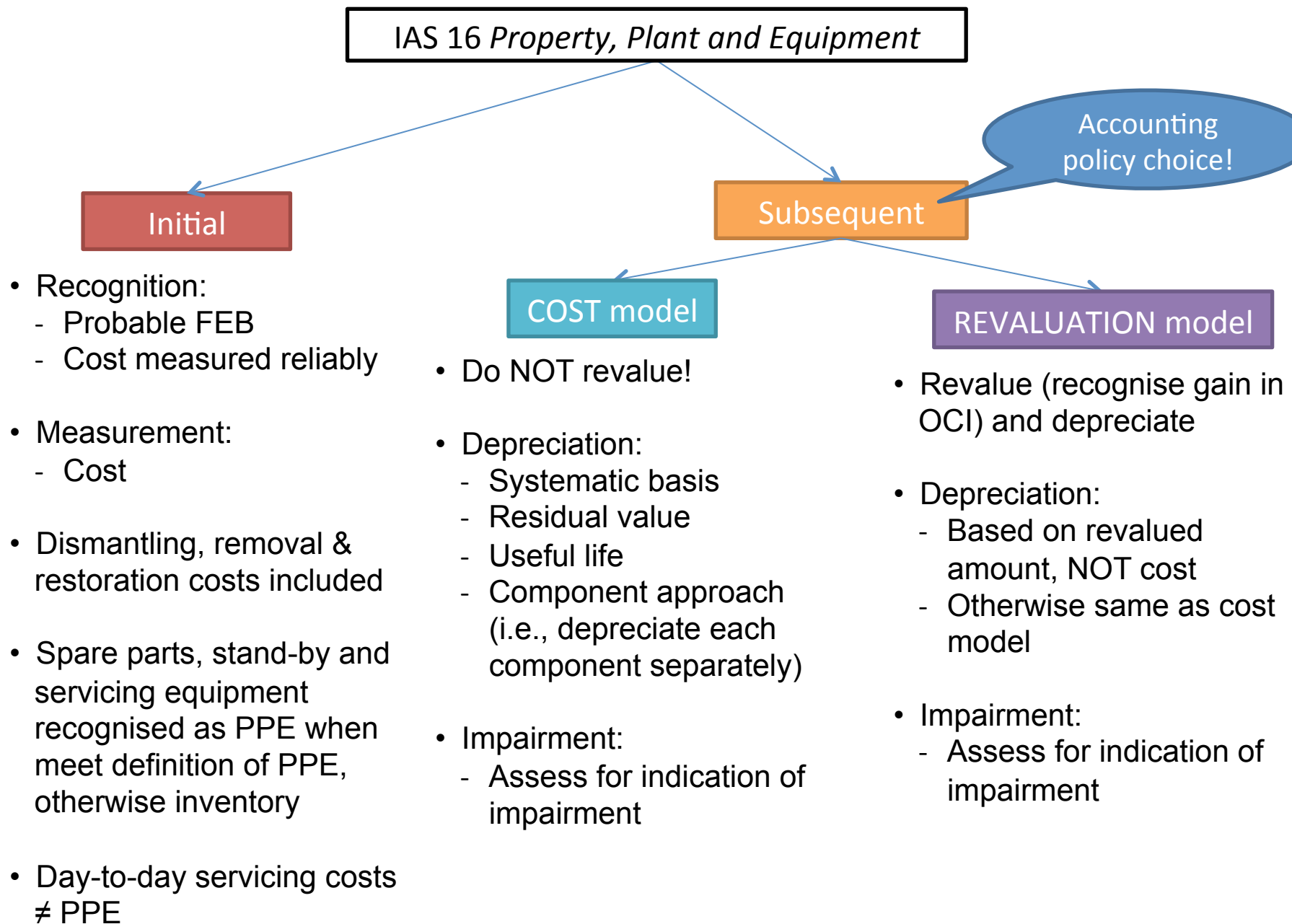


Study Unit 9

Property, Plant and Equipment (IAS 16)

IAS 16: Property, Plant and Equipment

SUMMARY – STANDARD ON A PAGE (SOAP)



IAS 16: Property, Plant and Equipment

NATURE OF PPE

Definition

- Definition
 - Tangible items
 - Held for use in production or supply of goods or services, or
 - Rental to others, or
 - For administrative purposes
 - Expected to be used during more than one period
 - Intention is to use these assets to generate revenue from operations rather than to sell them.

Objective

- To prescribe accounting treatment for property, plant and equipment
- Address timing of recognition of assets
- Determine carrying amount and related depreciation

Examples

- Land
- Buildings
- Machinery
- Ships
- Aircraft
- Motor vehicles
- Furniture and fixtures
- Office equipment

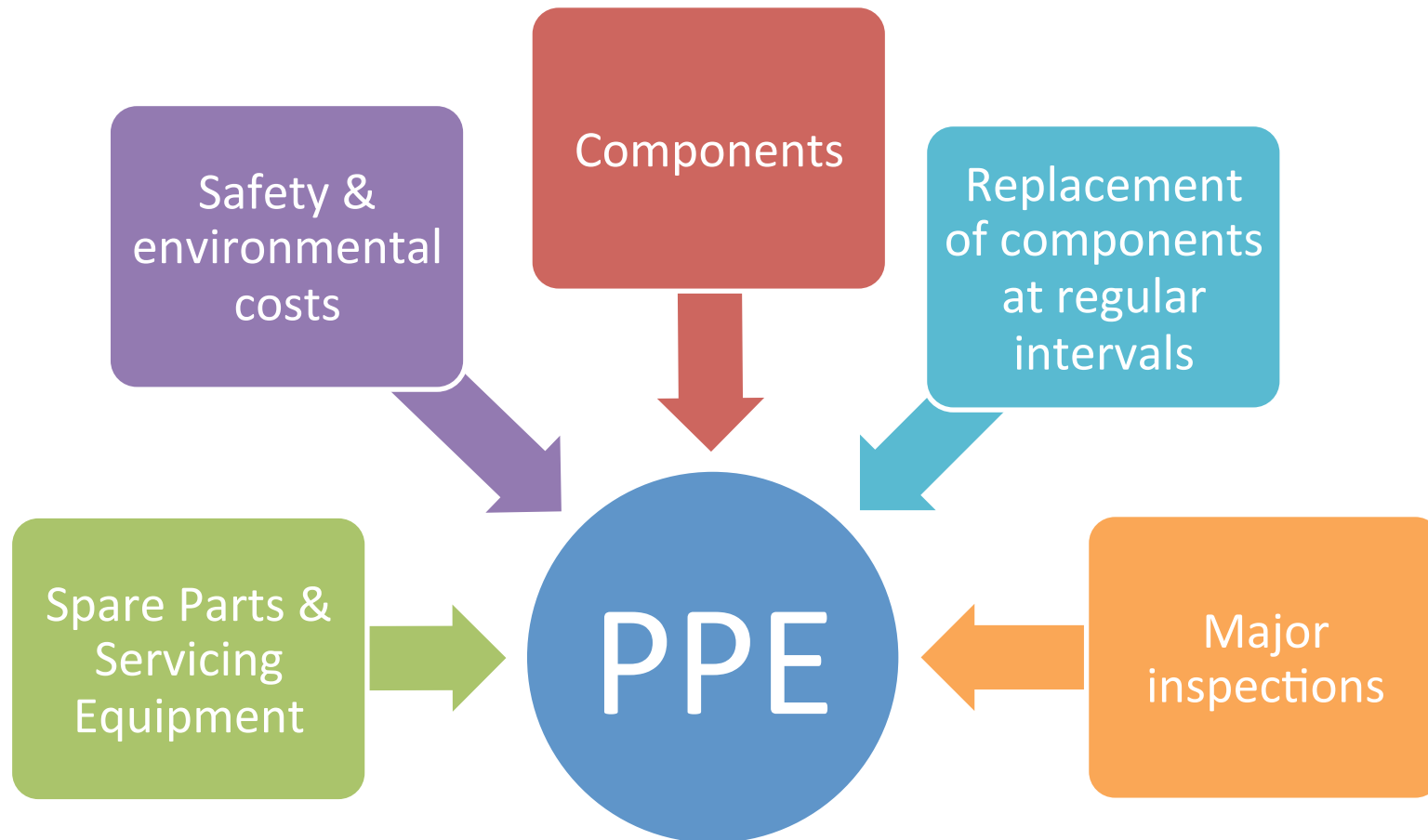
IAS 16: Property, Plant and Equipment

RECOGNITION OF PPE

Initial Recognition

- First meet definition of asset
- Then IAS 16 restates the Framework recognition criteria:
 - Probable that future economic benefits associated with the item will flow to the entity; AND
 - The cost can be measured reliably

Recognition considerations



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INITIAL MEASUREMENT

Initial measurement: COST

Cash price equivalent OR Fair value of consideration given for initial recognition at cost:

- Purchase price + import duties + non-refundable taxes – trade discounts – rebates – VAT
- Include any costs to bring PPE to *location and condition necessary* for it to be capable of operating in the manner intended by management
 - E.g., transport, installation, assembly, delivery, etc
- Include *dismantling, removing and rehabilitation provisions*
 - obligation which arises as a result of erecting/installing PPE
- Cash price equivalent (PV) on recognition date – interest unwinds over credit term period (i.e., *DISCOUNT TVM*)

Expenses not recognised as cost of PPE

- Feasibility assessment costs
- Costs of opening new facility
- Costs of introducing new product or service
- Costs of conducting business in new location or with new class of customer
- Costs of staff training
- Administration and other general overhead costs
- Costs incurred in using or redeploying an item
- Amounts related to certain incidental operations
- Costs incurred while construction is interrupted, unless certain criteria are met
- Initial operating losses

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EXAMPLE - INITIAL MEASUREMENT IMPORT COSTS AND DEFERRED PAYMENT

Initial Recognition Example 1

- A machine with an invoice price of CU1,5 million (excluding VAT at 14%) is acquired and delivered on 1 January 20X0
- It was negotiated that payment would be made in full, including interest at 5% per annum (compounded monthly) on 30 June 20X0
- A fair interest rate would be 12% per annum (compounded monthly)
- Import duties (non refundable) of CU 100,000 were incurred.

Provide the journals for initial recognition of the

Solution

Solution:

1. Calculate the total cash amount to be paid on 30 June 20X0
 - PV =
 - n =
 - i =
 - Pmt =
 - Compute FV =

Solution

Solution:

2. Calculate the fair value of the consideration given:
 - $i =$
 - Compute PV =

Solution

Journals:

1 January 20X0

Dr Machinery (FP)

Cr Creditors (FP)

Dr Machinery (FP)

Cr Bank (FP) (import duties)

Solution

Journals:

30 June 20X0

Dr Finance costs (PL)
Cr Creditors (FP)

Dr Creditors (FP)
Cr Bank (FP)

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EXAMPLE - INITIAL MEASUREMENT DISMANTLING, REMOVAL & RESTORATION

Initial Recognition Example 2

- A machine with a cost price of CU1,5m is acquired and delivered on 1 January 20X0 and paid for C.O.D.
- Installation costs amounted to CU200 000
- In terms of the lease agreement for the premises, the machine must be dismantled at the end of its useful life of 5 years
- The estimated future cost of dismantling is CU250 000
- A fair interest rate is 12% per annum compounded annually

Provide the journals for initial recognition of the machine

Solution (Ex 2)

Solution:

Purchase price:

Installation cost:

Dismantling cost:

_____*

Total cost of asset:

* Dismantling cost calculation:

– FV =

n = ,

– i = ,

Pmt = ,

– Compute PV =

Solution (Ex 2)

Journals:

1 January 20X0

Dr Machinery (FP)
 Bank (FP)

Dr Machinery (FP)
 Cr Dismantling provision (FP)

Solution (Ex 2)

Journals:

31/12/20X0

Dr Finance costs (PL)
Cr Dismantling provision (FP)

(Amort 1-1 - interest)

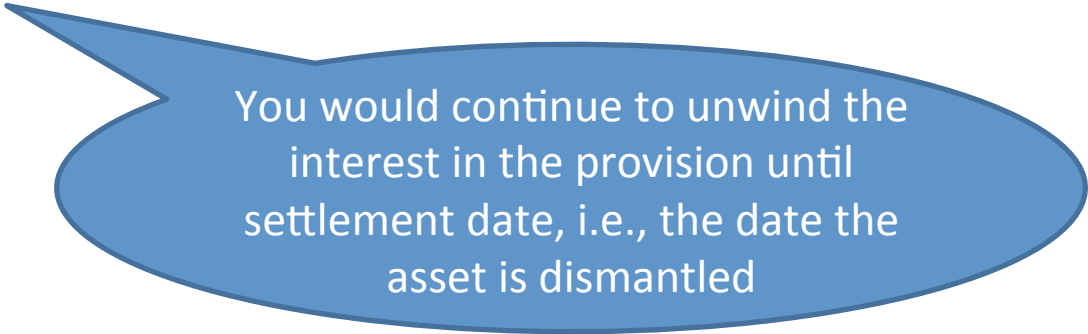
Interest amortisation below:

Amort 2-2:

Amort 3-3:

Amort 4-4:

Amort 5-5:



You would continue to unwind the interest in the provision until settlement date, i.e., the date the asset is dismantled

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EXCHANGE TRANSACTIONS

Exchange transaction

Fair value of asset given up



Fair value of asset acquired

(If FV of asset given up cant be ascertained)

Carrying amount of asset given up

*If: FV of neither asset can be ascertained,
OR No Commercial substance*

Commercial Substance

Consider the extent to which the entities future cash flows are expected to change as a result of the transaction.

A transaction has commercial substance if:

- Configuration of the cash flows of assets exchanged differ (risk, timing and amount); OR
- The value of the entity's operation changes due to the exchange transaction; AND
 - The difference is significant relative to the fair value of the assets exchanged

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SUBSEQUENT COSTS

Subsequent costs

Subsequent costs are capitalised only if they meet the general recognition criteria

- Future economic benefits are probable
- Cost can be measured reliably

- Costs of day-to-day servicing are expensed as incurred
- Recognise cost of replacing part of PPE item when incurred
- Recognise major inspection cost as replacement
- Derecognise replaced parts (physical or otherwise)

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DEPRECIATION - THEORY

Depreciation

- Aim:
 - To systematically allocate cost of asset to expense (land excluded) over its useful life
 - not to keep pace with fair value
- Depreciable amount equals:
 - Cost or an amount that replaces cost (such as revalued amount)
 - Less the residual value (RV)

Depreciation (cont.)

- Depreciate each **component** if applicable
- **Recognise in profit/loss** unless it can be capitalised to another asset
- Depreciable amount allocated on systematic basis over Useful Life (UL)
- Reviewed at least at each reporting date:
 - residual value (RV)
 - useful life (UL)
 - depreciation method
- Change in residual value, useful life or depreciation method is a change in estimate, therefore adjust current and future periods
- Cease depreciation when $RV > CA$

Depreciation (cont.)

In location and condition necessary for it to operate in manner intended by management

- Starts when **PPE is available for use**
- Ends when PPE is classified as available for sale or when derecognised
- Land = unlimited UL
 - therefore not depreciated unless it includes costs of site restoration, then depreciate *this* component over benefit period
- **Depreciation method** shall reflect the **pattern in which FEB** are expected to be consumed
 - Reviewed and accounted for as a change in estimate under IAS 8

Useful life and residual value

- Definition of 'Useful life'
 - period over which asset is expected to be available for use by an entity / number of production or similar units expected to be obtained from asset
 - Not necessarily the same as economic life!
 - Entity specific
- Must be reviewed at least annually

- Definition of 'residual value'
 - amount that could be received at reporting date if the asset were in the condition that it will be at expected disposal date i.e. END OF USEFUL LIFE
 - does not include expected future inflation
- Must be reviewed at least annually

Systematic basis.....

- Depreciation may be calculated using a variety of methods, three common ones are:
 - The straight line method
 - The diminishing (reducing) balance method
 - The units of production method
 - Sum of the digits method

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EXAMPLE – STRAIGHT LINE DEPRECIATION
(Example 2 – pg 101 UNISA SG)

STRAIGHT LINE DEPRECIATION

Example 2 – pg 101 UNISA SG:

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EXAMPLE – REDUCING BALANCE
(Example 3 – pg 101 UNISA SG)

REDUCING BALANCE DEPRECIATION

Example 3 – pg 101 UNISA SG:

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EXAMPLE – UNITS OF PRODUCTION
(Example 4 – pg 102 UNISA SG)

UNITS OF PRODUCTION DEPRECIATION

Example 4 – pg 102 UNISA SG:

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EXAMPLE – SUM-OF-THE-DIGITS
(Example 5 – pg 102 UNISA SG)

SUM-OF-THE-DIGITS DEPRECIATION

Example 5 – pg 102 UNISA SG:

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EXAMPLE – CAPITALISATION OF DEPRECIATION

(Example 6 – pg 103 UNISA SG)

CAPITALISATION OF DEPRECIATION

Example 6 – pg 103 UNISA SG:

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COMPONENT APPROACH

Parts of an item

“Components approach”

- On initial recognition, allocate cost to significant parts of the asset (including non-physical parts)
- Depreciate separately each part (component) of an asset
- Capitalise subsequent expenditure when:
 - probable that future economic benefits will flow to entity, and
 - cost can be measured reliably
- Derecognise the replaced component, even if it was not initially identified separately

Component approach illustration

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REVALUATION MODEL

Revaluation model

- May only apply revaluation model **if fair values can be measured reliably**
- Item carried at its revalued amount
 - fair value – subsequent accumulated depreciation (AD) and accumulated impairment losses (AIL)
- Revaluations must be done regularly if this model is adopted
 - regularly means that the fair value and the carrying amount should not differ significantly
- If item is revalued, **entire class of PPE** should be revalued

Revaluation model (cont.)

- If CA of asset is increased due to a revaluation
 - it shall be credited to OCI (to PL to extent it reverses out previous impairment loss)
- Revaluation decrease will be recognised first to OCI
 - to extent it reverses out credit balance
 - any excess to P/L

Revaluation model

Measurement of fair value

- **Market based evidence:**
 - i.e., a certificate from a sworn appraiser
 - OR
 - a selling price in an active market
- **Replacement value (no market based evidence):**
 - Obtain a price for a similar asset from a supplier's price list (gross replacement value - GRV)
 - GRV must be depreciated be in line with the age / income-earning capacity of the asset that is being revalued (net replacement value - NRV)

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ELIMINATION VS RESTATEMENT ACCOUNTING POLICY CHOICE

Revaluation model

Restatement vs Elimination

Accounting policy choice regarding treatment of accumulated depreciation at date of revaluation:

i) *Proportionate restatement:*

- restate accumulated depreciate proportionately

Dr PPE – cost (FP) (gross amount)	X	
 Cr Acc Dep (FP) (on gross amount)		X
Cr PPE – cost (FP) (old)		X
Dr Acc Dep (FP) (on old)	X	
Cr Revaluation gain on PPE (OCI)		X

Revaluation model

Restatement vs Elimination (cont.)

ii) Elimination of depreciation:

- eliminate accumulated depreciation upon revaluation

Dr PPE – cost (FP) (net amount at fair value)	X	
Cr PPE – cost (FP) (old)		X
Dr Acc Dep (FP) (on old)	X	
Cr Revaluation gain on PPE (OCI)		X

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EXAMPLE: ELIMINATION VS RESTATEMENT

Revaluation model

Example 1

- A specialised machine with a useful life of 8 years and a cost of CU800 on 1 January 2008 has been in use for 2 years
 - i.e., it has a carrying amount of CU600 on 1 January 2010
- A gross replacement value of CU1 500 was obtained from a supplier on 1 June 2010
 - i.e., today's price for a new machine of the same type

Prepare journal entries assuming that the asset is disclosed at

- 1) Proportionate restatement of depreciation
- 2) Elimination of depreciation

Revaluation model

Example 1: Calculations

- When using replacement values, an asset must always be revalued with reference to the Net Replacement Value (NRV)
- So if the Gross Replacement Value (GRV) is given, the Accumulated Depreciation on that GRV must be calculated:

	Remaining useful life	Carrying amount – cost	Carrying amount – revaluation
GRV	8	800	
Acc depr thereon	<u>2</u>	<u>200</u>	
NRV	<u>6</u>	<u>600</u>	

- Revaluation gain to be recognised and presented in OCI

=

Revaluation model

Example 1: Restatement

1) If the asset is to be disclosed using Proportionate restatement:

Dr PPE (FP) (GRV)

Cr Accumulated depreciation (FP) (on GRV)

Cr PPE (FP) (old cost)

Dr Accumulated depreciation (FP) (on old cost)

Cr Gain on revaluation of PPE (OCI)

Revaluation model

Example 1: Elimination

2) If the asset is to be disclosed using the elimination method:

Dr PPE (NRV – fair value) (FP)

Cr PPE (FP) (old cost)

Dr Accumulated depreciation (FP) (on old cost)

Cr Gain on revaluation of PPE (OCI)

NOTE:

- The NRV method and GRV method of disclosure yield the same value (the NRV)
- For the restatement method, the cost and AD of the asset are updated to represent the current net replacement value
- For the elimination method, the historical cost and AD thereon is replaced by the NRV

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REVALUATION SURPLUS

Revaluation Surplus

Starting off with the same example we have just covered:

	Remaining useful life	Carrying amount – cost	Carrying amount – revaluation
GRV	8	800	1 500
Acc depr thereon	<u>(2)</u>	<u>200</u>	<u>(375)</u>
NRV BOY	<u>6</u>	600	1 125
Depreciation current year	(1)	<u>(100)</u>	<u>(188)</u>
CA EOY	<u>5</u>	<u>500</u>	<u>937</u>

- Revaluation gain to be recognised and presented in OCI at Beginning of year = $1\,125 - 600 = 525$ gain in OCI
- Depreciation in current year = $1\,125 \times 1/6 = 188$ (rounded from 187.50)

Journals

Revaluation at beginning of year

If the asset is to be disclosed using the elimination method:

Dr PPE (NRV – fair value) (FP)	1 125	
Cr PPE (FP) (old cost)		800
Dr Accumulated depreciation (FP) (on old cost)	200	
Cr Gain on revaluation of PPE (OCI)		525

Depreciation for the current year:

Dr Depreciation (P/L)	188	
Cr Accumulated Depreciation (FP)		188

Other Comprehensive Income

Statement of Profit or Loss & Other Comprehensive Income for the year ended XXXX

Revenue	X
Cost of Sales	(X)
Gross Profit	<hr/> X
Other Income	X
Selling, administrative and distribution expenses (incl depr 188)	(X)
Profit before tax	<hr/> X
Tax Expense	(X)
Net profit after tax	<hr/> 5 000

Other Comprehensive Income

Other comprehensive income that MAY NOT be reclassified

Gains on property, plant and equipment	525
<i>Gross gains</i>	<div style="border: 1px solid black; padding: 2px;">525</div>
<i>Taxation effects in OCI</i>	<div style="border: 1px solid black; padding: 2px;">(X)</div>
Total comprehensive income	<hr/> <hr/> 5 525

Year end closing and transfers

Net profit (P/L to retained earnings (equity))

Dr Net profit (P/L)	5 000	
Cr Retained Earnings (equity)		5 000

Gain on PPE (OCI) to Revaluation Surplus (Equity)

Dr Gain on revaluation of PPE (OCI)	525	
Cr Revaluation Surplus (Equity)		525

Statement of changes in equity (extract)

	<u>Retained Earnings</u>	<u>Revaluation Surplus</u>
Opening balance	XX	Nil
Total comprehensive income for the year	5 000	525
Dividend declared	(X)	-
Closing balance	XX	525

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REALISATION OF REVALUATION SURPLUS

Realisation to retained earnings

- The revaluation surplus must be realised to retained earnings directly.
- The accounting policy choice is to either:
 - Realised once off through disposal, OR
 - Gradually through usage (in line with depreciation)

Journal

Realisation – direct transfer in equity

Dr Revaluation surplus (Equity)	XX	
Cr Retained Earnings (Equity)		XX

Note that if there was deferred taxation, that this transfer happens net of taxation that went through OCI into Revaluation Surplus

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EXAMPLE – REALISATION ONCE OFF THROUGH DISPOSAL

Revaluation Surplus

Starting off with the same example we have just covered:

	Remaining useful life	Carrying amount – cost	Carrying amount – revaluation
GRV	8	800	1 500
Acc depr thereon	(2)	<u>200</u>	<u>(375)</u>
NRV BOY	<u>6</u>	600	1 125
Depreciation current year	(1)	<u>(100)</u>	<u>(188)</u>
CA EOY	<u>5</u>	<u>500</u>	<u>937</u>

- Revaluation gain to be recognised and presented in OCI at Beginning of year = $1\,125 - 600 = 525$ gain in OCI
- Depreciation in current year = $1\,125 \times 1/6 = 188$ (rounded from 187.50)
- Asset disposed on at the end of the current year for CU 1,500

Journals

Revaluation at beginning of year

If the asset is to be disclosed using the elimination method:

Dr PPE (NRV – fair value) (FP)	1 125	
Cr PPE (FP) (old cost)		800
Dr Accumulated depreciation (FP) (on old cost)	200	
Cr Gain on revaluation of PPE (OCI)		525

Depreciation for the current year:

Dr Depreciation (P/L)	188	
Cr Accumulated Depreciation (FP)		188

Journals

Sale of asset at end of year

Dr Bank (SFP)	1 500	
Cr PPE (NRV – fair value) (FP)		1 125
Dr Accumulated depreciation (FP)	188	
Cr Profit on sale of PPE (P/L)		563

Other Comprehensive Income

Statement of Profit or Loss & Other Comprehensive Income for the year ended XXXX

Revenue	X
Cost of Sales	(X)
Gross Profit	<hr/> X
Other Income (<i>incl profit on sale of PPE of 563</i>)	X
Selling, administrative and distribution expenses (<i>incl depr 188</i>)	(X)
Profit before tax	<hr/> X
Tax Expense	(X)
Net profit after tax	<hr/> 5 000

Other Comprehensive Income

Other comprehensive income that MAY NOT be reclassified

Gains on property, plant and equipment	525
<i>Gross gains</i>	<div style="border: 1px solid black; padding: 2px;">525</div>
<i>Taxation effects in OCI</i>	<div style="border: 1px solid black; padding: 2px;">(X)</div>
Total comprehensive income	<hr/> <hr/> 5 525

Year end closing and transfers

Net profit (P/L to retained earnings (equity))

Dr Net profit (P/L)	5 000	
Cr Retained Earnings (equity)		5 000

Gain on PPE (OCI) to Revaluation Surplus (Equity)

Dr Gain on revaluation of PPE (OCI)	525	
Cr Revaluation Surplus (Equity)		525

Statement of changes in equity (extract)

	<u>Retained Earnings</u>	<u>Revaluation Surplus</u>
Opening balance	XX	Nil
Total comprehensive income for the year	5 000	525
Dividend declared	(X)	-
Realisation of revaluation surplus	525	(525)
Closing balance	XX	Nil

Realisation transfer of Revaluation Surplus

Realisation – direct transfer in equity once off upon disposal

Dr Revaluation surplus (Equity)	525	
Cr Retained Earnings (Equity)		525

IAS 16: Property, Plant and Equipment

EXAMPLE – REALISATION THROUGH USE

Revaluation Surplus

Starting off with the same example we have just covered:

	Remaining useful life	Carrying amount – cost	Carrying amount – revaluation
GRV	8	800	1 500
Acc depr thereon	<u>(2)</u>	<u>200</u>	<u>(375)</u>
NRV BOY	<u>6</u>	600	1 125
Depreciation current year	(1)	<u>(100)</u>	<u>(188)</u>
CA EOY	<u>5</u>	<u>500</u>	<u>937</u>

- Revaluation gain to be recognised and presented in OCI at Beginning of year = $1\,125 - 600 = 525$ gain in OCI
- Depreciation in current year = $1\,125 \times 1/6 = 188$ (rounded from 187.50)

Journals

Revaluation at beginning of year

If the asset is to be disclosed using the elimination method:

Dr PPE (NRV – fair value) (FP)	1 125	
Cr PPE (FP) (old cost)		800
Dr Accumulated depreciation (FP) (on old cost)	200	
Cr Gain on revaluation of PPE (OCI)		525

Depreciation for the current year:

Dr Depreciation (P/L)	188	
Cr Accumulated Depreciation (FP)		188

Other Comprehensive Income

Statement of Profit or Loss & Other Comprehensive Income for the year ended XXXX

Revenue	X
Cost of Sales	(X)
Gross Profit	X
Other Income	X
Selling, administrative and distribution expenses (<i>incl depr 188</i>)	(X)
Profit before tax	X
Tax Expense	(X)
Net profit after tax	5 000

Other Comprehensive Income

Other comprehensive income that MAY NOT be reclassified

Gains on property, plant and equipment	525
<i>Gross gains</i>	525
<i>Taxation effects in OCI</i>	(X)
Total comprehensive income	5 525

Year end closing and transfers

Net profit (P/L to retained earnings (equity))

Dr Net profit (P/L)	5 000	
Cr Retained Earnings (equity)		5 000

Gain on PPE (OCI) to Revaluation Surplus (Equity)

Dr Gain on revaluation of PPE (OCI)	525	
Cr Revaluation Surplus (Equity)		525

Realisation transfer of Revaluation Surplus

Realisation – direct transfer in equity through use

Dr Revaluation surplus (Equity)

Cr Retained Earnings (Equity)

Revaluation Surplus

Starting off with the same example we have just covered:

	Remaining useful life	Carrying amount – cost	Carrying amount – revaluation
GRV	8	800	1 500
Acc depr thereon	<u>(2)</u>	<u>200</u>	<u>(375)</u>
NRV BOY	<u>6</u>	600	1 125
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- Revaluation gain to be recognised and presented in OCI at Beginning of year = $1\,125 - 600 = 525$ gain in OCI
- Depreciation in current year = $1\,125 \times 1/6 = 188$ (rounded from 187.50)

Statement of changes in equity (extract)

	<u>Retained Earnings</u>	<u>Revaluation Surplus</u>
Opening balance	XX	Nil
Total comprehensive income for the year	5 000	525
Dividend declared	(X)	-
Realisation of revaluation surplus	88	(88)
Closing balance	XX	437

IAS 16: Property, Plant and Equipment

DERECOGNITION

Derecognition

- Derecognised
 - on disposal, or
 - when no future benefits expected from use or disposal
- Difference between carrying amount and net disposal proceeds recognised as gain or loss in profit or loss
- Gains not classified as revenue
- Apply IAS 18 *Revenue* in determining date of disposal
- Consideration receivable measured at fair value
- Consider IFRS 5 *Non-current Assets Held-for-Sale* if intend to dispose of asset

Journal if sold

Dr Bank / Debtor (SFP)	X	
Cr PPE (FP) (Gross carrying amount / cost)		X
Dr Accumulated depreciation (FP)	X	
Cr Profit on sale (P/L)		X
<i>(if credit balance – otherwise Dr Loss)</i>		