



Government of Bermuda
Ministry of Education

BERMUDA DEPARTMENT OF EDUCATION

THE OFFICE OF CURRICULUM & ASSESSMENT

ACHIEVEMENT LEVEL DESCRIPTORS (ALDs)

SENIOR TWO (S2)

APRIL 2009

BERMUDA S2 ACHIEVEMENT LEVEL DESCRIPTORS (ALDs)

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BACKGROUND

The Bermuda Criterion-Referenced Test (BCRT) will be administered operationally for the first time in Spring 2009. This marks the culmination of several years of work on the part of teachers, principals and content officers. These tests will provide teachers and parent feedback on how their students perform in relationship to the Bermuda Performance Standards. To enhance this feedback, the Ministry plans to report student performance in terms of four (4) achievement levels: *Advanced*, *Proficient*, *Partially Proficient* and *Novice*.

To bring clarity to these four (4) levels, Achievement-Level Descriptors (ALDs) have been developed. The Achievement-Level Descriptors (ALDs) are critical to the success of the standard setting process. They summarise the knowledge, skills and abilities of the student who is solidly within a particular achievement level. Achievement-Level Descriptors (ALDs) will be used by the Ministry of Education to provide guidance to students, parents, educators and the public about what students in the Bermuda Public School System (BPSS) should know and be able to do in English Language Arts, Mathematics, Science and Social Studies.

ACKNOWLEDGEMENTS

In July 2008, full descriptors were written for the four (4) achievement levels for content areas previously mentioned. In collaboration with CTB McGraw-Hill personnel, principals, teachers, mentors and content officers developed these descriptors and they reflect the knowledge, skills, and abilities expected of Bermudian students (P3-S2) in each of the achievement levels in relationship to the Bermuda Performance Standards. The writing teams were comprised of diligent and devoted professionals. Appreciation is extended to these professionals for their ability to collaborate amicably and collegially in the development of the (ALDs). The members of the development teams were:

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FREQUENTLY ASKED QUESTIONS

1. What are Achievement Level Descriptors (ALDs)?

Achievement levels descriptors specify the knowledge, skills and abilities a student needs to know in order to be classified in each achievement levels.

2. What are the achievement level titles?

The four (4) achievement level titles are *Advanced*, *Proficient*, *Partially Proficient* and *Novice*. Each achievement level indicates the student can perform the majority of what is described for that level and even more of what is described for the levels below. The student may also be capable of performing some for the things described in the next higher level, but not enough to have reached that level.

Advanced: *demonstrates exemplary understanding or skill and exceeds expected level of performance*

Proficient: *demonstrates understanding or skill and meets expected level of performance*

Partially Proficient: *demonstrates an emerging or developing level of understanding and performance*

Novice: *attempt made; however, lack of understanding and performance is evident*

3. How will the Achievement Level Descriptors (ALDs) be used?

In the standard setting process, teachers will use the ALDs as a point of reference to rate each of their students in the area of English Language Arts, Mathematics, Science and Social Studies into the one of the proficiency categories.

4. What is Standard Setting?

Standard setting is a process that establishes cut-scores for students to be placed into achievement levels. This multi-step process will allow input from various stakeholders such as educators and policy makers. During the standard setting process, Bermuda educators will consider the knowledge, skills and abilities of their students. Based on teachers expectation, cut-scores will be generated using statistical data. Standard setting is currently scheduled to begin in Spring 2009.

5. What are cut-scores?

Cut-scores are the numerical values that identify the range for achievement levels.

Bermuda Public School System Performance Standards

English Language Arts (EL)

Strategic Reading (R)

Comprehension of Informational Text (I)

Comprehension of Literary Text (L)

Language Usage (U)

Writing (W)

Speaking & Listening (S)

Processing Information and Mass Media (M)

English Language Arts (EL)

Advanced Students (EL)

- summarize, compare, contrast and analyze a variety of texts making real life connections
- analyze meanings of words in context
- make/support assertions about text with elaborated and convincing evidence
- distinguish stereotype from generalization
- analyse/interpret literary elements and devices in a variety of text genres
- demonstrate correct language usage, strong organisational structure, insightful and logical sequencing of ideas, masterful vocabulary and effective control of mechanics

Proficient Students (EL)

- make and support inferences about text
- provide synonyms and antonyms
- identify types of text
- use text features
- demonstrate understanding of themes, author's purpose, supporting details and text features
- explain literary devices
- explain setting, plot, characters, conflict, theme, point of view, movement through time, tone, mood, monologue, soliloquy, chorus, aside and dramatic irony
- distinguish and apply formal and informal language
- use correct subjects, predicates, modifiers and coordination, subordination and sequencing strategies
- demonstrate development of ideas using structure, precise vocabulary, sustained focus, sentence fluency and correct mechanics

Partially Proficient Students (EL)

- recognize context clues
- identify synonyms/antonyms
- summarize
- determine sequence
- compare/contrast themes, characters, styles
- support assertions
- draw conclusions
- identify and discuss plot, theme, characterization, point of view, setting in expository and literary text
- show awareness of author's purpose and persuasive techniques
- reference personal/world experiences

Novice Students (EL)

- identify main idea
- find important details
- use organisational structure to understand text
- connect elements of text to personal experiences, other texts and world experiences
- make connections between print/non-print texts and Bermudian culture/life
- distinguish fact from opinion in text
- provide supporting evidence from text
- general development of ideas, use of language conventions and mechanics

BERMUDA S2 ACHIEVEMENT LEVEL DESCRIPTORS (ALDs)

PLANNING NOTES

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Bermuda Public School System Performance Standards

Mathematics (MT)

Number and Number Operations (N)

Patterns, Functions and Algebra (A)

Geometry (G)

Measurement (M)

Data Handling (D)

Mathematics (MT)

Advanced Students (MT)

- understand and use the inverse relationship between exponents and roots
- use direct and inverse proportion to solve problems
- identify values of functions and use them in applications
- write equations for linear graphs
- use tables and graphs to model the relationships between two real-world quantities
- perform calculations and simple proofs using lines and angles
- solve real-world problems using right-angled triangle trigonometry and the Pythagorean Theorem
- explain how a change in one or more dimensions of a geometric shape affects perimeter, area, volume and surface area
- find combinations and permutations in problem situations

Proficient Students (MT)

- apply relationship between cubes/cube roots
- check results and determine reasonableness
- apply fractions/decimals/percents in real world situations
- analyse/extend patterns
- use slope to show rate of change
- factor polynomial expressions
- multiply algebraic expressions
- model/solve problems using patterns/graphs/tables/equations
- solve quadratic equations and inequalities
- solve systems of equations
- apply angle/line properties of circles
- find angle measures using trigonometric ratios
- gather/organise/describe data using tables/histograms/bar graphs to answer questions and communicate results
- design/execute experiments
- recognise appropriateness of representation of data

Partially Proficient Students (MT)

- apply relationship between squares/square roots
- know properties of $0/1/p$
- use calculator/decimals/percents to solve problems
- use operations with rational numbers
- determine slope
- add/subtract/expand/factor algebraic expressions
- solve two-step equations and simple inequalities
- solve triangles using geometric properties
- classify similar/congruent triangles
- describe geometric properties/relationships using coordinate system
- use trigonometric ratios to find side lengths
- apply transformations
- convert units within same system
- calculate volumes/surface areas
- design/execute surveys
- analyse data using mean/mode/median/range
- find probability of dependent/independent events

Novice Students (MT)

- understand relationship between squares/square roots
- use calculator to solve expressions
- use operations with decimals/percents
- plot points on graphs
- factor binomial expressions
- add/subtract/solve algebraic expressions
- solve one-step equations
- use Pythagoras' Theorem
- classify similar triangles
- identify parallelism/perpendicularity/ transformations/trigonometric ratios
- build/use physical models
- draw shapes concisely
- justify use of various systems of measurement
- perform simple conversions
- calculate volumes of prisms
- gather/organise data using tables/bar graphs to answer questions
- execute surveys
- calculate mean/mode/median/range
- find probability of simple events

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Bermuda Public School System Performance Standards

Science (SC)

Physical Science (P)

Life Science (L)

Earth and Space Science (E)

Nature of Science (N)

Science (SC)

Advanced Students (SC)

- understand more complicated circuits (combined series and parallel circuit)
- differentiate between motor and generator
- explain kinship can be estimated from DNA similarities
- describe how sorting/recombination gives a variety of possible combinations
- evaluate impact of change in an ecosystem
- explain local and global environment is affected by national policies and practices relating to energy use/waste disposal/ecological management/manufacturing and population/sustainable development/land management/waste management
- suggest solutions to local issues
- support predictions with scientific reasons
- understand concept of bias
- vary key variables
- select best way to display evidence

Proficient Students (SC)

- explain magnetic effect of electric current/how different materials respond to electric forces
- understand ionic and covalent compounds/Lewis dot structures/how to balance simple equations/Newton's laws of motion
- understand succession/genetic terms/cycling of energy and matter in the environment/how diversity affects survival/energy pyramids
- distinguish between asexual and sexual reproduction
- describe transfer of chemicals through food webs
- relate Bermuda rock formations to ground water
- understand that development/use of technologies can have environmental/economic concerns
- understand impact of genetic engineering on health care fields/ that toxic substances affect health

Partially Proficient Students (SC)

- understand electrons and atom's reactivity/arrangement of particles in a substance determines its structure and properties/acids and bases/factors affecting reaction rates/forces have a magnitude and direction/ how current flows in a circuit
- complete/interpret Punnett Square
- order phases of meiosis
- describe some risks to a developing foetus
- locate the water lens in Bermuda
- understand sustainability of groundwater supplies
- describe effect of global warming on Earth's oceans
- select appropriate questions for scientific investigations
- write clear procedures
- identify variables
- support conclusions with experimental evidence/ published research using scientific terms

Novice Students (SC)

- understand force and motion/electrical circuits/ecosystem feeding relationships/human influence in ecosystems/body systems including male and female reproductive systems
- recognize sun as energy source/fresh water is a Bermuda limited resource/ways water is collected and treated
- know about waste disposal
- explain importance of ocean and ways people impact health of the oceans
- understand Earth has limited resources
- precisely use science apparatus
- evaluate validity of data
- make predictions about outcomes
- summarise/organise data
- analyse evidence
- draw conclusions
- know applications of technology and contributions of different cultures
- explain effect of diet/exercise on health

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Bermuda Public School System Performance Standards

Social Studies (SS)

History (H)

Geography (G)

Civics (C)

Economics (E)

Social Studies (SS)

Advanced Students (SS)

- demonstrate mastery in origin and progress of man by drawing inferences and making judgments on developments of early civilisations to 1600AD
- synthesise information from multiple sources of Medieval and Renaissance periods
- integrate ways in which artistic creations serve as expressions of culture
- demonstrate understanding of patterns of change by making predictions on future development of a region
- show relationship between individual and national identities and development of a region
- show to what extent European expansion and industrial revolution led to our present global, political, and technological situation

Proficient Students (SS)

- make inferences and judgments on early civilisations to 1600AD
- apply information from multiple sources of Mediaeval and Renaissance periods
- describe how artistic creations express culture
- compare development of civilisations or empires in detail
- analyse governmental mechanisms to manage citizens' needs and wants
- use geographic tools to process information on people, places, environments
- describe patterns of change within a region
- construct arguments about conflicts between human rights, cultural and national identity in age of exploration
- evaluate reasons for European economic expansion in 1700s-1800s
- analyse economic impact during scientific and industrial revolutions

Partially Proficient Students (SS)

- analyse connection between progress of man and development of early civilisations to 1600AD
- identify and explain charts and graphics of Medieval and Renaissance periods and describe influences on religion and culture
- describe patterns of change in early civilisations and how geography affected development
- compare development of civilisations or empires
- explain governmental mechanisms to manage citizens' needs and wants
- compare conflicts between human rights, cultural and national identity during age of exploration
- describe reasons for European economic expansion in 1700s-1800s and economic impact during scientific and industrial revolutions

Novice Students (SS)

- explain origins of man from development of early civilisations to 1600AD
- create charts and graphics to show some knowledge of Mediaeval and Renaissance periods
- identify patterns of change in early civilisations and geographical features that affected development
- briefly compare and contrast development of different civilisations or empires
- identify roles of government in managing needs and wants of citizens
- locate early civilisations on maps
- identify conflicts between human rights, cultural and national identity during age of exploration
- identify reasons for economic expansion in Europe in 1700s-1800s and economic impact during scientific and industrial revolutions

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