M E M O R A N D U M TO: Indiana State Board of Education
FROM: Dr. Charity Flores, Director of Assessment
DATE: August 22, 2017

The Indiana Department of Education (IDOE) conducted ISTAR standard setting meetings June 19-21 and June 26-28, 2017. The Item Descriptor Matching methodology was recommended by the Technical Advisory Committee (TAC). Educators with special education and content expertise comprised the grade band panels each week, addressing English Language Arts and Science in week one and Mathematics and Social Studies during week two. A subset of panelists served in advance of the standard setting process to review the performance level descriptors used during the process, and were utilized as table leaders during the on-site meetings.

Questar Assessment, Inc. facilitated the item descriptor matching process through four rounds of review following an overview training as a large group. Details for the process are delineated below:

- Panelists reviewed the functionality of test items by taking the operational form of the grade level test.
- Each data point collected by panelists was done individually following table and group discussion. Panelists:
  - reviewed the performance level descriptors and discussed interpretations of the descriptions within their table and large group.
  - reviewed the content expectations associated with each item within the ordered item booklet (OIB) to determine the continuum of difficulty.
  - determined which performance level descriptor best aligned to the content presented in the item (developing, meeting or exceeding).
  - defined threshold regions for the performance levels using the item order presented in the OIB during two rounds of evaluation.
  - identified a specific transition point for the performance levels during two subsequent rounds of evaluations. Panelists reviewed impact data noting the percentage of students within each performance level prior to the final transition point submission.
- Grade band groups completed the process for lower grade level (i.e., 3-4 English Language Arts). Grade 10 content groups only evaluated a single grade.
- Following the final round of data collection, table leaders from each standard setting panel examined the reasonableness of the proposed cut score recommendations across grade levels to determine any content adjustments.

Questar Assessment, Inc. identified an issue in early July with the impact data presented to the ISTAR English Language Arts panelists prior to Round 4 and during vertical articulation. TAC recommended a cut score validation process to ensure the recommendations made by the panelists during the June meeting reflected a valid process. A subset of panelists reconvened on August 7, 2017 to consider judgments for Round 4 and vertical articulation with accurate data confirmed by a third party vendor.

The following charts delineate the Department's recommendation of the committee following vertical articulation for the performance level descriptors and cut scores. Four exceptions are noted that vary from the panelists final recommendation to ensure articulation across grades within a single content area. These exceptions fall within an appropriate range based on panelist's feedback collected during the sessions. Data is presented for each grade and content area accounting for No Mode of Communication representing students that cannot fully interact with the assessment experience. No Mode of Communication will result in an undetermined score.

Table 1. Department Recommended Scale Scores Following Standard Setting

Content Area	Grade	Meeting	Exceeding
English Language Arts	3	351	382
	4	355	385
	5	354	391
	6	348	388
	7	343	378
	8	351	380
	10	344	386
Mathematics	3	353	379
	4	365	386
	5	354	381
	6	348	379
	7	347	380
	8	350	382
	10	352	390
Science	4	354	388
	6	355	393
	10	342	383
Social Studies	5	340	385
	7	353	386

Table 2. Performance Level Descriptors by Grade

ISTAR Grade 3 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

While reading text with a *low complexity*, a student is able to: • identify characters in a literature text (*by their traits, or feelings*). • identify a main event (*beginning* or *end*) in a folktale, fable, or tall tale. • identify the main idea in a nonfiction text. • answer questions using support from the text. • identify a topic presented by an illustration.	**While reading a text with *low to moderate complexity*, a student is able to:** • describe a character in a literature text (*their traits, motivations or feelings*). • identify the main events (*beginning* and *end*) in a folktale, fable, or tall tale. • identify key details to support the main idea. • answer questions explicitly stated in the text. • identify the problem or solution in a nonfiction text. • use context clues to determine the meaning of unknown words. **While reading a text with *high complexity*, a student is able to:** • determine the main idea in a nonfiction text. • answer questions explicitly stated in the text.	**While reading a text with *low to high complexity*, a student is able to:** • retell the main events in a folktale, fable, or tall tale. • answer questions explicitly stated in the text. • determine the main idea of a nonfiction text and identify a key detail to support the main idea. • use information from text features (e.g., *charts, maps*) in an informational text to answer questions. • arrange events in chronological order. • use context clues to determine the meaning of unknown words.

Writing

AND in writing, a student is able to: • identify the topic as it relates to the paragraph or information. • identify the simple CVC spelling within a sentence.	**AND in writing, a student is able to:** • identify the topic for an introductory paragraph. • identify the CVCe spelling within a sentence. • capitalize appropriate words in titles.	**AND in writing, a student is able to:** • identify spelling patterns for high frequency words within the context of a sentence. • use commas in locations and addresses.

ISTAR Grade 4 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

While reading text with a *low complexity*, a student is able to:	**While reading a text with *low to moderate complexity*, a student is able to:**	**While reading a text with *low to high complexity*, a student is able to:**
• use specific details in a literature or nonfiction text to explain what the text says explicitly.	• use specific details in a literature or nonfiction text to explain what the text says explicitly.	• use specific details in a literature or nonfiction text to explain what the text says explicitly.
• identify a main event (*beginning or end*) in the story, myth, legend or novel.	• identify the main events in the story, myth, legend or novel.	• describe a character, setting or event in a story or play, drawing on specific details in the text for support.
• identify a character, the setting or event within a literature text.	• identify key details to support the main idea.	• determine the main idea of a nonfiction text and identify a key detail(s) to support the main idea.
• identify the main idea in a nonfiction text.	• use knowledge of text features (*chart, table, heading, graph*) to locate information and gain understanding from a nonfiction text.	• use specific details in a literature or nonfiction text to support inferences**.**
• identify the meaning of basic words within the context of a sentence.		• use knowledge of text features (*chart, table, heading, graph*) to locate information and gain understanding from a nonfiction text.
	While reading a text with *high complexity*, a student is able to:	
	• use specific details in a literature or nonfiction text to explain what the text says explicitly.	
	• identify the character, the setting or event within a literature text.	
	• identify the main idea of a nonfiction text.	

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.
Writing		
AND in writing, a student is able to: • identify a simple sentence (vs. sentence fragments). • identify familiar conjunctions (e.g. *and, but*) to combine two simple statements. • identify the topic sentence as it relates to the paragraph or information. • identify the CVC spelling within a sentence.	**AND in writing, a student is able to:** • identify simple and compound sentences (vs. sentence fragments or run-ons). • identify the correct use of prepositions within a sentence. • organize events using transition words. • identify the topic or concluding sentence as it relates to the information provided. • identify the CVCe spelling within a sentence.	**AND in writing, a student is able to:** • identify complex sentences. • organize events using transition words and phrases. • provide an ending to a narrative writing. • identify the phonetic spelling within a sentence. • provide a fact or detail to support an opinion.

ISTAR Grade 5 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
While reading text with a *low complexity*, a student is able to: • identify a character, the setting or event within a literature text. • identify specific details in a literature or nonfiction text to explain what the text says explicitly. • identify the main idea of a nonfiction text. • use context to identify the meaning of words.	**While reading a text with *low to moderate complexity*, a student is able to:** • identify key details to support the main idea. • identify specific details in a literature or nonfiction text to explain what the text says explicitly. • use context to identify the meaning of words or phrases. **While reading a text with *high complexity*, a student is able to:** • describe the character, the setting or event within a literature text. • identify the main idea of a nonfiction text. • identify specific details in a literature or nonfiction text to explain what the text says explicitly.	**While reading a text with *low to high complexity*, a student is able to:** • use specific details in a literature or nonfiction text to explain what the text says explicitly. • summarize a literature or nonfiction text. • determine the main idea(s) of a nonfiction text and identify key details to support the main idea(s). • use specific details in a literature or nonfiction text to support inferences. • compare events, ideas, concepts or information within an informational text. • describe characters, settings or events within a story using specific details in the text to support the description. • determine the theme of a literature text. • use context to identify the meaning of words or phrases, including figurative or imagery.

Writing

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
AND in writing, a student is able to: • sort ideas or concepts using classification. • identify the topic sentence as it relates to the paragraph or information. • identify the CVC spelling within a sentence.	**AND in writing, a student is able to:** • organize an idea, concept or information (using definition, classification, comparison, and cause/effect). • apply correct use of capitalization. • identify the CVCe spelling within a sentence.	**AND in writing, a student is able to:** • organize sentences in an organizational form appropriate to the topic. • identify the phonetic spelling within a sentence. • identify the topic or concluding sentence as it relates to the information provided.

ISTAR Grade 6 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

While reading a text with *low complexity*, a student is able to:	While reading a text with *low to moderate complexity*, a student is able to:	While reading a text with *low to high complexity*, a student is able to:
• identify specific details in a literature or nonfiction text to explain what the text says explicitly. • identify the central idea in literature or nonfiction text. • use context to identify the meaning of words.	• use specific details in a literature or nonfiction text to explain what the text says explicitly. • provide a summary of a literature or nonfiction text. • determine the central idea in literature or nonfiction text. • determine the theme in a literature text. • recognize details that support the central idea of a literature or nonfiction text. • use context to identify the meaning of words or phrases. **While reading a text with *high complexity*, a student is able to:** • identify specific details in a literature or nonfiction text to explain what the text says explicitly. • determine the central idea in a literature or nonfiction text.	• use specific details in a literature or nonfiction text to explain what the text says explicitly. • use specific details in a literature or nonfiction text to support inferences. • provide a summary of a literature or nonfiction text. • determine the central idea in a literature or nonfiction text. • determine the theme in a literature text. • recognize details that support the theme or central idea of a literature or nonfiction text. • recognize details that support a claim in a nonfiction text. • use context to identify the meaning of words or phrases, including figurative and connotative meanings.

Writing

AND in writing, a student is able to:	AND in writing, a student is able to:	AND in writing, a student is able to:
• make an appropriate word choice in a sentence. • select relevant information to support a research topic. • identify a sentence based on simple mechanics.	• use appropriate descriptive words in a sentence. • use appropriate transition words in a sequence of events. • recognize a simple sentence vs. sentence fragments.	• recognize clear reasons and relevant evidence to support a claim. • identify a relevant research question when given a topic. • recognize simple and compound sentences (vs. sentence fragments and run-on sentences).

ISTAR Grade 7 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

While reading text with a *low complexity*, a student is able to: • identify specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • identify the central idea in a work of literature. • use context to identify the meaning of words.	**While reading a text with *low to moderate complexity*, a student is able to:** • use specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • provide a summary of a literature or nonfiction text. • determine the central idea or theme in a work of literature. • analyze the development of a central idea in a work of literature. • use context to identify the meaning of words or phrases. **While reading a text with *high complexity*, a student is able to:** • identify specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • provide a summary of a literature or nonfiction text. • determine the central idea in a work of literature.	**While reading a text with *low to high complexity*, a student is able to:** • use specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • use specific details and examples in a literature or nonfiction text to support inferences. • provide a summary of a literature or nonfiction text. • determine the central idea or theme in a work of literature. • analyze the development of a theme or central idea in a work of literature. • recognize details that support a claim in a nonfiction text. • analyze the interactions between individuals, events and ideas in a nonfiction text. • use context to identify the meaning of words or phrases.

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.
Writing		
AND in writing, a student is able to: • make an appropriate word choice in a sentence. • identify a sentence based on simple mechanics.	**AND in writing, a student is able to:** • use appropriate descriptive words to use in a sentence. • use appropriate transition words in a sequence of events. • recognize a simple sentence vs. sentence fragments.	**AND in writing, a student is able to:** • recognize relevant evidence to support a claim. • provide an introductory sentence introducing the writer's claims in an argument. • recognize correct subject-verb agreement. • recognize simple and compound sentences (vs. sentence fragments and run-on sentences).

ISTAR Grade 8 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

While reading text with a *low complexity*, a student is able to: • identify specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • identify the central idea in a literature or nonfiction text. • use context to identify the meaning of words.	**While reading a text with *low to moderate complexity*, a student is able to:** • use specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • provide a summary of a literature or nonfiction text. • determine the central idea in a literature or nonfiction text. • analyze the development of a central idea of a literature or nonfiction text. • use context to identify the meaning of words or phrases. **While reading a text with *high complexity*, a student is able to:** • identify specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • provide a summary of a literature or nonfiction text. • determine the central idea in a literature or nonfiction text.	**While reading a text with *low to high complexity*, a student is able to:** • use specific details and examples in a literature or nonfiction text to explain what the text says explicitly. • use specific details and examples in a literature or nonfiction text to support inferences. • provide a summary of a literature or nonfiction text. • determine the central idea in a literature or nonfiction text. • determine the theme in a work of literature. • analyze the development of a theme or central idea of a literature or nonfiction text. • recognize evidence to support a claim or argument in a nonfiction text. • use context to identify the meaning of words or phrases.

Writing

AND in writing, a student is able to: • make an appropriate word choice in a sentence. • use an appropriate transition word in a sequence of events.	**AND in writing, a student is able to:** • use appropriate words to make writing more precise or descriptive.	**AND in writing, a student is able to:** • identify relevant evidence to support a claim. • provide a concluding sentence that follows from and supports the information or explanation presented in a paragraph.

ISTAR Grade 10 ELA Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.

Reading

Text Complexity Definitions
- ❖ **Low text complexity:** brief text with familiar ideas; short, simple sentences; and substantial graphic support
- ❖ **Moderate text complexity:** longer text with more complex ideas, a mixture of simple and compound sentences, and some graphic support
- ❖ **High text complexity:** longer text with more complex ideas and textual features, a variety of sentence structures including phrases and transition words, some grade-level or near grade-level vocabulary, and minimal graphic support

While reading a text with *low complexity*, a student is able to:	**While reading a text with *low to moderate complexity*, a student is able to:**	**While reading a text with *low to high complexity*, a student is able to:**
• identify specific details and examples in a literature or nonfiction text to explain what the text says explicitly.	• use specific details and examples in a literature or nonfiction text to explain what the text says explicitly.	• use specific details and examples in a literature or nonfiction text to explain what the text says explicitly.
• identify the central idea in a literature or nonfiction text.	• determine the central idea or theme in a literature or nonfiction text.	• use specific details and examples in a literature or nonfiction text to support inferences.
• identify an author's purpose in a nonfiction text.	• analyze the development of the central idea of a literature or nonfiction text.	• determine the central idea or theme in a literature or nonfiction text.
• identify the meaning of words with context.	• recognize how characters develop over the course of a work of literature.	• analyze the development of the theme or central idea of a literature or nonfiction text.
	• determine an author's purpose in a nonfiction text.	• recognize details that support how an author's claims are developed within a nonfiction text.
	• use context to identify the meaning of words or phrases.	• recognize and evaluate the argument and specific claims in a nonfiction text.
	While reading a text with *high complexity*, a student is able to:	• determine an author's perspective or purpose in a nonfiction text.
	• identify specific details and examples in a literature or nonfiction text to explain what the text says explicitly.	• analyze an author's choices concerning how to structure a work of literature.
	• determine the central idea in a literature or nonfiction text.	• recognize how characters develop and interact with other characters in a work of literature.
		• use context to identify the meaning of words or phrases.

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A Developing Proficiency student demonstrates emerging engagement with low-complexity literature and nonfiction text and emerging writing skills.	A Meeting Proficiency student demonstrates proficient engagement with low- to moderately complex literature and nonfiction text, and emerging engagement with highly complex text. He/she displays writing skills in addition to skills defined under Developing Proficiency.	An Exceeding Proficiency student demonstrates exemplary engagement with low- to highly complex literature and nonfiction text. He/she displays writing skills in addition to skills defined under Meeting and Developing Proficiency.
Writing		
AND in writing, a student is able to: • make an appropriate word choice in a sentence. • select relevant information to support a given research topic. • identify appropriate transition words in a sequence of events.	**AND in writing, a student is able to:** • use appropriate words to make writing more precise or descriptive. • identify an introductory sentence to a narrative, informative or argumentative paragraph.	**AND in writing, a student is able to:** • develop claims with relevant evidence. • identify an ending or concluding statement to a narrative, informative or argumentative paragraph that follows from and reflects events or information in the paragraph.

ISTAR Grade 3 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory mathematics concepts and vocabulary.. The student is able to solve simple problems when provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic mathematics concepts and vocabulary. The student is able to solve simple problems without graphic support and more difficult problems with graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. The student is able to solve more difficult problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and is also able to:
Number Sense and Computation: • demonstrate and write numbers up to 10. • compare two sets of objects to 10 using words (more than, less than, same, equal to). • identify the number of shaded parts in a model. • compare concrete representations of fractional parts using words. • add and subtract one-digit numbers using graphic supports. • solve one-digit multiplication problems where one factor is 1 with graphic support.	**Number Sense and Computation:** • demonstrate and write numbers between 11 and 100. • compare two whole numbers between 1 and 200 using words (greater than, less than, or equal to). • identify the numerator or denominator of a fraction for a representation divided into 2, 3, or 4 pieces. • compare two fractions with the same denominator using words or symbols. • add and subtract one- and two-digit numbers without regrouping. • solve single-digit multiplication problems with or without graphic support.	**Number Sense and Computation:** • demonstrate and write numbers between 101 and 200. • compare two whole numbers between 1 and 200 using symbols (>, <, or =). • identify or write a fraction for a representation with 2, 3, or 4 as the denominator. • compare two fractions with the same numerator (different denominators) using words or symbols. • add and subtract one- and two-digit numbers without regrouping in real-life situations. • solve single-digit multiplication problems with or without graphic support.
Algebraic Thinking and Data Analysis: • count pictures in a pictograph to answer a question.	**Algebraic Thinking and Data Analysis:** • evaluate one-step real world problems involving addition or subtraction of whole numbers with graphic support. • answer simple questions using data from a bar graph or picture graph. • organize data into a graph using pictures.	**Algebraic Thinking and Data Analysis:** • evaluate one-step real world problems involving addition or subtraction of whole numbers without graphic support. • create or select a statement that describes data from a graph.
Geometry and Measurement: • find the value of a collection of coins and/or bills. • classify figures as larger or smaller than an original figure.	**Geometry and Measurement:** • identify a cube, sphere, cylinder, and/or cone. • solve real-world problems using pounds, gallons, quarts, liters, and/or grams. • tell time to the hour or half hour on an analog clock. • solve real-world time-lapse problems to the whole hour using graphic support. • identify perimeter as the distance around a figure.	**Geometry and Measurement:** • tell time to the quarter hour on an analog clock. • solve real-world time lapse problems involving parts of an hour using graphic support. • solve real-world problems to determine money needed to make a purchase. • find the perimeter of a rectangle or triangle given the side lengths.

ISTAR Grade 4 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory math concepts and vocabulary. The student is able to solve simple problems when provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrate proficient skills in basic mathematics concepts and vocabulary. The student is able to solve simple problems without graphic support and more difficult problems with graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. The student is able to solve more difficult problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and it also able to:
Number Sense and Computation: • demonstrate and write numbers between 1 and 50 • compare two whole numbers between 1 and 20 using words (more than, less than, same, equal to). • identify the number of parts in a model. • add and subtract multi-digit whole numbers up to 100 without regrouping. • represent multiplication as skip counting. • divide an even number of objects (between 2 and 10) into 2 equal sets.	**Number Sense and Computation:** • demonstrate and write numbers between 51 and 250. • compare two whole numbers between 1 and 500 using words (greater than, less than, or equal to). • express a whole number as a fraction using a model. • identify a missing factor in a multiplication problem when one factor is 5 or 10. • add and subtract multi-digit whole numbers up to 100 with regrouping. • multiply two whole numbers with products up to 10. • divide a group of objects (between 2 and 25) into smaller equal sets.	**Number Sense and Computation:** • demonstrate and write numbers between 51 and 500. • compare two whole numbers between 1 and 500 using symbols (>, <, or =). • identify a missing factor in a multiplication problem. • add and subtract multi-digit whole numbers up to 1000 with regrouping. • multiply two whole numbers with products up to 100. • divide a group of objects (between 2 to 50) into smaller equal sets by relating to a division equation.
Algebraic Thinking and Data Analysis: • select a graphic which represents a real-world situation involving addition or subtraction. • count pictures in a pictograph to answer a question.	**Algebraic Thinking and Data Analysis:** • evaluate one- or two- step word problems requiring addition or subtraction using graphic support. • read a pictograph or bar graph. • answer simple questions using data from a graph.	**Algebraic Thinking and Data Analysis:** • evaluate one- or two-step word problems requiring addition or subtraction without graphic support. • complete or create graph using given data.
Geometry and Measurement: • identify attributes (i.e., angles and sides) of a two-dimensional figure. • identify an appropriate measurement tool for different purposes in a real life context. • tell time to the nearest hour on an analog clock. • count pennies, nickels, dimes or one-dollar bills.	**Geometry and Measurement:** • classify triangles and quadrilaterals based on their number of sides/angles. • identify the appropriate units of measurement for different purposes in a real life context. • tell time to the nearest half-hour or quarter-hour on an analog clock. • count amounts of money that include pennies, nickels, dimes, quarters, and/or dollars.	**Geometry and Measurement:** • identify parallel and perpendicular lines in shapes with graphic support. • solve time-lapse problems set in real-world contexts. • solve real-world problems to determine the amount of money needed to make a purchase. Graphic support may be included.

ISTAR Grade 5 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory mathematics concepts and vocabulary. The student is able to solve simple problems when provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic mathematics concepts and vocabulary The student is able to solve simple problems without graphic support and more difficult problems with graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. The student is able to solve more difficult problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and it also able to:
Number Sense and Computation: • match models of tenths to the corresponding decimal numbers. • compare two graphic representations of decimal numbers. • divide a group of objects into smaller groups of equal proportion using graphic support • add or subtract with concrete objects. • show and solve one-digit multiplication with graphics.	**Number Sense and Computation:** • demonstrate and write decimal numbers to the tenths place. • compare two decimal numbers (money amounts) with a value less than 1 using symbols (>, <, =) or words. • round decimals to the nearest whole number • solve real-world problems with division (no remainders with dividends up to 10). • solve one-step, real world problems involving addition, subtraction, or multiplication with graphic support.	**Number Sense and Computation:** • demonstrate and write decimal numbers to the hundredths place. • compare two decimal numbers (including money amounts) to the hundredths place using symbols (>, <, =) or words. • solve real-world problems with division (no remainders with dividends up to 50). • solve one-step, real world problems involving addition, subtraction, or multiplication without graphic support.
Algebraic Thinking and Data Analysis: • solve money problems by counting money in a graphic. • count pictures in a pictograph to answer a question.	**Algebraic Thinking and Data Analysis:** • solve real-world problems involving addition, subtraction, multiplication or division of whole numbers with graphic support. • solve real-world problems involving decimals (including money problems) with graphic support. • answer questions by analyzing data on a graph; determine whether or not a question can be answered by data on a given graph.	**Algebraic Thinking and Data Analysis:** • solve real-world problems involving addition, subtraction, multiplication or division of whole numbers without graphic support. • solve real-world problems involving decimals (including money problems) without graphic support. • find a simple average using data displayed on a graph.
Geometry and Measurement: • identify right angles using the corresponding vocabulary "corner." • recognize properties of simple planar figures with 4 or fewer sides. • identify and name regular planar figures with 4 or fewer sides. • recognize simple conversions of time (i.e., there are 7 days in a week, 24 hours in a day, etc.). • solve time lapse problems to the half and whole hour with graphic support.	**Geometry and Measurement:** • categorize angles as right, acute, or obtuse. • identify the diameter and/or radius of a circle in a diagram. • recognize properties of simple planar figures with 6 or fewer sides. • identify and name regular planar figures with 6 or fewer sides. • convert measurements of time (i.e., days in a week(s), hours in a day(s), months in a year(s), etc.). • solve time lapse problems to the quarter hour with or without graphic support.	**Geometry and Measurement:** • identify the diameter and/or radius of a circle in a real-life situation. Demonstrate that the diameter is twice the radius. • solve time lapse problems to the five-minute interval with or without graphic support.

ISTAR Grade 6 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory mathematics concepts and vocabulary. The student is able to solve simple problems when provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic mathematics concepts and vocabulary. The student is able to solve simple problems without graphic support and more difficult problems with graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. The student is able to solve more difficult problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and it also able to:
Number Sense and Computation: • identify positive and negative numbers on a number line. • identify that basic equivalencies (e.g. ½ = 0.5 = 50%) can be represented with decimals, fractions, and percents, given graphic support. • identify a unit rate in a real-world problem. • divide whole numbers with dividends up to 10.	**Number Sense and Computation:** • plot positive and negative numbers on a number line. • identify that basic equivalencies can be represented with decimals, fractions, and percents. • identify unit rate in a real world problem and use unit rate to solve problems. • divide whole numbers with dividends up to 50.	**Number Sense and Computation:** • compare positive and negative numbers on a number line. • find equivalencies among fractions, decimals, and percents. • calculate unit rate in a real world problem and use unit rate to solve problems. • divide whole numbers with dividends up to 100.
Algebra and Functions: • identify amounts that are "more" or "less" given a real-world problem. • identify variables. • identify the commutative property. • identify a reasonable solution to a simple equation • identify the x-coordinate and y-coordinate in an ordered pair. • identify a point on the coordinate plane.	**Algebra and Functions:** • write an inequality given a real-word problem. • substitute a specified value for one variable in an expression or equation. • apply the properties of operations. • solve linear equations. • graph a point in Quadrant I on a coordinate plane.	**Algebra and Functions:** • substitute specified values for variables in expressions and equations. • manipulate expressions using properties of operations. • solve linear equations for real-world problems. • graph a point in Quadrant II, III, or IV on a coordinate plane.
Geometry and Measurement: • solve simple conversion problems using pictures and charts (e.g., days in a week, inches in a foot). • identify attributes of different types of polygons with 6 or fewer sides.	**Geometry and Measurement:** • complete a conversion table for length and time. • identify attributes of different types of polygons with 8 or fewer sides.	**Geometry and Measurement:** • identify attributes of different types of polygons.
Data Analysis and Statistics: • identify data represented on a graph.	**Data Analysis and Statistics:** • create graphs using given data. • select a statement that matches a measure of central tendency given a graph or table.	**Data Analysis and Statistics:** • interpret data on a graph. • identify mode, mean, or spread of data in a data set.

ISTAR Grade 7 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory mathematics concepts and vocabulary. The student is able to solve simple problems when provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic mathematics concepts and vocabulary. The student is able to solve simple problems without graphic support and more difficult problems with graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. The student is able to solve more difficult problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and it also able to:
Number Sense and Computation: • identify the square root of a perfect square. • understand the definition of rational and irrational numbers. • understand that integers have an opposite. • understand proportion (2 equivalent ratios). • recognize a ratio in a word problem. • understand that a percent or a ratio can increase or decrease the original value of a number. • determine the operations needed to solve a multi-step problem.	**Number Sense and Computation:** • identify the square of a whole number. • identify and compare irrational numbers (e.g., √2 is less than √3). • order rational and irrational numbers on a number line. • add a positive and negative integer with support, such as movement on a number line. • solve problems involving ratios and proportions. • use order of operations to solve two-step problems with whole numbers.	**Number Sense and Computation:** • identify the square and square root of whole numbers. • order and compare rational and irrational numbers. • add positive and negative integers. • demonstrate an understanding of proportions and ratios by solving word problems involving ratios. • use order of operations to solve multi-step problems with rational numbers.
Algebra and Functions: • understand inverse operations.	**Algebra and Functions:** • solve equations with one variable with graphical support.	**Algebra and Functions:** • solve equations with one variable in real-world problems.
Geometry and Measurement: • identify the right triangle in a set of triangles. • identify adjacent objects using "next to."	**Geometry and Measurement:** • identify obtuse, acute, and right triangles when provided an example. • identify adjacent and vertical angles in real-world contexts.	**Geometry and Measurement:** • identify obtuse, acute, and right triangles when provided a set of triangles.
Data Analysis, Statistics, and Probability: • predict what is most likely or least likely to happen next when given a visual model.	**Data Analysis, Statistics, and Probability:** • make a prediction about the probability of an event occurring when given a graphic model, such as a spinner.	**Data Analysis, Statistics, and Probability:** • interpret simple probability experiments.

ISTAR Grade 8 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory mathematics concepts and vocabulary. The student is able to solve simple problems when provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic mathematics concepts and vocabulary. The student is able to solve simple problems without graphic support and more difficult problems with graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. The student is able to solve more difficult problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and it also able to:
Number Sense and Computation: • understand how numbers can lie between whole numbers on a number line. • solve real-world problems with rational numbers in one step with addition or subtraction only.	**Number Sense and Computation:** • use approximations of irrational numbers to locate them on a number line. • solve real-world problems with rational numbers by using two operations (addition, subtraction, multiplication, or division).	**Number Sense and Computation:** • place irrational numbers on a number line by using approximations. • solve real-world problems with rational numbers by using more than two operations (addition, subtraction, multiplication, or division).
Algebra and Functions: • solve a simple equation with a graphic organizer. • identify one function as linear and one as non-linear when given two graphs. • identify the simple graph (e.g., bar graph, pie chart) that models a verbal description of a situation. • identify the larger of 2 sets without counting.	**Algebra and Functions:** • solve linear equations with one variable with graphical support. • identify linear and non-linear functions when given multiple graphs. • identify the complex graph (e.g., line graph) that models a verbal description of a situation. • select the relationship between two quantities when given a line graph. • identify the point of intersection in a system of equations shown on a graph.	**Algebra and Functions:** • solve linear equations with one variable. • identify graphs that are increasing or decreasing and linear or non-linear when given multiple graphs. • create a graph that models a verbal description of a situation. • describe the relationship between two quantities when given a line graph. • identify the solution to a system of linear equations shown on a graph.
Geometry and Measurement: • identify a rotation of an object or a figure.	**Geometry and Measurement:** • identify a rotation, reflection, or translation of a figure on a coordinate plane when transformations are defined.	**Geometry and Measurement:** • identify a transformation of a figure on a coordinate plane as a rotation, reflection, or translation.
Data Analysis, Statistics, and Probability: • locate points on the x- and y-axes of an adapted grid (not necessarily numeric).	**Data Analysis, Statistics, and Probability:** • identify a scatter plot and interpret data on the scatter plot (e.g., traffic decreases at night).	**Data Analysis, Statistics, and Probability:** • graph bivariate data on a scatter plot and identify possible associations between the variables.

ISTAR Grade 10 Mathematics Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory mathematics concepts and vocabulary. He/she is able to solve simple problems given provided graphic support. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic mathematics concepts and vocabulary. He/she is able to solve some problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying basic mathematics concepts and vocabulary. He/she is able to solve some problems without graphic support. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and it also able to:
Real Numbers and Expressions: • identify a pattern using a sum or product of rational numbers. • understand a rational number raised to an exponent is repeated multiplication with graphic support. • identify a square root when given choices of equations. • recognize that squares and square roots are inverse operations.	**Real Numbers and Expressions:** • recognize and complete patterns of addition, subtraction, or multiplication of rational numbers (2, 3, 5, 10s). • use properties of integer exponents to produce equivalent expressions. • solve for a square root.	**Real Numbers and Expressions:** • use the patterns of rational numbers to solve for the sum or product. • solve equations using square root properties.
Data Analysis and Statistics: • answer a question about the population when given a data table representing a sample.	**Data Analysis and Statistics:** • answer questions about categorical data in a two-way table.	**Data Analysis and Statistics:** • understand data patterns in a two-way table.
Functions: • understand that a function has only one output for every input.	**Functions:** • distinguish functions from non-functions in graphs and data tables.	**Functions:** • identify a missing data value in a function. • understand a function's domain and range.
Linear Equations, Inequalities, and Functions: • count and arrange a given number of objects into two sets in multiple combinations. • use a graphic organizer to solve an equation.	**Linear Equations, Inequalities, and Functions:** • solve one-step equations with one variable using equations or graphs. • solve linear equations in one variable with graphic support.	**Linear Equations, Inequalities, and Functions:** • solve one- or two-step equations using mathematical properties with one or two variables using equations or graphs. • solve linear equations with one variable.
Systems of Equations and Inequalities: • identify the point of intersection on a graph of a system of equations given visual support.	**Systems of Equations and Inequalities:** • identify the solution to a system of linear equations when given a graph.	**Systems of Equations and Inequalities:** • identify the solution to a system of equations when given a graph.
Quadratic and Exponential Equations and Functions: • identify the graph of a quadratic function. • determine if a given point lies on a graph of a quadratic function. • identify one zero of a quadratic function.	**Quadratic and Exponential Equations and Functions:** • identify graphs of quadratic and exponential functions. • determine if a given point lies on a graph of an exponential or quadratic function. • identify the zeros of a quadratic function.	**Quadratic and Exponential Equations and Functions:** • graph quadratic and exponential functions.

ISTAR Grade 4 Science Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory science concepts and terms. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic science concepts and terms. He/she has all of the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying science concepts and terms. He/she has all of the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and is also able to:
Physical Science: • identify when a light is on in a dark room. • identify that electric devices contain at least one circuit.	**Physical Science:** • describe that light usually travels in a straight line. • describe that electric devices will only work when at least one circuit is complete. • identify when a circuit is/is not complete.	**Physical Science:** • explain that light usually travels in a straight line unless it is being reflected, refracted or diffracted. • explain how to fix a circuit to make it complete, allowing the electric device to work.
Earth Science: • identify that plants need sun, soil or water. • identify that animals need food, water or shelter. • identify that earth materials can be changed. • identify natural agents of wind and water. • identify that Earth has natural resources. • identify one method to extend natural resources.	**Earth Science:** • identify that plants need sun, soil and water. • identify that animals need food, water and shelter. • identify that wind and water reshape Earth's surface by erosion and deposition. • describe that natural resources are limited. • identify that reducing, reusing and recycling are all methods of extending natural resources. • identify which materials can be recycled.	**Earth Science:** • explain why plants need sun, soil and water. • explain why animals need food, water and shelter. • identify how specific examples of wind or water have reshaped Earth's surface. • predict how specific examples of wind or water will reshape a certain landform over time. • predict where a natural resource will last the longest/shortest time given an appropriate scenario. • identify ways that given materials can be reused. • identify ways to reduce the use of limited natural resources.
Life Science: • identify that plants grow. • match one or more traits that a parent and its offspring have in common. • identify characteristics of plants and animals.	**Life Science:** • measure plant growth over time and record the measurements accurately. • describe that plant growth depends on the amount of sunlight and water the plant receives. • identify one or more traits that are passed from parent to offspring. • describe that some traits may be advantageous for survival. • describe that plants and animals have different characteristics based on their natural environments.	**Life Science:** • predict a difference in plant growth for two of the same plants when the plants are given different amounts of water or sunlight. • explain the difference in plant growth for two of the same plant when the plants are given different amounts of water or sunlight. • identify one or more traits that have been passed down from parent to offspring that are advantageous for survival. • explain why certain traits are advantageous for survival.

		• predict what natural environment a plant or animal lives in based on one or more of its characteristics that make the plant or animal well-suited to that environment. • explain why a characteristic makes a plant or animal well-suited to its natural environment.
Science, Engineering and Technology: • identify a ruler, a balance and a thermometer. • identify different forms of transportation.	**Science, Engineering and Technology:** • identify that rulers measure length, balances measure mass, and thermometers measure temperature. • identify whether a particular form of transportation is designed to be used on land, in air, in water or in space.	**Science, Engineering and Technology:** • use a ruler to measure length, use a balance to measure mass, and use a thermometer to measure temperature. • identify a feature or features of a particular form of transportation that show that it is designed to be used on land, in air, in water or in space.
The Nature of Science: • identify what will happen next in a given situation. • identify that there are tools that can be used to take measurements.	**The Nature of Science:** • identify a prediction. • express a simple scientific prediction. • identify commonly used scientific tools that are used to make observations and measurements during investigations.	**The Nature of Science:** • make a scientific prediction as part of a specific investigation. • explain why a commonly used scientific tool is used to make a particular observation or measurement.
The Design Process • identify that problems exist. • identify that problems can be solved. • identify some materials that could be used to solve a problem.	**The Design Process** • identify a problem in a given scenario. • identify a solution in a given scenario. • select all the materials necessary to solve a given problem.	**The Design Process** • identify the most important problem that needs to be solved in a given scenario. • select the best solution to a given problem. • describe that problems can be solved using science and engineering. • explain why the materials selected to solve a given problem can be used to solve the problem and why those materials are the most appropriate for that purpose.

ISTAR Grade 6 Science Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory science concepts and terms. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic science concepts and terms. He/she has all of the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying science concepts and terms. He/she has all of the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and is also able to:
Physical Science: • identify that materials that can be seen or touched have volume and/or weight. • identify/measure the weight of an individual object. • identify that matter has properties. • identify kinetic and potential as classifications for energy. • identify some forms of energy.	**Physical Science:** • describe that all materials, whether or not they can been seen with the naked eye or touched with the hand, have volume or weight. • identify/measure the weight of multiple individual objects or a group of objects. • place different types of matter into groups based on common properties. • describe that kinetic energy is the energy of motion. • identify which object in a given scenario has kinetic energy. • identify that heat, light, electricity, motion and sound are all forms of energy.	**Physical Science:** • explain that all materials, whether or not they can been seen with the naked eye or touched with the hand, have both volume and weight. • predict/calculate the weight of a group of objects if given the weight of each object in the group. • describe that matter can be classified into groups based on properties that are similar. • describe what property/properties a group of different types of matter has in common. • identify which object in a given scenario has the most/least kinetic energy. • identify the form(s) of energy given off by an object/organism in a given scenario.
Earth Science: • identify Earth, the sun and the moon as parts of our solar system. • identify that Earth is a planet. • express that Earth is not the only planet. • identify that Earth has different seasons.	**Earth Science:** • describe that Earth is a planet in our solar system. • describe that the sun is in the center of our solar system. • describe that planets are different from one another. • identify a particular season by observing a picture showing the most common weather elements that occur during that season.	**Earth Science:** • explain that Earth is not the only planet in our solar system. • explain that Earth is the only planet in our solar system that supports life. • describe at least one characteristic that differentiates Earth from other planets. • describe at least two weather elements that are commonly observed during a given season.
Life Science: • express that plants and animals interact with each other when they are in the same area/environment. • express that plants and animals can sometimes be helped by an interaction with another plant or animal or sometimes be harmed by an interaction with another plant or animal.	**Life Science:** • describe that organisms can be classified according to what they eat and how they interact with other organisms in their ecosystem. • identify food resources for commonly known animals. • identify when a relationship between organisms is helpful/harmful to one of the organisms that are interacting.	**Life Science:** • identify an organism as a producer or a consumer. • identify an organism as predator or prey. • describe whether the relationship between organisms is helpful/harmful for each organism in the relationship based on a given scenario.

• identify that plants and animals need food to survive.	• describe that food provides energy to an organism.	• explain why a relationship between organisms is helpful/harmful for each organism in the relationship. • explain that food converts to energy once it is consumed by an organism. • explain that the energy that has been gained from the conversion of food is used by an organism to perform functions necessary to sustain life.
Science, Engineering and Technology: • identify examples of human-created technology/tools that help humans. • express that energy can be transferred.	**Science, Engineering and Technology:** • identify examples of technology based on human body parts/systems and identify what they would take the place of in the human body. • identify when an energy transfer is taking place. • identify the kind of energy needed by an organism or object.	**Science, Engineering and Technology:** • explain how examples of technology that are based on human or animal parts/systems can be used to assist humans. • predict what will happen if an energy transfer occurs in a given scenario.
The Nature of Science: • express that a prediction can be made based on prior knowledge. • identify a commonly used tool that could be used to take a particular measurement in a given scenario.	**The Nature of Science:** • express a scientific prediction based on a given scenario/investigation. • describe a prediction on the outcome of investigation based on prior knowledge. • identify the appropriate units in which a measurement should be recorded in a given scenario.	**The Nature of Science:** • explain why a particular prediction is most likely to be correct based on a given scenario. • describe evidence from previous investigations that make a particular prediction for the current scenario more plausible than the others. • identify the most appropriate scientific tool that should be used to take a particular measurement in a given scenario. • identify the appropriate units in which a measurement should be recorded when using a particular scientific tool in a given scenario.
The Design Process • identify that scientific problems exist. • identify that scientific problems can be solved. • identify some materials that could be used to solve a scientific problem.	**The Design Process** • identify a scientific problem in a given scenario. • describe that scientific problems can be solved using science and engineering. • select all the materials necessary to solve a given scientific problem.	**The Design Process** • identify the most important scientific problem that needs to be solved in a given scenario. • select the best solution to a given scientific problem. • explain why materials selected to solve a given scientific problem can be used to solve the problem and why those materials are most appropriate for that purpose.

ISTAR Grade 10 Science Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory science concepts and terms. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic science concepts and terms. He/she has all of the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in applying science concepts and terms. He/she has all of the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and is also able to:
Cellular Chemistry: • identify some chemicals that occur in nature.	**Cellular Chemistry:** • express that living organisms are made up of chemical elements.	**Cellular Chemistry:** • identify common chemicals found in living organisms.
Cellular Structure: • express that all living things are made of cells.	**Cellular Structure:** • express that cells exist, even though they are often very small and impossible to see with the naked eye.	**Cellular Structure:** • identify a eukaryotic cell when a picture/diagram is given. • identify the large organelle in the middle of a eukaryotic cell as the nucleus when a picture/diagram is given.
Matter Cycles and Energy Transfer: • identify that living things require energy to survive.	**Matter Cycles and Energy Transfer:** • describe that living things must take in substances to create the energy necessary for survival.	**Matter Cycles and Energy Transfer:** • describe that animals take in food and convert the food to energy. • describe that plants take in sunlight, water and minerals to make their own food, which they convert into energy.
Interdependence: • identify some important resources used by living things in a given ecosystem when a picture/diagram of the ecosystem is given. • identify that natural disasters occur sometimes.	**Interdependence:** • explain that an organism cannot survive in an environment where any or all of the resources it needs are not available. • describe that human behaviors can change an ecosystem. • identify at least one way human behavior can cause a change to the ecosystem that is harmful for other living things.	**Interdependence:** • predict in which ecosystem a given resource will last the longest/shortest time given an appropriate scenario. • explain why an animal is leaving/has left a particular area based on the resources available in that area. • identify more than one way human behavior can cause a change to the ecosystem that is harmful for other living things. • identify at least one way humans can change their behavior to help preserve the ecosystem for other living things. • explain how a particular change caused by human behavior will affect other living things in an ecosystem.
Molecular Basis of Heredity: • express that genes exist.	**Molecular Basis of Heredity:** • describe that genes are passed from parents to offspring.	**Molecular Basis of Heredity:** • describe that genes cause living things to have particular traits/characteristics that are unique even within a species.

Cellular Reproduction: • express that cells can divide.	**Cellular Reproduction:** • describe that organisms grow due to cell division. • explain that the more cell division occurs, the more growth for the organism.	**Cellular Reproduction:** • identify the parent cell as the original cell that divided into two smaller cells when cell division occurred.
Genetics: • identify different groups of living things based on their general characteristics.	**Genetics:** • describe that living things have physical differences even within a species and physical similarities even when not within the same species.	**Genetics:** • explain that offspring will often share characteristics with their parents because those characteristics have been passed down to them from their parents.
Evolution: • identify that organisms live in different ecosystems throughout Earth. • select the environment to which a particular organism is most well-suited given a picture/diagram of the organism and its physical traits.	**Evolution:** • describe that living things have traits that allow them to survive in particular environments. • identify at least one trait of an organism that helps that organism to survive in its environment.	**Evolution:** • describe the appropriate environment given a description or picture of the organism and its physical traits. • explain why a particular organism can survive better in a given environment than in other environments.
The Nature of Science: • describe that science involves experiments and observations. • use one source of information to develop an answer to a scientific question. • identify a correct scientific tool that would be used to take a particular measurement during a given investigation.	**The Nature of Science:** • explain that science involves validation of hypotheses and experiments performed by others and oneself. • identify whether a scientist is observing, experimenting or validating in a given scenario. • use two sources of information to develop an answer to a scientific question. • identify all the scientific tools needed to take each measurement necessary during a given investigation.	**The Nature of Science:** • explain that the outcomes of experiments must change an understanding of how something works if the experiments do not prove the original hypothesis. • identify when a hypothesis must be changed because the outcome of the experiment proves that the hypothesis is false/incorrect. • use three or more sources of information to develop an answer to a scientific question. • disregard sources of information that are irrelevant to developing the answer to a given scientific question. • use each of the tools necessary to take all appropriate measurements during a given investigation.

ISTAR Grade 5 Social Studies Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory social studies concepts and terms when using brief texts with simplified language and provided graphic supports. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic social studies concepts and terms when using longer texts with more complex ideas and some graphic supports. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in more complex social studies concepts and terms with few or no graphics. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and is also able to:
History and Geography: • recognize Indiana on a map. • recognize Indianapolis on a map of Indiana. • recognize that there are different groups of people who settled in North America. • recognize that the colonists fought in and won the American Revolution.	**History and Geography:** • identify Indiana as a part of the United States. • locate or identify Indiana on a map. • identify Indianapolis as the capital of Indiana. • identify some of the different groups of people settled in North America. • identify that the colonists fought in and won the American Revolution.	**History and Geography:** • identify reasons that different groups settled in North American. • identify other countries who helped the colonists fight for independence.
Civics and Government: • identify that citizens vote. • recognize that citizens have rights.	**Civics and Government:** • identify the governor as an elected leader. • identify some of the rights that citizens have.	**Civics and Government:** • identify the president as an elected leader. • identify the different levels of government leaders for whom citizens vote. • explain some of the rights that citizens have.
Economics: • recognize that people save money. • recognize that people create goods.	**Economics:** • identify ways people may save money. • identify goods that people create.	**Economics:** • identify reasons why people save and spend money. • identify reasons why people invent or change goods.

ISTAR Grade 7 Social Studies Performance Level Descriptors (PLDs)

Developing Proficiency	Meeting Proficiency	Exceeding Proficiency
A student performing at a **Developing Proficiency** level demonstrates emerging skills in introductory social studies concepts and terms when using brief texts with simplified language and provided graphic supports. He/she is able to:	A student performing at a **Meeting Proficiency** level demonstrates proficient skills in basic social studies concepts and terms when using longer texts with more complex ideas and some graphic supports. He/she has all the knowledge and skills shown under Developing Proficiency and is also able to:	A student performing at an **Exceeding Proficiency** level demonstrates exemplary skills in more complex social studies concepts and terms with few or no graphics. He/she has all the knowledge and skills shown under Developing Proficiency and Meeting Proficiency and is also able to:
History: • recognize that events occur in a sequence of time. • recognize that a river or water source is a resource for communities. • recognize that there is more than one religion in the world.	**History:** • identify which events happen first and last. • identify the reasons why people first settled near rivers. • identify a main belief from one main religion.	**History:** • identify which events happen first, next, and last. • identify the resources from rivers that people used. • identify several differences in religious beliefs.
Civics and Government; Economics: • recognize that countries have rules. • identify one item being traded between two countries.	**Civics and Government; Economics:** • identify that countries have different rules to maintain safety. • identify two countries that trade an item.	**Civics and Government; Economics:** • identify some rules that countries have to maintain safety and order. • describe the benefits of trade between countries.
Geography: • identify a major geographical physical feature on a map.	**Geography:** • identify more than one geographical physical feature on a map.	**Geography:** • distinguish between two or more geographical physical features on a map.