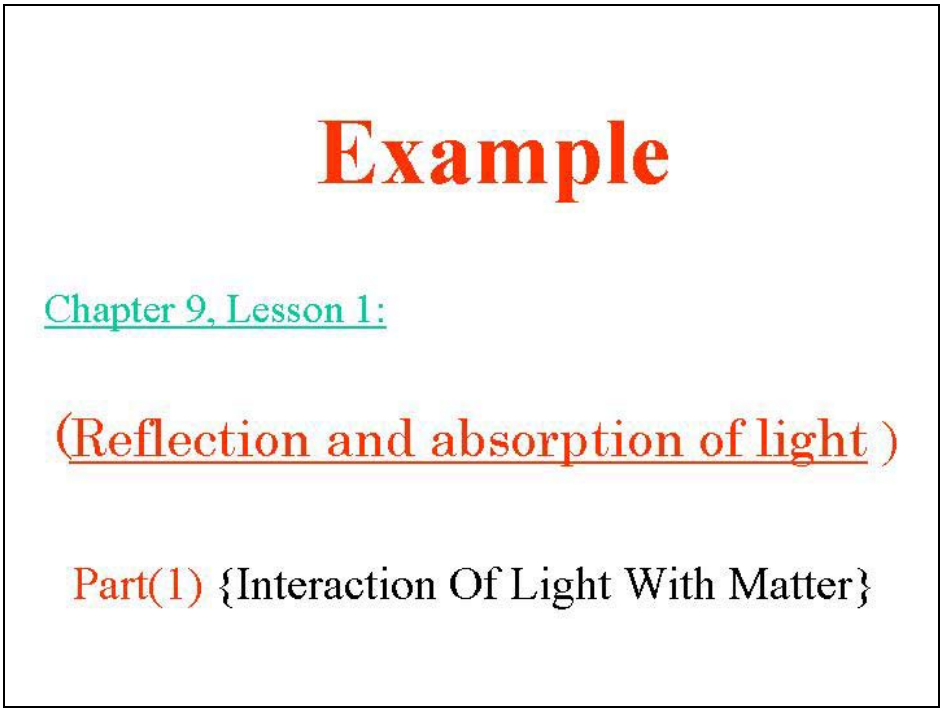
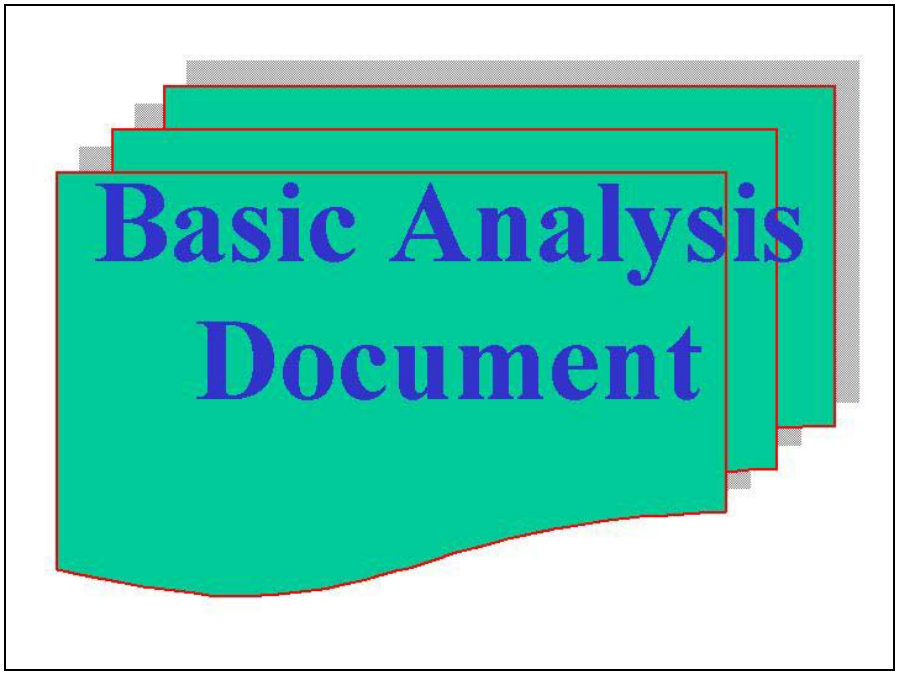
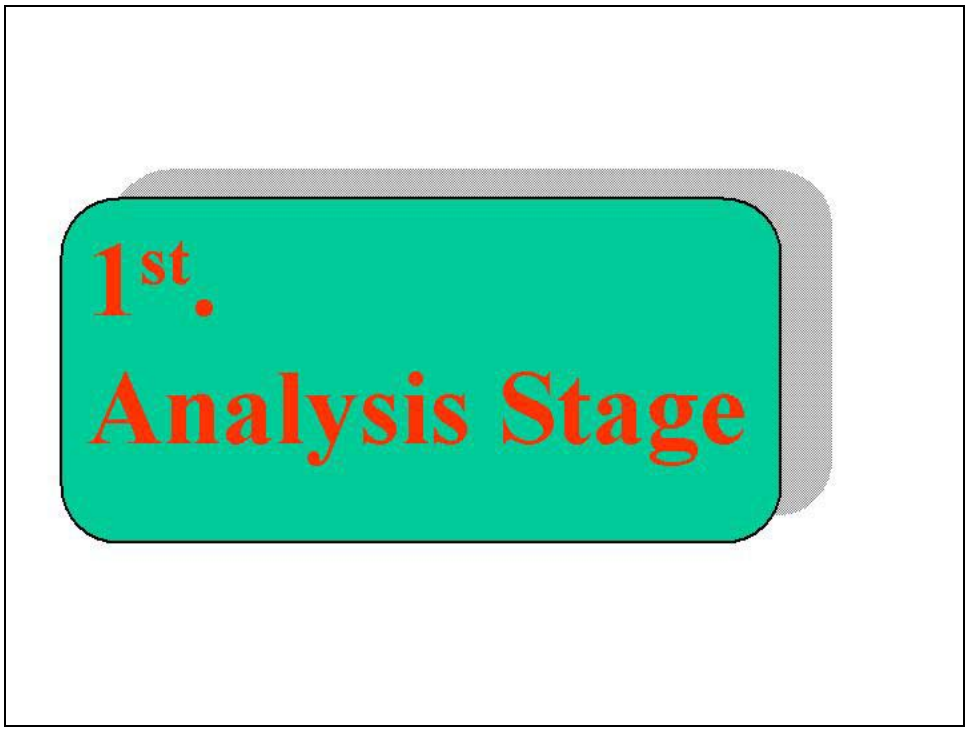
Appendix 13: Report to Minister of Education by Jordanian Counterpart

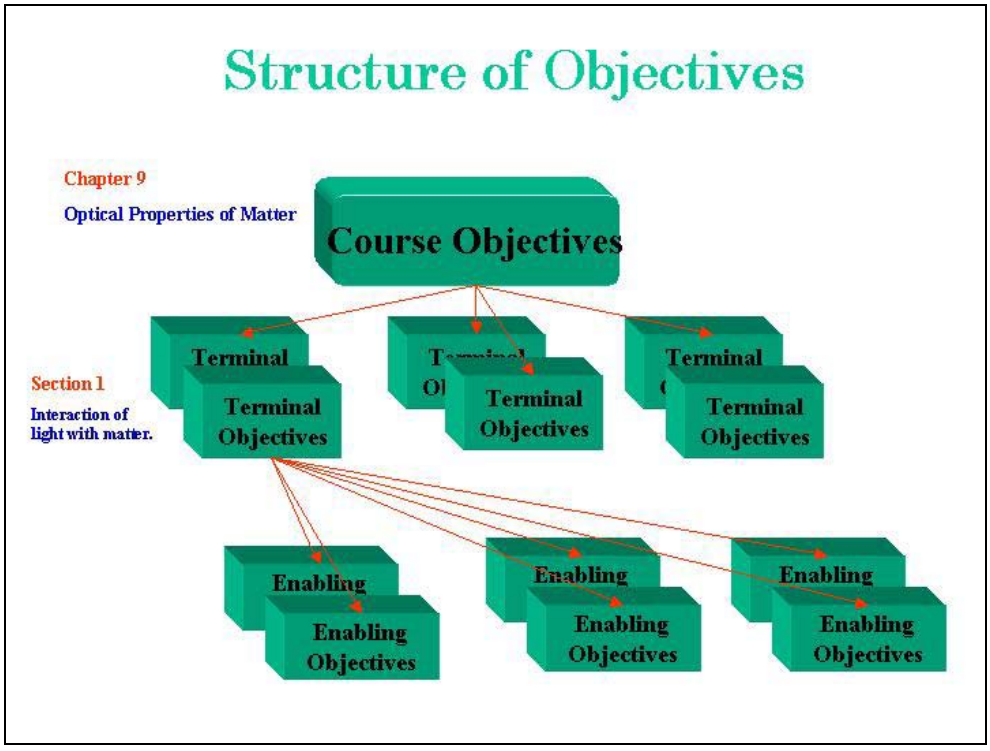


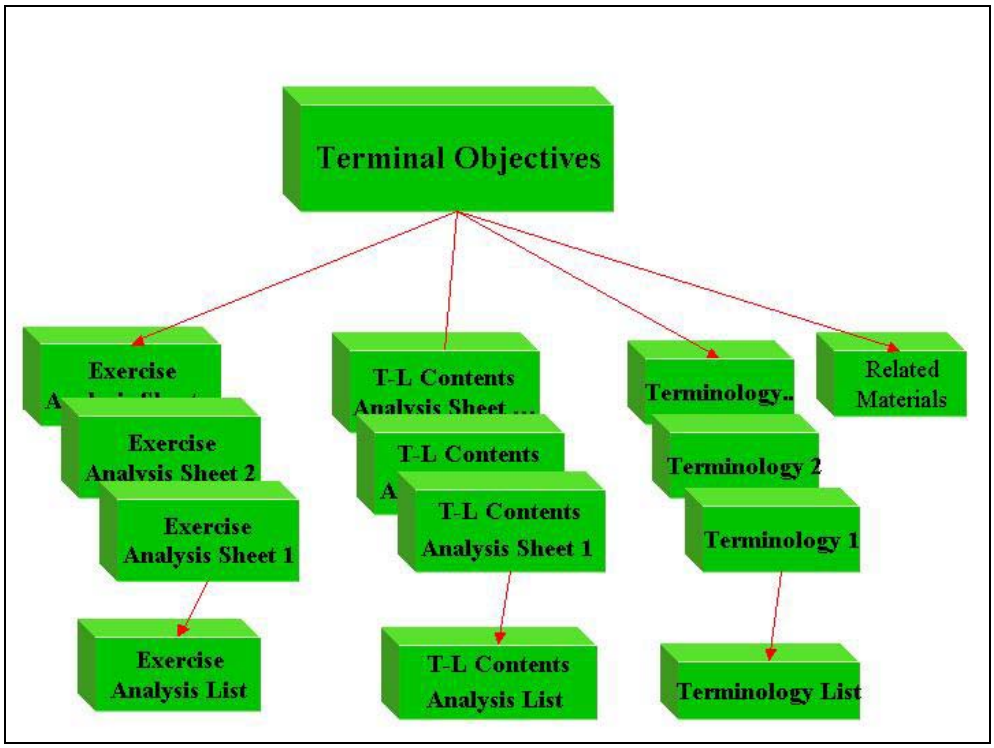

Basic Analysis
Document


1st.
Analysis Stage

Textbook Analysis Sheet (for Physics) Specification of Materials

Title: Specification of Materials.	Material ID (Chapter ID): OPM
Subject: Physics	
Chapter Title: OProperties with Matter ptical	Lesson Hours: 12 Hours.
Overview of Materials :	
This chapter deals with optical properties of matters. The interaction of light to material will be explained, like reflection, light transmission, light absorption, light refraction by using prism, formatting images (a virtual images, a real images).	
Course Goal:	
The goal of the chapter is to make students understand optical properties of material, then master the following concepts: transmission medium, transparent material, refraction, virtual images, diopeter. Focal length, dispersion, spectroscope, farsightedness, near sightdness.	
Target Learners:	
Grade 11 students.	
Instructional Consideration:	
It is important for students to obtain practical skills by solving mathematical exercise containing law and formula. It is important for students to understand the relationship between society, science, and technology by learning usage of optical materials, prism corrective lenses, and learning the meaning and reasons for optical pollution. To understand the formula, and laws by studying figures and tables: Table: refraction modulus, the property of image in convex lens. Figures: interaction light with material, light refraction, lenses, focal point, farsightedness, nearsightdness.	
Assessment Method:	
To understand all concepts describe in the units. To conduct experiments and practice to find local point for convex and concave lens, angle of minimum deviation in a prism, reflection modulus. To explain the following optical matter and phenomena: transparent material, reflection, description, farsightedness, near sightedness, a virtual and real image. Deriving the lenses law, lens-makers law, magnification equation. To solve exercise and dealing with the following and law(formula) : refraction and deviation in prism, magnification, refraction on the curvature surface. (Laws): Snell's Law, Lenses' law.	





Textbook Analysis Sheet (for Physics) : Terminal Objectives

Title: Terminal Objectives	Material ID (Chapter ID): OPM
Subject : Physics	
Chapter Title: Optical Properties of Matter.	Sector Title: Interaction of light with matter.
Terminal Objectives: To understand the interaction of light to matter	
Terminal Objectives : ID OPM- S1- TO1	
Classification : [x]understand concept [ ] solve and operate [ ] attitude change	
Content descriptions of Terminal Objectives : Define the following concepts, reflection transmission, absorption, uniform reflection, incident angle, reflected angle, some experiments about reflection.	

Textbook Analysis Sheet (for Physics) Enabling Objectives

Title: Enabling Objectives	Material ID: OPM	Subject: Physics	Chapter Title: Optical properties with matter.
Terminal Objectives Title: To explain the interaction of light to matter.			Terminal Objective ID: OPM- S1- TO1
Enabling Objectives ID:	Content Descriptions of Enabling Objectives:		Classification:
OPM-S1-TO1-EO1	To explain the meaning of light.		[x] Understand concept [ ]solve and operate [ ] attitude change
OPM-S1-TO1-EO2	To remember the properties of light.		[x] Understand concept [ ]solve and operate [ ] attitude change
OPM-S1-TO1-EO3	To classify practically samples of materials, as transmission of light, filtration, transparency, etc.		[x] Understand concept [x]solve and operate [ ] attitude change
OPM-S1-TO1-EO4	To relate between thickness of material and its transparency of light.		[ ] Understand concept [ ]solve and operate [x] attitude change
OPM-S1-TO1-EO5	To explain the meaning of reflection.		[x] Understand concept [ ]solve and operate [ ] attitude change
OPM-S1-TO1-EO6	To explain the meaning of incident angle.		[x] Understand concept [x]solve and operate [ ] attitude change

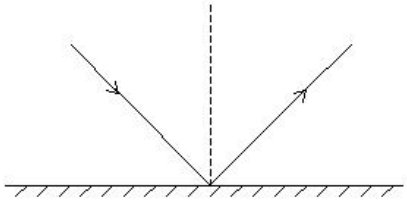
Textbook Analysis Sheet (for Physics) Teaching-learning Contents

Title: Teaching-learning Contents	Material ID: OPM	Subject: Physics	Chapter Title: Optical properties with matter
Terminal Objectives Title: To explain the interaction of light to matter		Terminal Objectives ID: OPM – S1-TO1	
Enabling Objectives ID: OPM – S1-TO1/Eo1			
T-L ID: OPM-S1-To1-TL1	Expected time: 5min	Classification: [ ] example [X] rule/concept [ ] topic [ ] other	
T-L Title: To define light.			
T-L Classification [ ] lecture [ ] experiment [ ] observation [X] discussion [X] handout [ ] collaboration work [ ] exercise [ ] VCD etc			
Related Exercise ID:			
Description of T-L Contents: Page 164		Remarks:	

Textbook Analysis Sheet (for Physics) : List of Teaching-learning Contents

Title: List of T-L Contents	Material ID: OPM	Subject: Physics	Chapter Title : Optical properties with matter
Terminal Objectives Title: To explain the interaction of light to matter :			Terminal Objectives ID : OPM – S1-TO1
Teaching-Learning ID :	T-L Title :		Style of Teaching-Learning
OPM-S1-To1-TL1	To define light.		[ ] lecture [ ] experiment [ ] observation [x] discussion [x] handout [ ] collaboration work [ ] quiz & exercise [ ] audio visual etc.
OPM-S1-To1-TL2	To mention the properties of light		[ ] lecture [ ] experiment [ ] observation [x] discussion [x] handout [ ] collaboration work [ ] quiz & exercise [ ] audio visual etc.
OPM-S1-To1-TL3	To classify practically examples of materials to demonstrate transmission of light filtration, transparency, …etc.		[ ] lecture [ ] experiment [ ] observation [x] discussion [x] handout [ ] collaboration work [ ] quiz & exercise [ ] audio visual etc.
OPM-S1-To1-TL4	To relate between the thickness of material and transparency to light		[ ] lecture [ ] experiment [ ] observation [x] discussion [x] handout [ ] collaboration work [ ] quiz & exercise [ ] audio visual etc.
OPM-S1-To1-TL5	To explain the meaning of reflection		[ ] lecture [ ] experiment [ ] observation [x] discussion [x] handout [ ] collaboration work [ ] quiz & exercise [ ] audio visual etc.
OPM-S1-To1-TL6	To explain the interaction of light to matter		[ ] lecture [ ] experiment [ ] observation [x] discussion [x] handout [ ] collaboration work [ ] quiz & exercise [ ] audio visual etc.

Textbook Analysis Sheet (for Physics) Concept/terminology (CT)

Title: Concept/terminology	Material ID: OPM	Subject: Physics	Chapter title: Optical properties with matter.
Terminal Objectives title: Interaction of light with matter.			Terminal Objectives ID: OPM-S1-TO1
Enable Objectives ID: OPM-S1-TO1-EO5, EO6			
CT ID: OPM-S1-TO1-CT1			Classification: [X] concept/theory [ ] terminology [ ] Formula [ ] Others
CT Title: Reflection.			
Key word: Reflection.			
Contents: Reflection: is the changing of direction of light upon incidence on a body, so that light will stay in the same medium after changing its direction. 			Remarks: Text for reading, and a simple exercise

Textbook Analysis Sheet (for Physics) Concept/Terminology List

Title : CT List	Material ID : OPM	Subject: Physics	Chapter Title : Optical properties with matter
Terminal Objectives Title : To explain the interaction of light to matter			Terminal Objective ID : OPM – S1-TO1
CT ID :	CT Title:		Classification:
OPM-S1-To1-CT1	Reflection.		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1-CT2	Transmission		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1-CT3	Absorption		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1-CT4	Diffuse reflection		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1-CT5	Secular reflection		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1-CT6	Reflection coefficient.		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1-CT7	Law of reflection		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1- CT8	Transmission coefficient		[x] concept/theory [ ] terminology [ ] Formula [ ] Others
OPM-S1-To1- CT9	Absorption coefficient		[x] concept/theory [ ] terminology [ ] Formula [ ] Others

Textbook Analysis Sheet (for Physics) Exercise and Quiz

Title : Exercise and Quiz	Material ID: OPM	Subject: Physics	Chapter Title:Optical Properties with Matter
Terminal Objectives Title : To explain the interaction of light to matter			Terminal Objective ID : OPM – S1-TO1
Enabling Objectives ID : OPM – S1-TO1-EO3/EO4			
Exercise ID : OPM – S1-TO1-EX1	Expected Time : 2 min.		Classification : [ ] Practice [ ] drill · review [ ] test [ ] supplementary test [x] Memorize
Exercise Title: Define the meaning of transparency materials			
Classification [ ] Interview [x] descriptive explanation [ ] calculation [ ]blank filling [ ] multiple choice [ ] matching [ ] operational [ ] others			
Related Material ID :			Difficulty [ ] difficult [ ] average [x] easy
Exercise description : Define what's the meaning of transparency material? See P190			solution : See page 178
			Remarks :

Textbook (Analysis Sheetfor Physics) Exercise and Quiz List

Title: : Exercise List	Material ID : OPM	Subject: Physics	Chapter Title : Optical Properties with Matter
Terminal Objectives Title : To explain the interaction of light to matter			Terminal Objective ID : OPM – S1-TO1
Exercise ID :	Exercise Title :		Classification :
OPM – S1-TO1-EX1	Define the meaning of transparency materials		[ ] Practice [ ] drill - review [ ] test [ ] supplementary test [x] Memorize
			[ ] Practice [ ] drill - review [ ] test [ ] supplementary test

Textbook Analysis Sheet (for Physics) Supplementary Materials

Title : Related Supplementary Materials	Material ID (Chapter ID) :OPM
Subject : Physics	Chapter Title :Optical Properties of Matter
Title of Related Supplemental Materials : Contents, Questions, and Applications about light	
Type : Supplemental Books	
Seraway, Physics for Scientists and Engineers, 2002 Young and freedman, University Physics, 1996 Halliday and Resnick, Fundamental of Physics, 1998 GCSE references like: Keith Johnson, Physics for you, 2000 John Avison, The World of Physics Tomduncan, Physics, 1995	
Title of Related Supplemental Materials : Animation and Simulations about light	
Type : VCD	
Stanford Physics, Part 2 Eyewitness The Way Things Work Encarta Encyclopedia	
Title of Related Supplemental Materials :	
Type : Web Sites	
Title of Related Supplemental Materials : Experiments about Light	
Type: Student Experiment Guide	Experiment numbers 11/p.63 , 12/p.66 , 13/p.69 p.5 , p.68