

Grades 4-5 SCIENCE

Framework for FORMATIVE/CLASSROOM Instruction and Assessment Receptive Domains of **Listening and Reading**

The Pennsylvania English Learner (EL) Overlays assist educators in developing instructional units, lessons, or activities that are meaningful and comprehensible for English learners, and are aligned with Pennsylvania's *EL Differentiation Protocol*.

The EL Overlays illustrate the dynamic process of adapting instruction and assessment based on the English language proficiency of students. These are models that exemplify adaptations for a select instructional contexts and provide resources to extend this process to other instructional units. Key features of the Overlays are Model Performance Indicators (MPIs) which differentiate and scaffold instruction per ELP level by adjusting the language function and instructional support.

The EL Overlays are organized by: 1) content area, 2) grade cluster, and 3) language domain (receptive/productive).

Each **Receptive** Overlay contains:

Page 1: Introduction

Page 2: Example Listening Differentiation with Model Performance Indicators (MPIs)

Page 3: Example Reading Differentiation with Model Performance Indicators (MPIs)

Page 4: Receptive Performance Indicator (PI) Builder

Page 5: Differentiation Template

Listening Differentiation with Model Performance Indicators (MPIs)

ELD Standard 4: English learners communicate information, ideas, and concepts necessary for academic success in Science.

Content Standard(s): 4.2.4.C.2. Identify various means of conserving natural resources.

Concepts:

- ESS3.A Energy that humans use is derived from multiple natural sources and their use affects the environment in many ways.
- ESS3.C Human activities in agriculture, industry, and everyday life have had major effects on land, vegetation, streams, ocean, and air.

Competencies:

- 4-ESS3-1 Research multiple sources to describe ways that energy and fuels are derived from natural resources and their impact.
- 5-ESS3-1 Research and communicate how communities are using science to protect resources and environments.

Key Use of Academic Language (KUALA): Students at all levels of English proficiency will process **EXPLANATIONS**.

Academic Language Components

Discourse		Sentence		Word			
I think this is _____ because... I agree with _____ because... I disagree with _____ because... A question/problem is...and a solution could be... What I hear you saying is... Based on that, I infer... I guess/predict/imagine...		Ways that _____ are the same are... Ways that _____ are different are... This is an example of... I can picture... I wonder...		natural resources renewable resource nonrenewable resource land vegetation streams ocean air energy		fuel environment human impact cause/effect classify identify describe evidence illustrate/show	
ELP Level 1 Entering MPI	ELP Level 2 Emerging MPI	ELP Level 3 Developing MPI	ELP Level 4 Expanding MPI	ELP Level 5 Bridging MPI			
Identify conservation measures using pictures and realia following oral descriptions.	Select and label the orally described conservation measures using realia with a partner.	Categorize conservation choices (e.g., past and present technology use) using real life examples.	Explain features of geological forms using a graphic organizer.	Evaluate and explain characteristics of geological forms from grade-level material.			

Reading Differentiation with Model Performance Indicators (MPIs)

ELD Standard 4: English learners communicate information, ideas, and concepts necessary for academic success in Science.

Content Standard(s): 3.5.4.C.2. Identify weather patterns from data charts (including temperature, wind direction and speed, precipitation) and graphs of the data.

Concepts:

- ESS2.A Winds and clouds in the atmosphere interact with the landforms to determine patterns of weather.
- Water continually cycles among land, ocean, and atmosphere via transpiration, evaporation, condensation and crystallization, and precipitation as well as downhill flows on land.

Competencies:

- 5-ESS2-1 Utilizing observations and data, explain the patterns of weather in a given location.
- Investigate movement of water in the Earth's systems and research and develop models for the cycling of water.

Key Use of Academic Language (KUALA): Students at all levels of English proficiency will process **EXPLANATIONS**.

Academic Language Components

Discourse	Sentence	Word
I noticed _____ happened because... The cause of _____ is... An effect of _____ is... I find _____ to be interesting because... I heard evidence of _____ from... I need more information on _____ because...	This is an example of... I can picture... I wonder... I know this is _____ because... This (picture/model/visual/etc.) helps me explain... This is similar to... This is different from...	wind air mass cause/effect clouds front measure atmosphere thermometer data landforms barometer runoff observe illustrate/show high and low pressure cloud types (e.g., cirrus, cumulus; stratus) precipitation types (e.g., snow; sleet; hail) tasks (e.g., explain; describe; model)

ELP Level 1 Entering MPI	ELP Level 2 Emerging MPI	ELP Level 3 Developing MPI	ELP Level 4 Expanding MPI	ELP Level 5 Bridging MPI
Match labels and symbols of weather patterns with teacher modeling.	Identify weather patterns from visually supported captions or short statements.	Sequence descriptive sentences and pictures to illustrate weather patterns.	Interpret texts to find solutions to weather pattern prediction problems with a small group.	Research the effects of weather patterns on the community using grade-level reading material.

Building Receptive Performance Indicators (PIs) to differentiate and scaffold instruction per ELP level by adjusting the **language function** and **instructional support**.

1) **Language Function** how students will process language during a receptive activity to demonstrate attainment of the ELD and content standard.

The language of RECOUNTS			The language of EXPLANATIONS		The language of ARGUMENTS		The language of DISCUSSIONS	
Arrange	Label	Replicate	Apply	Identify	Compare	Express	Answer	Indicate
Brainstorm	List	Restate	Chart	Illustrate	Compose	Extract	Ask	Initiate
Categorize	Locate	Retell	Classify	Interpret	Confirm	Interpret	Associate	Participate in
Compose	Make	Rewrite	Compare	Narrate	Connect	Justify	Compare	Present
Construct	Name	Select	Compose	Note	Construct	Negotiate	Confirm	Recommend
Copy	Order	Sequence	Contrast	Organize	Critique	Respond to	Converse	Reflect on
Cross check	Paraphrase	Share	Define	Present	Defend	Restate	Discuss	Request
Draw	Reenact	State	Describe	Role play	Define	Suggest	Edit	Respond to
Find	Repeat	Take notes	Develop	Show	Elaborate		Give	Revise
Follow directions			Express	Summarize				Use
			Follow directions	Tell				
			Generalize	Trace				

2) **Content Stem** - Selected focus of grade-level curricular lesson/activity for all students which remains consistent across all ELP levels:

3) **Instructional Support** - Scaffolds to accompany explicit instruction with multiple opportunities for student response and feedback decreasing in degree from ELP level 1 to level 5.

ELA Sensory Supports	ELA Graphic Supports	ELA Interactive Supports
Acting/Reader's Theater Audio Books Felt/Magnetic Figures Illustrations/Photographs Manipulatives Pantomime	Read Alouds Realia Role Play Songs/Chants Total Physical Response (TPR) Videos	Cloze Paragraphs/Sentences Gallery Walk Graphic Organizer Illustrated Word/Phrase Banks or Walls Information Chunking Rubrics Study Guides/Guided Notes Written Objectives
		Bilingual/Picture Dictionaries Internet/Software Programs Jigsaw Activities Pairs/Triads/Small Groups Teacher Modeling/Monitoring Use of L1

Differentiation Template

ELD Standard 4: English learners communicate information, ideas, and concepts necessary for academic success in Science.

Content Standard(s):

Concepts:

Competencies:

Key Use of Academic Language (KUALA): Students at all levels of English proficiency will _____.

Academic Language Components

Discourse		Sentence		Word	
ELP Level-specific PIs	ELP Level 1 Entering	ELP Level 2 Emerging	ELP Level 3 Developing	ELP Level 4 Expanding	ELP Level 5 Bridging
Include: 1) Language Function 2) Content Stem (consist across all levels) 3) Instructional Support(s) <i>Language functions and instructional supports can be selected from Page 4, or supplied by the educator.</i>					