

# Setting Achievement Levels:

Washington Comprehensive Assessment of Science  
&  
Washington Access to Instruction & Measurement  
(Science, HS Math, and HS ELA)

---

STATE BOARD OF EDUCATION

AUGUST 9, 2018, 1–4:30 P.M.

OSPI BROUILLET CONFERENCE ROOM, OLYMPIA, WA



# Presenters

---

Deb Came, Ph.D., Assistant Superintendent of Assessment and Student Information, OSPI

Anton Jackson, Director of Assessment Development, OSPI

Dawn Cope, Science Assessment Lead, OSPI

Michael Middleton, Director of Select Assessments, OSPI

Gary Phillips, Ph.D., American Institutes for Research (AIR)



# Agenda

---

- Achievement level setting approval process
- Description of achievement level setting events
  - Composition of panel
  - Achievement level setting activities
- Recommendations from achievement level setting panels
- OSPI recommendation to the Board
- Board action



# Role of State Board

---

## RCW 28A.305.130 Powers and duties—Purpose

(4) For purposes of statewide accountability:

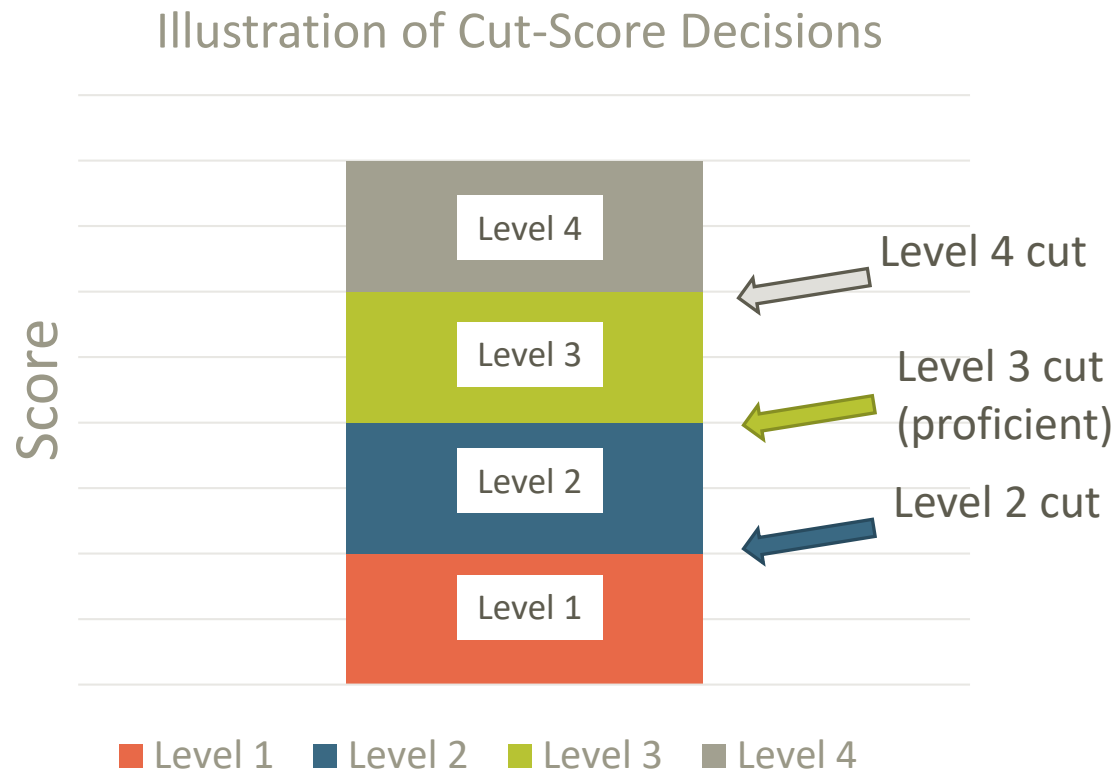
(b)(i) Identify the scores students must achieve in order to meet the standard on the statewide student assessment. The board shall also determine student scores that identify levels of student performance below and beyond the standard. The board shall set such performance standards and levels in consultation with the superintendent of public instruction and after consideration of any recommendations that may be developed by any advisory committees that may be established for this purpose;



# Today's Decisions by SBE

Assessment	Grade	# of Students per grade
Washington Comprehensive Assessment of Science	5, 8, 11	~ 80,000
WA-AIM Science	5, 8, 11	~ 800
WA-AIM English Language Arts	10	~ 800
WA-AIM Mathematics	10	~ 800

Alternate Assessment  
(1% of students)



# Achievement Level Setting Approval Process: Purpose of Today's Action by the Board

---

- The Office of Superintendent of Public Instruction is recommending “cut scores” for:
  - Washington Comprehensive Assessment of Science (WCAS) in grades 5, 8, and 11.
  - Washington Access to Instruction & Measurement (WA-AIM) Science in grades 5, 8, and 11.
  - WA-AIM Mathematics & ELA in High School (grade 10).
- Each assessment has three cut scores, separating four levels of student performance:
  - The cut between Level 1 and Level 2
  - The cut between Level 2 and Level 3 (the “proficient” cut)
  - The cut between Level 3 and Level 4
- The Boards’ cut scores will be used to report the 2018 results, and will be used in future years until such time as standards are revised or revisited.



# Achievement Level Setting Approval Process: Approval of the Procedures

---

- The new Achievement Level Setting process in science began in October 2013 when the Next Generation Science Standards (NGSS) were adopted as the new science learning standards.
- The State Board and the Superintendent's national technical advisory committee on assessments (NTAC) reviewed and approved the process to be used for the 2018 WCAS Achievement Level Setting.
- The WA-AIM methodology was reviewed and approved by NTAC and follows the same process used in 2015 and 2016 for previous ELA, Math, and Science cut-score setting.
- New assessments aligned to the new learning standards (WCAS and WA-AIM) were given to students this spring.



# Achievement Level Setting Approval Process: WA-AIM Approval of the Procedures

Date	Event
October 2013	NGSS Adopted
September 2017	NTAC reviewed & approved Achievement Level Setting plan
<b>February 2018</b>	<b>Alternate Achievement Level Descriptors (AALDs) Draft</b>
July 2018	Achievement Level Setting <ul style="list-style-type: none"> <li>• Grade-level panels</li> <li>• Articulation panel</li> <li>• Office of Superintendent of Public Instruction recommendation</li> </ul>
July 2018	Alignment Study
<b>August 2018</b>	<b>SBE sets the cut scores</b>
September 2018	Scores released





# Achievement Level Setting Approval Process: WCAS Approval of the Procedures

Date	Event
October 2013	NGSS Adopted
2013–15	NGSS began to be phased in to classrooms state-wide
<b>September 2017</b>	<b>NTAC reviewed &amp; approved Achievement Level Setting plan</b>
November 2017	SBE briefed on WCAS & Achievement Level Setting plan
November 2017	Draft Achievement Level Descriptors (ALDs) developed by science educators from around the state.
<b>January 2018</b>	<b>SBE approved Achievement Level Setting plan</b>



# Achievement Level Setting Approval Process: WCAS Approval of the Procedures

Date	Event
Spring 2018	Students in grades 5, 8, & 11 took the WCAS assessments for the first time.
<b>July 2018</b>	<b>Alignment Study</b>
August 2018	Achievement Level Setting <ul style="list-style-type: none"><li>• Grade-level panels</li><li>• Articulation panel</li><li>• Office of Superintendent of Public Instruction recommendation</li></ul>
<b>August 2018</b>	<b>SBE sets the cut scores</b>
September 2018	Scores released



# WA-AIM Recommendations

---



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/9/2018

# WA-AIM Achievement Level Setting: Summary of Activities July 24-26

---

Orientation to test development and achievement level setting process

Overview of WA-AIM administration

Examining the Alternate Achievement Level Descriptors (AALDs)

Ratings using Profile Sorting Method

- Round 1 (Impact data)
- Round 2 (Contrasting Group Study Data and new Impact Data)
- Synthesis

Articulation Panel

Alternate Achievement Level Descriptor Refinement



# WA-AIM Science Achievement Level Setting: Composition of grade-level panels

	Grade 5	Grade 8	Grade 11
<b>Total number</b>	<b>11</b>	<b>21</b>	<b>10</b>
Classroom teachers	11	21	10
Specialized training for working with students with disabilities and/or English learners	11	20	9
% west of Cascades	64%	67%	70%
% from districts w/student population at or above the state percentage of white students	64%	67%	70%
% from districts at or above the state average Free/Reduced meals	27%	43%	55%



# WA-AIM ELA and Math Achievement Level Setting: Composition of grade-level panels

	HS ELA	HS Math
<b>Total number</b>	<b>8</b>	<b>7</b>
Classroom teachers	8	7
Specialized training for working with students with disabilities and/or English learners	7	6
% west of Cascades	63%	57%
% from districts w/student population at or above the state percentage of white students	75%	86%
% from districts at or above the state average Free/Reduced meals	86%	86%

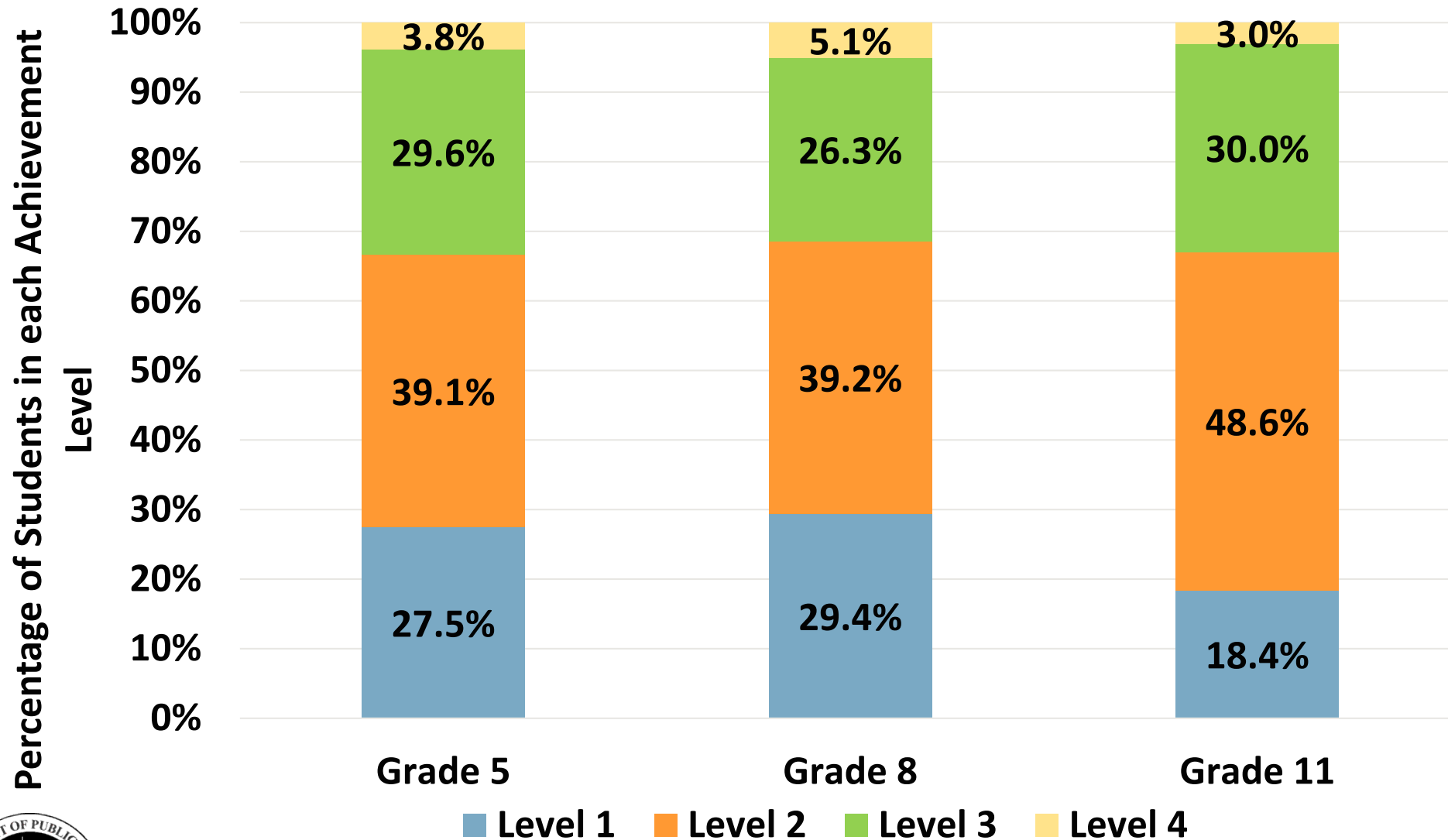


# WA-AIM Recommendations and Impact Data

Content	Grade	Recommended Cut Scores			Associated Impact Data				
		Level 2	Level 3	Level 4	Level 1	Level 2	Level 3	Level 4	Level 3 + 4
Science	5	111	129	169	27.5%	39.1%	29.6%	3.8%	33.4%
	8	110	127	163	29.4%	39.2%	26.3%	5.1%	31.4%
	11	111	128	164	18.4%	48.6%	30.0%	3.0%	33.0%
ELA	10	110	126	162	20.6%	45.3%	30.1%	4.0%	34.1%
Math	10	108	120	146	6.6%	24.9%	49.3%	19.2%	68.5%



# WA-AIM Science Grades 5, 8, & 11, 2018 Impact Data

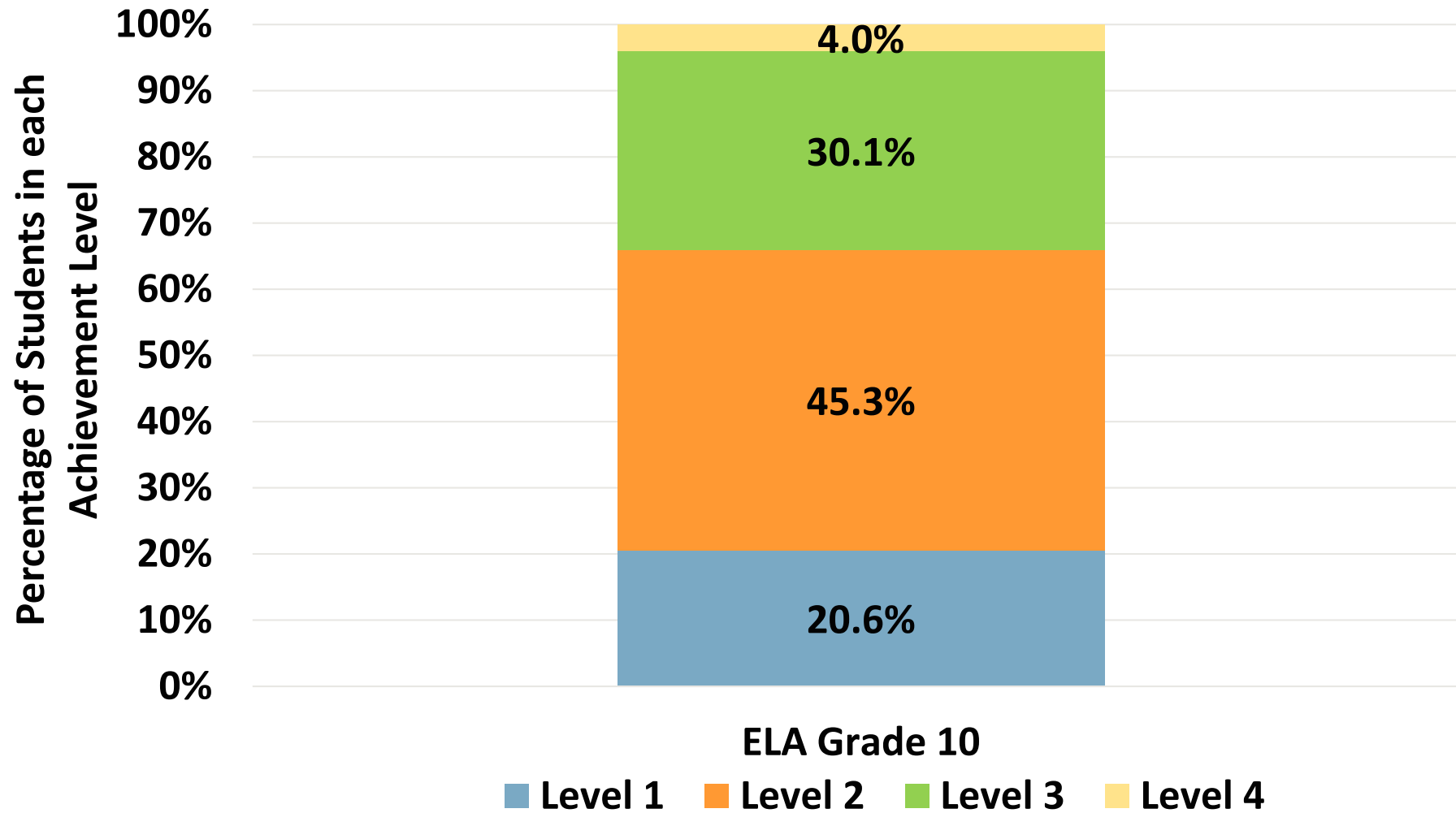


OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/9/2018



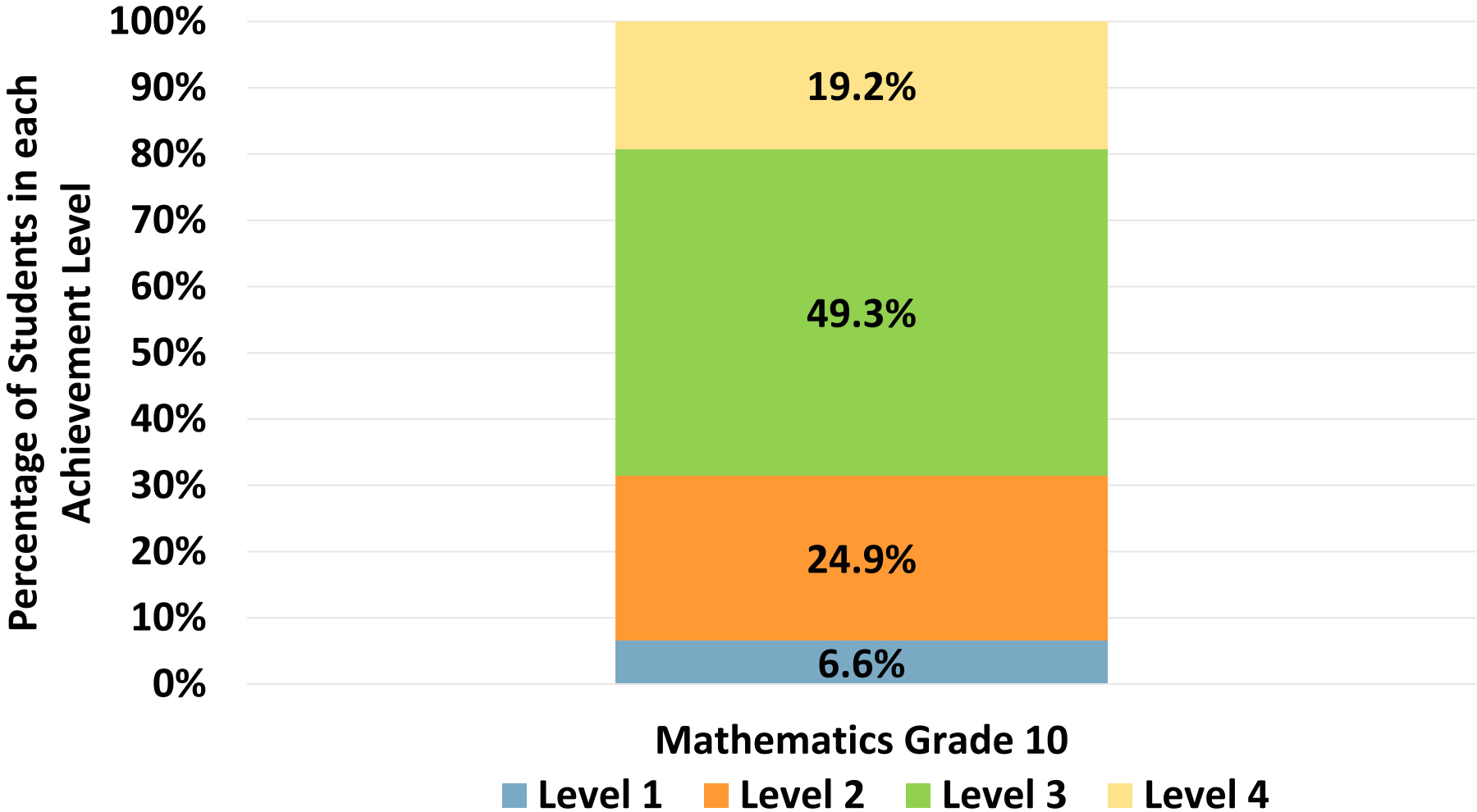
# WA-AIM ELA Grade 10, 2018 Impact Data



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/9/2018

# WA-AIM Mathematics Grade 10, 2018 Impact Data



# WCAS Recommendations

---



OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/9/2018

# WCAS Achievement Level Setting: Decisions informed by several reviews

---

Contrasting Groups Study (n=84 teachers; 4,472 students)

- Individual ratings of students by their science teacher before the test

Grade-level panels (n=30 per grade)

- Implemented Achievement Level Setting activities across three days, resulting in a set of recommended cut scores

Articulation panel (n=9 participants from across the grade-level panels)

- Reviewed recommendations from each grade-level panel, with overall view



# WCAS Achievement Level Setting: Summary of Activities August 6–8

---

Orientation to test development and achievement level setting process

Taking the online WCAS

Examining the Achievement Level Descriptors (ALDs)

Ratings using an Ordered Item Booklet (OIB)

- Round 1 (Data from Contrasting Groups study)
- Round 2 (Impact data: state percent at each item)
- Round 3 (Item difficulty values)

Articulation Panel



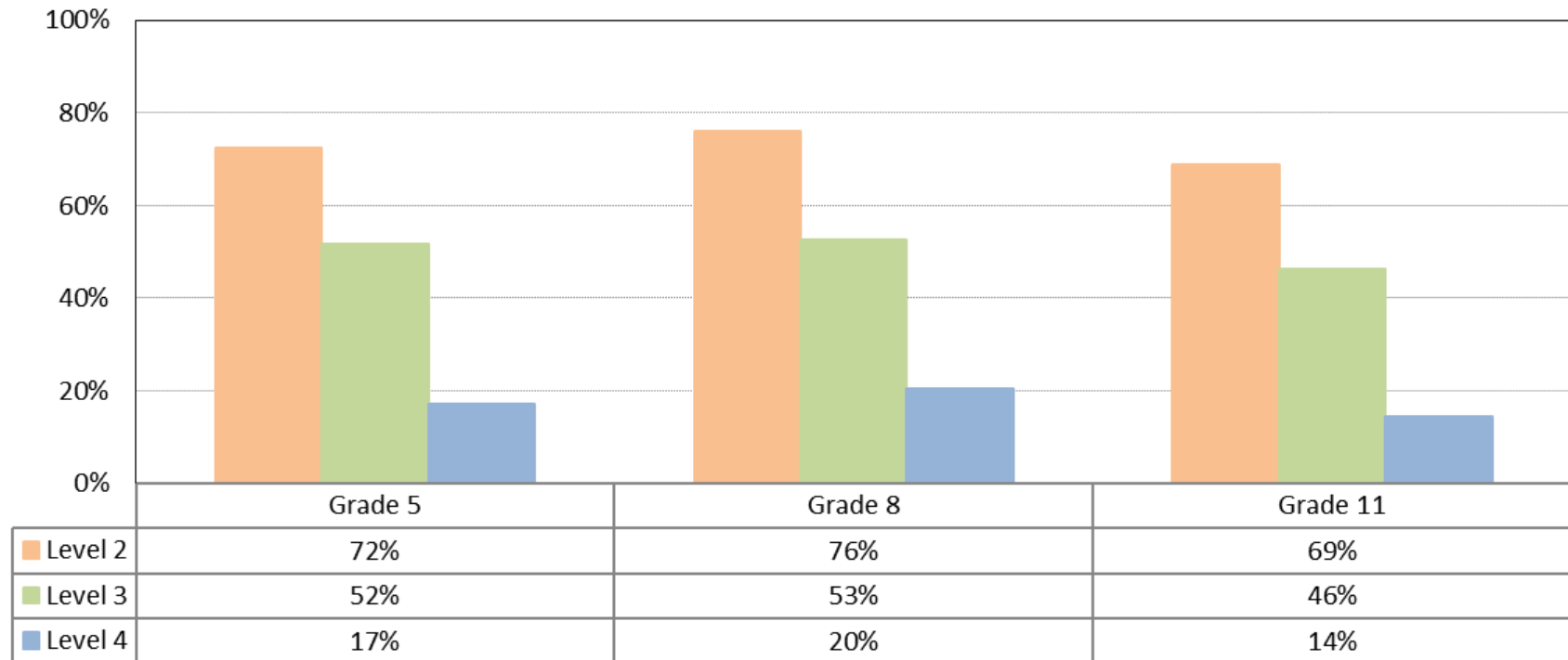
# WCAS Achievement Level Setting: Composition of grade-level panels

	Grade 5	Grade 8	Grade 11
<b>Total number</b>	<b>27</b>	<b>30</b>	<b>28</b>
Classroom teachers	21	25	27
District level or ESD staff	8	5	4
Specialized training for working with students with disabilities and/or English learners	4	3	2
% west of Cascades	78%	79%	57%
% from districts w/student population at or above the state percentage of white students	63%	62%	61%
% from districts at or above the state average Free/Reduced meals	52%	62%	61%



# Percentage of Students At And Above Each Cut Scores

WCAS Science - Percentage of Students at and above each Achievement Standard

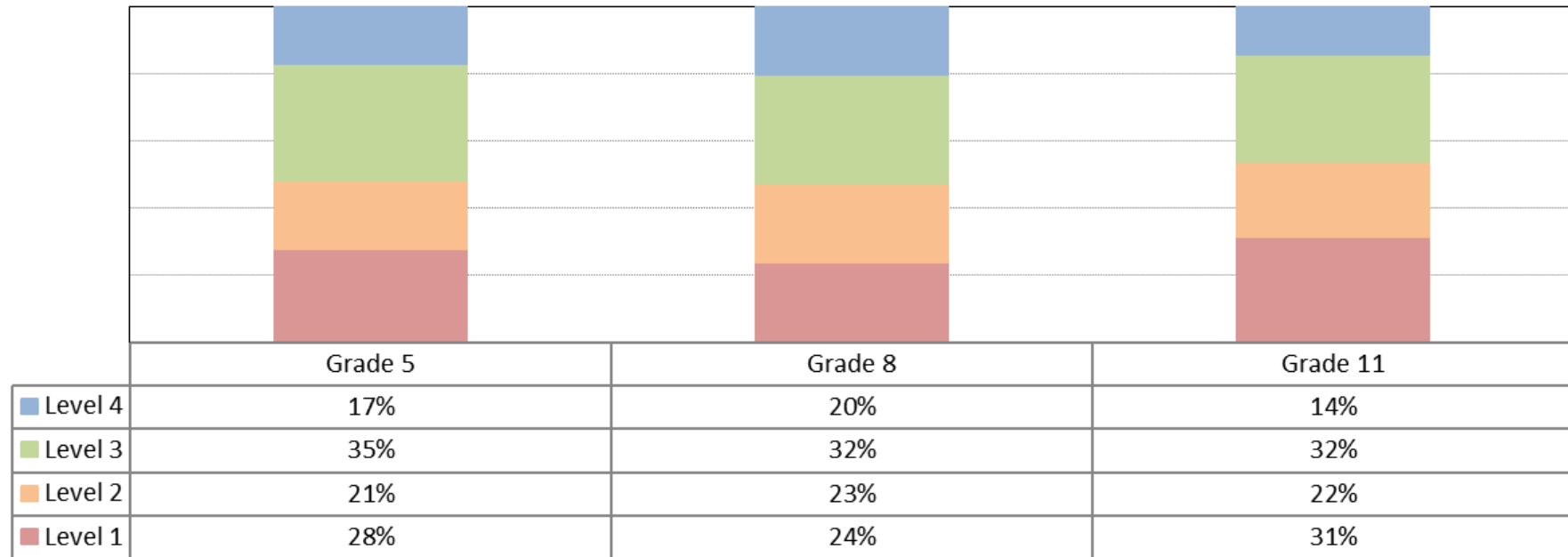


OFFICE OF SUPERINTENDENT OF PUBLIC INSTRUCTION

8/9/2018

# Percentage of Students Within Each Achievement Level

WCAS Science - Percentage of Students in each Achievement Level





# WCAS Raw Score Cut Scores

---

		Recommended Cut Scores		
Content	Grade	Level 2	Level 3	Level 4
Science	5	10	15	24
	8	13	19	27
	11	9	14	25



# Board Action

---

Questions

Discussion

Cut score decision



# State Board Decision

## WA-AIM Cut Scores

---

		Recommended Cut Scores		
Content	Grade	Level 2	Level 3	Level 4
Science	5	111	129	169
	8	110	127	163
	11	111	128	164
ELA	10	110	126	162
Math	10	108	120	146



# State Board Decision

## WCAS Cut Scores

---

		Recommended Cut Scores		
Content	Grade	Level 2	Level 3	Level 4
Science	5	10	15	24
	8	13	19	27
	11	9	14	25

