

# PISA 2012: CT Performance in a Global Context



Connecticut State Board of Education Meeting  
December 4, 2013

# NAEP Enables Comparisons within the U.S.

	CONNECTICUT		MASSACHUSETTS	
NAEP 2013 Grade/Subject	Average Scale Score (0-500)	Rank	Average Scale Score (0-500)	Rank
Grade 4 Math	243	21	253	2
Grade 8 Math	285	23	301	1
Grade 4 Reading	230	4	232	1
Grade 8 Reading	274	3	277	1

*Note: Reported ranks have not been tested for statistical significance*

# PISA 2012 Results Allow Comparisons Internationally

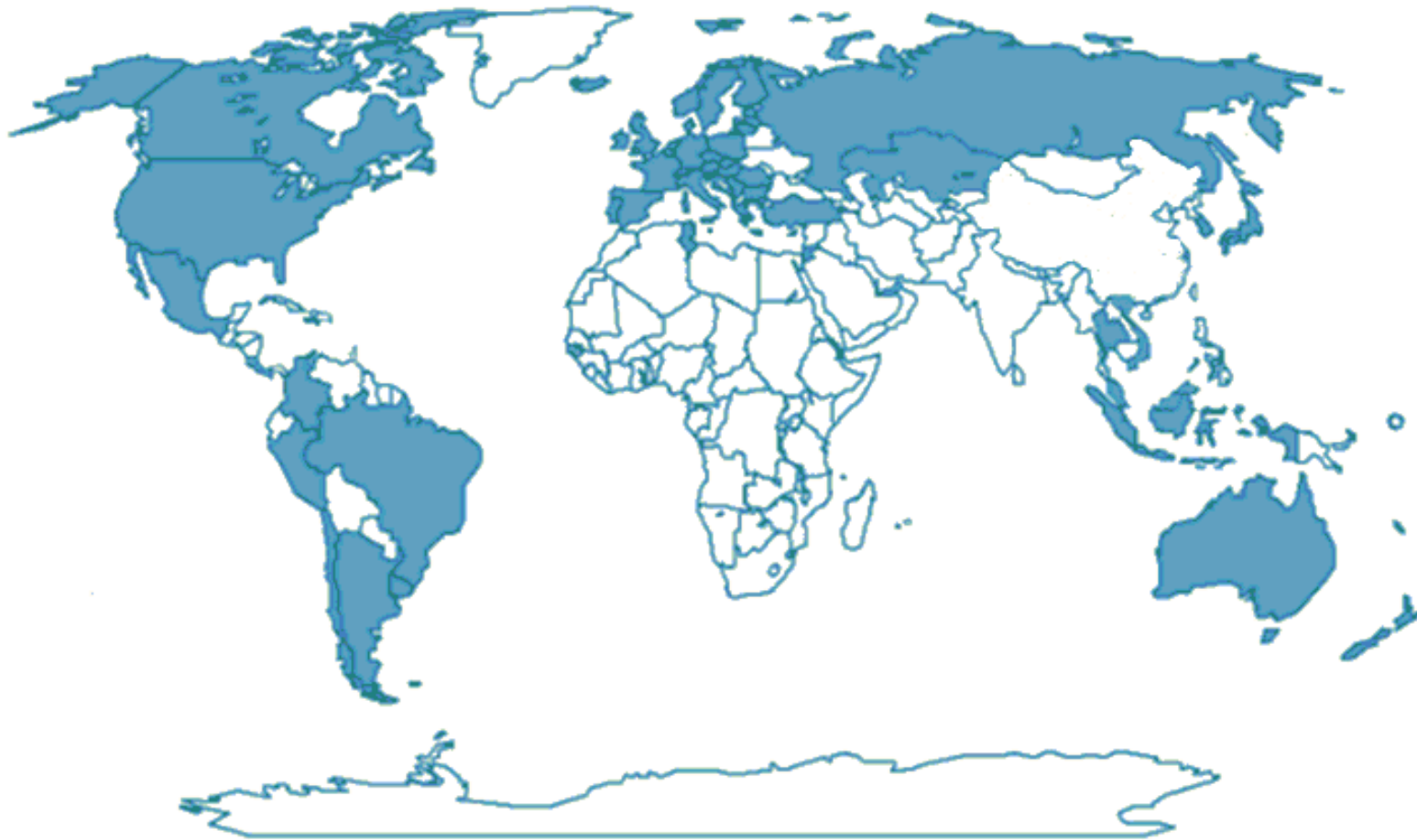
	CONNECTICUT			MASSACHUSETTS		
	<i>MATH</i>	<i>SCIENCE</i>	<i>READING</i>	<i>MATH</i>	<i>SCIENCE</i>	<i>READING</i>
Number of education systems higher	12	7	4	9	6	3
Number of education systems not measurably different	14	15	16	12	14	9
Number of education systems lower	39	43	45	44	45	53

# What is PISA?

- Program for International Student Assessment (organized by the OECD)
- Administered every 3 years since 2000
- Assesses 15-year-old students
- Measures *application* of knowledge and skills in **reading, mathematics, and science**
- Contextual information collected from students and schools
- For the first time, three U.S. states participated in PISA 2012 as education systems

# Who Participates in PISA?

- In 2012, there were **65** participating education systems, including **34** OECD member countries.



# What is Assessed by PISA?

- Assessment subjects:
  - Mathematics, science, reading literacy
    - Mathematics was main subject assessed in 2012
- Content knowledge, not limited to school-based curricula
- PISA assesses applied knowledge/literacy:
  - “How well can students nearing the end of compulsory schooling apply their knowledge to real-life situations?”

# Connecticut Students Demonstrate Strongest Performance in Reading

	MATHEMATICS AVERAGE SCALE SCORE	SCIENCE AVERAGE SCALE SCORE	READING AVERAGE SCALE SCORE
Connecticut	506 (*)	521 (*, **)	521 (*, **)
OECD average	494 (*)	501	496
United States	481 (**)	497	498

\* Significantly different from U.S. average

\*\* Significantly different from OECD average

# CT 15-year-olds not different than OECD average in mathematics literacy

Shanghai-China	613	Norway	489	Croatia	471
Singapore	573	Portugal	487	Israel	466
Hong Kong-China	561	Italy	485	Greece	453
Chinese Taipei	560	Spain	484	Serbia, Republic of	449
Korea, Republic of	554	Russian Federation	482	Turkey	448
Macao-China	538	Slovak Republic	482	Romania	445
Japan	536	<b>United States</b>	<b>481</b>	Cyprus	440
Liechtenstein	535	Lithuania	479	Bulgaria	439
Switzerland	531	Sweden	478	United Arab Emirates	434
Netherlands	523	Hungary	477	Kazakhstan	432
Estonia	521			Thailand	427
Finland	519			Chile	423
Canada	518			Malaysia	421
Poland	518			Mexico	413
Belgium	515			Montenegro, Republic of	410
Germany	514			Uruguay	409
Vietnam	511			Costa Rica	407
Austria	506			Albania	394
Australia	504			Brazil	391
Ireland	501			Argentina	388
Slovenia	501			Tunisia	388
Denmark	500			Jordan	386
New Zealand	500			Colombia	376
Czech Republic	499			Qatar	376
France	495			Indonesia	375
<b>OECD average</b>	<b>494</b>			Peru	368
United Kingdom	494				
Iceland	493				
Latvia	491				
Luxembourg	490				

MA 514 (\*,\*\*)

CT 506 (\*)

FL 467 (\*,\*\*)

■ Average higher than U.S. average

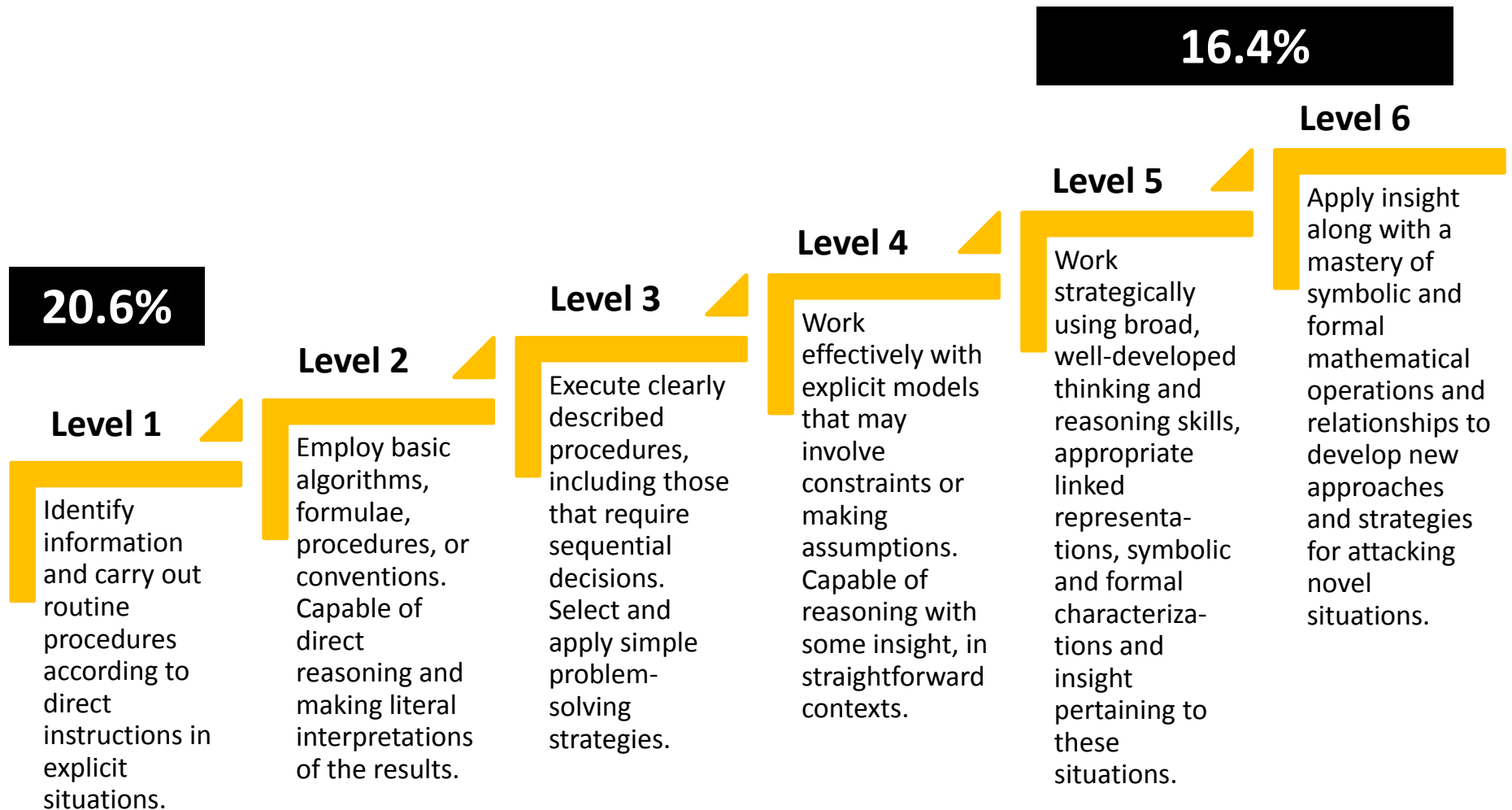
□ Average not measurably different from U.S. average

■ Average lower than U.S. average

\* = State avg. different than U.S.  
\*\* = State avg. different than OECD



# PISA mathematics literacy proficiency levels



# CT 15-year-old students score higher than OECD average in science literacy

Shanghai-China	580	Austria	506	Russian Federation	486
Hong Kong-China	555	Belgium	505	Sweden	485
Singapore	551	Latvia	502	Iceland	478
Japan	547	<b>OECD average</b>	<b>501</b>	Slovak Republic	471
Finland	545	France	499	Israel	470
Estonia	541	Denmark	498	Greece	467
Korea, Republic of	538	<b>United States</b>	<b>497</b>	Turkey	463
<b>MA 527 (*,**)</b> Vietnam	528	Spain	496	United Arab Emirates	448
Poland	526	Lithuania	496	Bulgaria	446
Canada	525	Norway	495	Chile	445
Liechtenstein	525	Hungary	494	Serbia, Republic of	445
Germany	524	Italy	494	Thailand	444
Chinese Taipei	523	Croatia	491	Romania	439
Netherlands	522	Luxembourg	491	Cyprus	438
Ireland	522	Portugal	489	Costa Rica	429
<b>CT 521 (*,**)</b> Australia	521			Kazakhstan	425
Macao-China	521			Malaysia	420
New Zealand	516			Uruguay	416
Switzerland	515			Mexico	415
Slovenia	514			Montenegro, Republic of	410
United Kingdom	514			Jordan	409
Czech Republic	508			Argentina	406
				Brazil	405
				Colombia	399
				Tunisia	398
				Albania	397
				Qatar	384
				Indonesia	382
				Peru	373

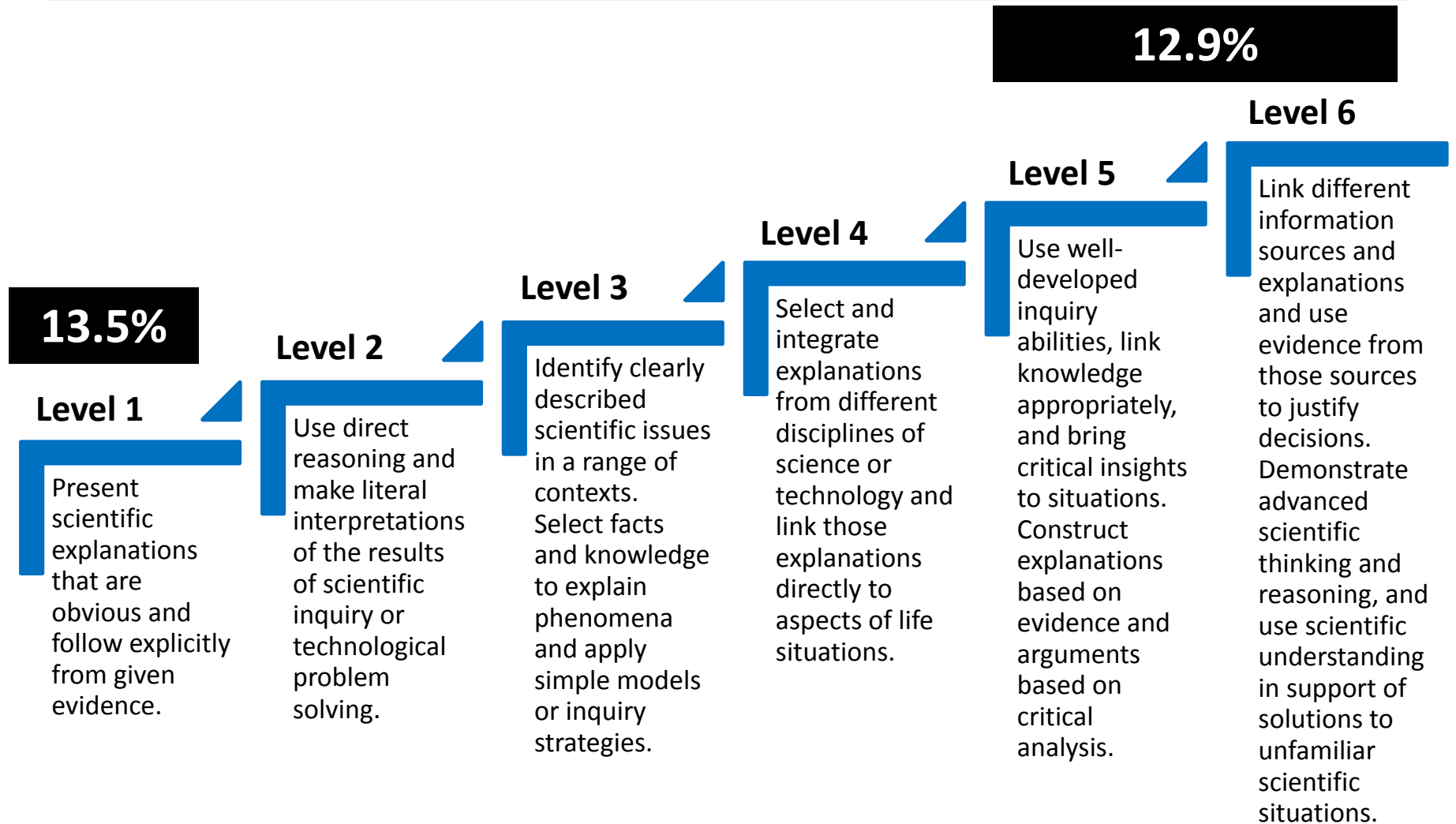
\* = State avg. different than U.S.  
 \*\* = State avg. different than OECD

■ Average higher than U.S. average

□ Average not measurably different from U.S. average

■ Average lower than U.S. average

# PISA science literacy proficiency levels



# CT 15-year-olds score higher than OECD average in reading literacy

Shanghai-China	570	Vietnam	508	Latvia	489
Hong Kong-China	545	France	505	Spain	488
Singapore	542	Norway	504	Luxembourg	488
Japan	538	United Kingdom	499	Croatia	485
Korea, Republic of	536	<b>United States</b>	<b>498</b>	Sweden	483
Finland	524	<b>OECD average</b>	<b>496</b>	Iceland	483
Ireland	523	Denmark	496	Slovenia	481
Chinese Taipei	523	Czech Republic	493	Costa Rica	477
Canada	523	Italy	490	Turkey	477
Poland	518	Austria	490	Russian Federation	475
Estonia	516	Hungary	488	Slovak Republic	475
Liechtenstein	516	Portugal	488	Cyprus	463
New Zealand	512	Israel	486	Serbia, Republic of	449
Australia	512			United Arab Emirates	446
Netherlands	511			Chile	442
Belgium	509			Thailand	441
Switzerland	509			Costa Rica	441
Macao-China	509			Romania	438
Germany	508			Bulgaria	436
				Mexico	424
				Montenegro, Republic of	422
				Uruguay	411
				Brazil	410
				Tunisia	404
				Colombia	403
				Jordan	399
				Malaysia	398
				Indonesia	396
				Argentina	396
				Albania	394
				Kazakhstan	393
				Qatar	388
				Peru	384

MA 527 (\*,\*\*)

CT 521 (\*,\*\*)

FL 492

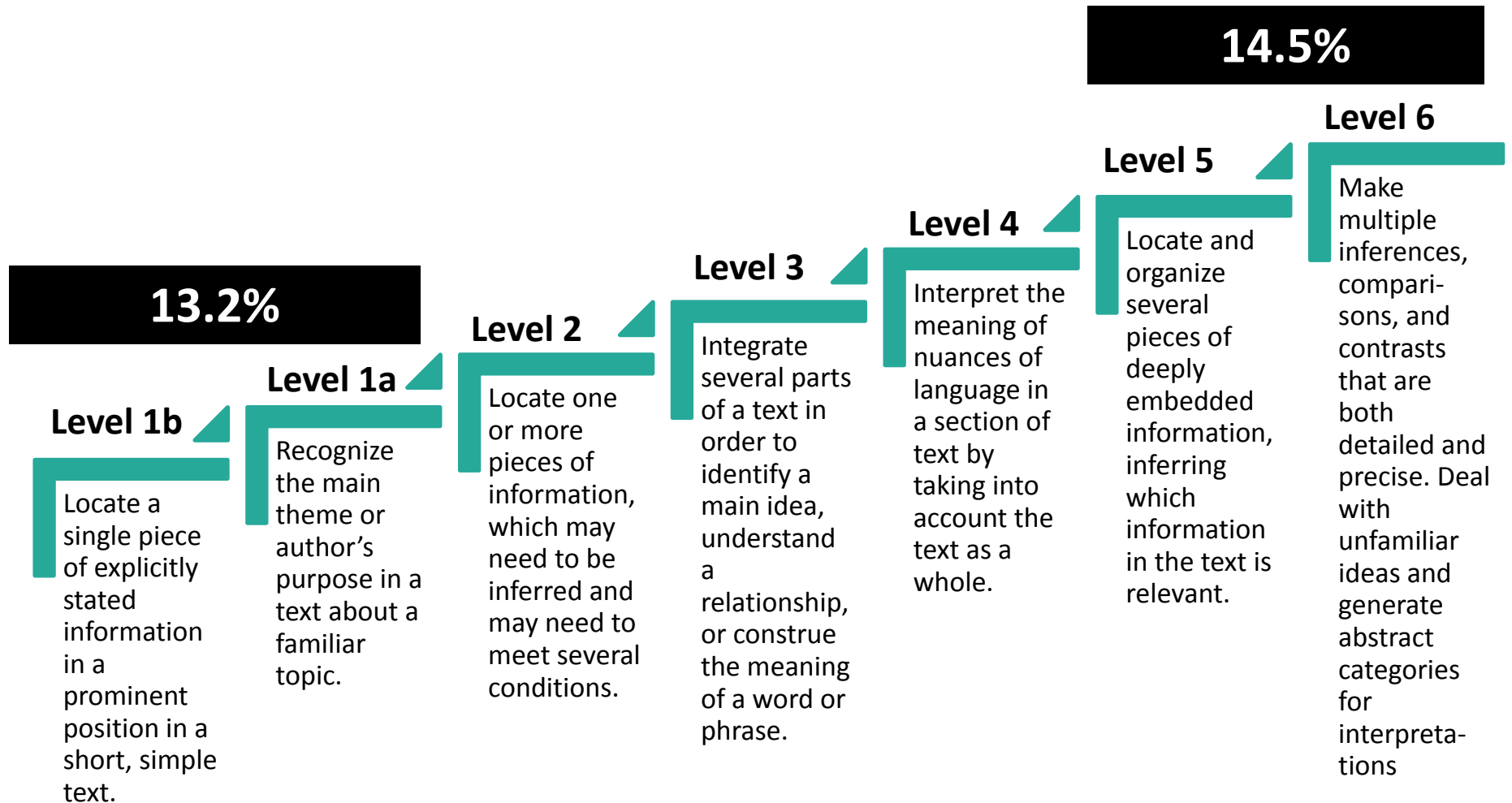
\* = State avg. different than U.S.  
 \*\* = State avg. different than OECD

■ Average is higher than U.S. average

□ Average not measurably different from U.S. average

■ Average is lower than U.S. average

# PISA reading literacy proficiency levels



# PISA Provides Further Evidence of Connecticut's Achievement Gaps

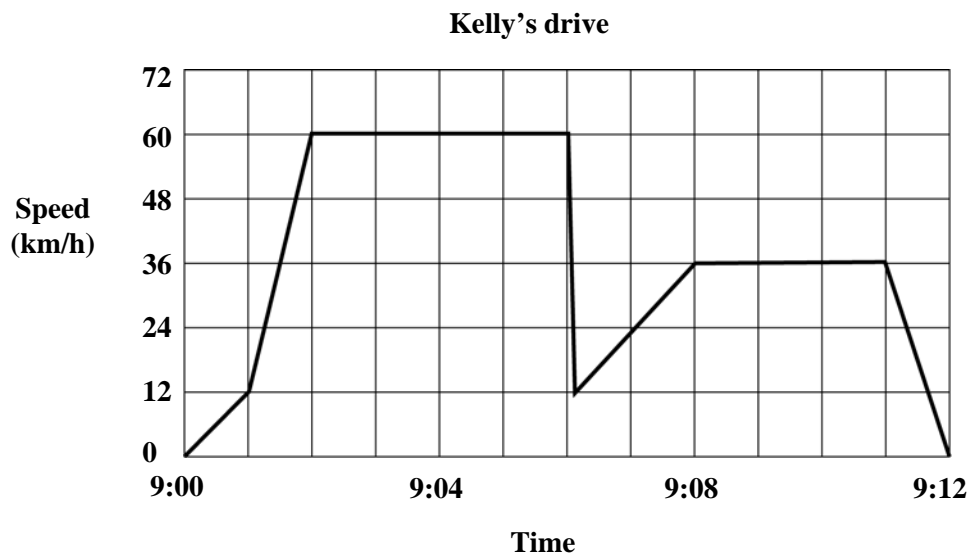
	MATHEMATICS	SCIENCE	READING
White/ African-American	113	114	99
White/ Hispanic	92	84	83
Within School Poverty*	140	140	135

\*Comparison of schools with less than 10 percent of students eligible for free or reduced-price lunch versus schools with 75 percent or more of students eligible.

*All differences reported in terms of PISA scale score points. The PISA scale range is 0-1000 with a standard deviation of 100 points*

# PISA Released Item Cluster: “Car Drive”

Kelly went for a drive in her car. During the drive, a cat ran in front of the car. Kelly slammed on the brakes and missed the cat. Slightly shaken, Kelly decided to return home. The graph below is a simplified record of the car’s speed during the drive.



What was the maximum speed of the car during the drive?

Maximum speed: \_\_\_\_\_ km/h.

**OECD average: 95%**

**U.S.: 94%**

What time was it when Kelly slammed on the brakes to avoid the cat?

Answer: \_\_\_\_\_

**OECD average: 81%**

**U.S.: 82%**

Was the route Kelly took to return home shorter than the distance she had traveled from home to the place where the incident with the cat occurred?

Give an explanation to support your answer, using information given in the graph.

**OECD average: 29%**

**U.S.: 24%**

# There is more to learn from PISA 2012

- *Strong Performers and Successful Reformers in Education: Lessons from PISA 2012 for the U.S.*
- International Data Explorer on NCES site  
<http://nces.ed.gov/surveys/international/ide/>
- Monthly *PISA in Focus* Reports from OECD
  - monthly education policy-oriented notes designed to describe a PISA topic