EMBARGOED
Until Release

The Nation's Report Card

Science 2009

TRIAL URBAN DISTRICT ASSESSMENT

RESULTS AT GRADES 4 AND 8

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Commissioner
National Center for Education Statistics

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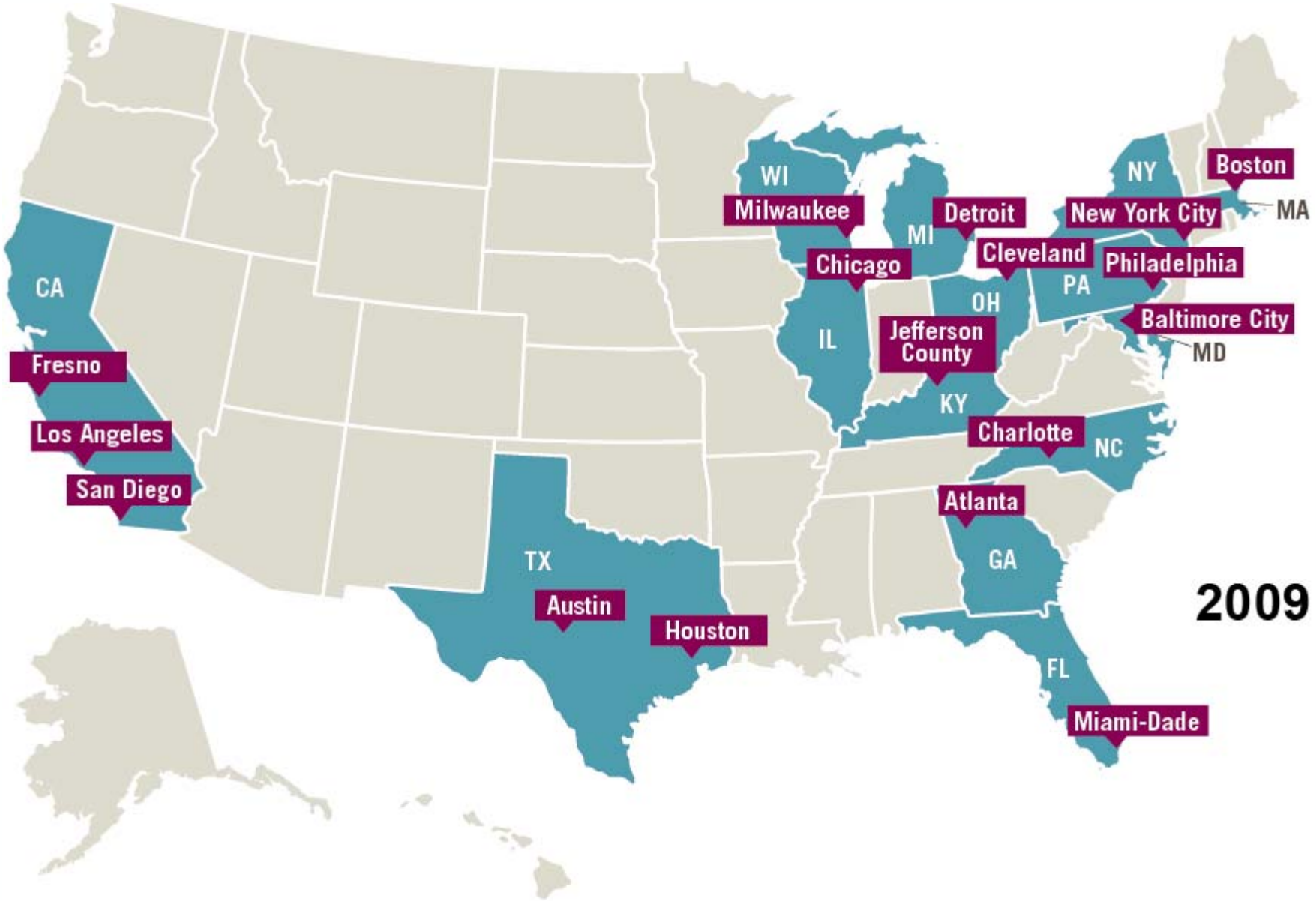
ies NATIONAL CENTER FOR EDUCATION STATISTICS
Institute of Education Sciences

Trial Urban District Assessment

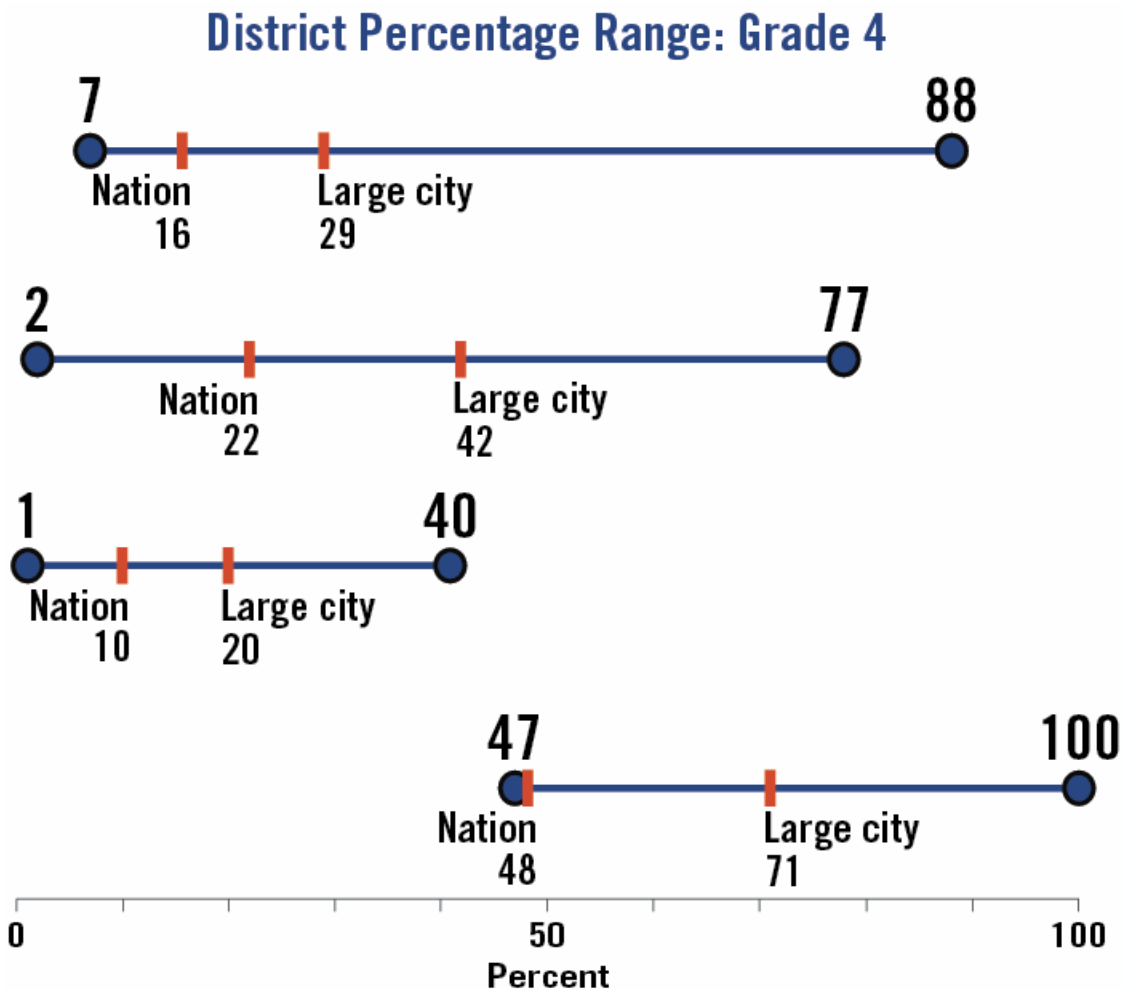
- Collaboration among National Center for Education Statistics, National Assessment Governing Board, and Council of the Great City Schools
- Voluntary participation by selected districts varying in location and demographic profile
- Common yardstick to compare district performance

District Map



Demographic Context

- Urban districts have a wide range of student demographics
  - Black students
  - Hispanic students
  - English language learners
  - Students from lower-income families



Overview

- Assessment based on a new science framework
  - Four science practices describe how students use their scientific knowledge
    - Identifying science principles
    - Using science principles
    - Using scientific inquiry
    - Using technological design
  - Increased focus on conceptual understanding of science principles
  - Results from 2009 cannot be compared to those from previous assessment years

Overview

Students assessed in three science content areas

	Grade 4	Grade 8
Physical Science	$33\frac{1}{3}\%$	30%
Life Science	$33\frac{1}{3}\%$	30%
Earth and Space Sciences	$33\frac{1}{3}\%$	40%

Overview

- Results available for
  - Public school students at grades 4 and 8
  - 900 to 2,200 students in participating districts assessed at each grade
- Performance reported as
  - Average scale scores (0–300 scale)
  - Achievement levels (*Basic*, *Proficient*, *Advanced*)
- District results compared to
  - The nation
  - Large cities of 250,000 or more

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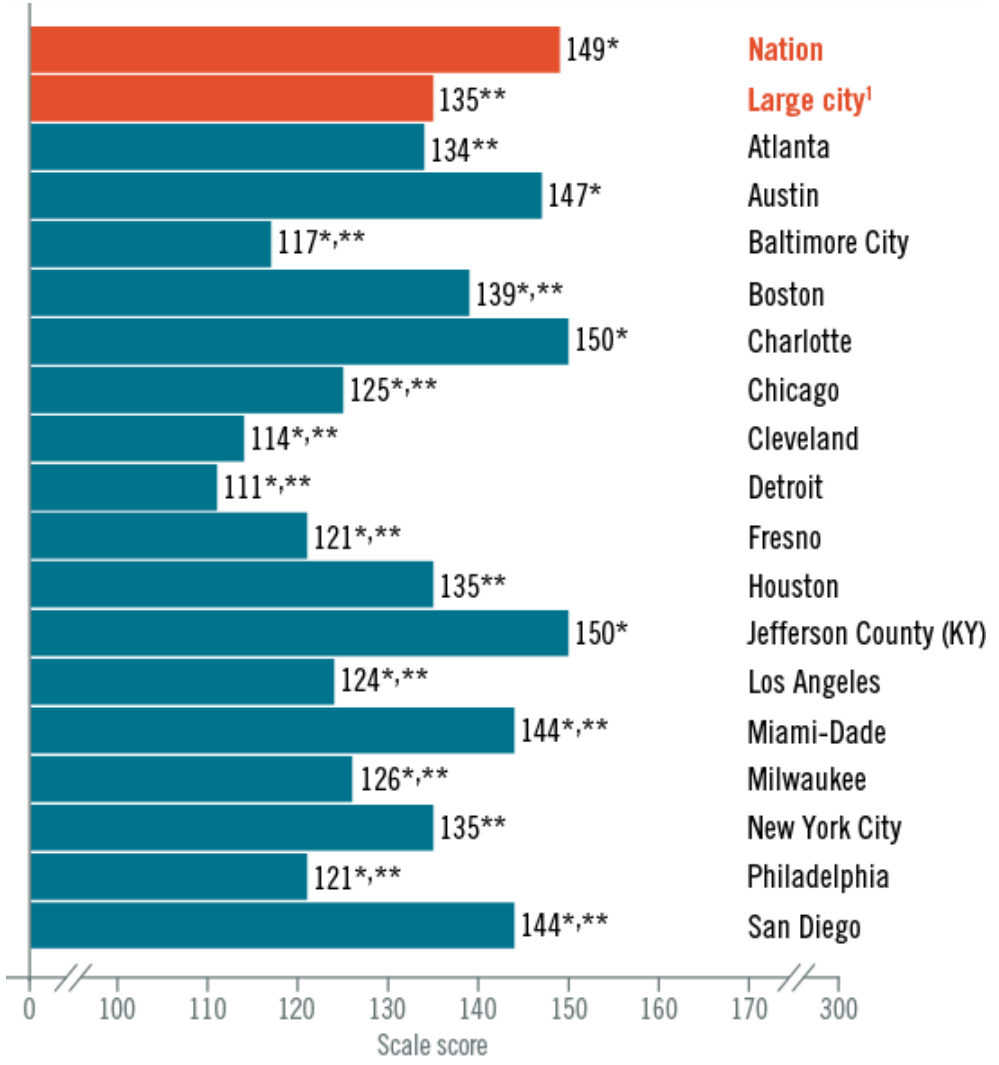
TRIAL URBAN DISTRICT ASSESSMENT RESULTS AT **Grade 4**

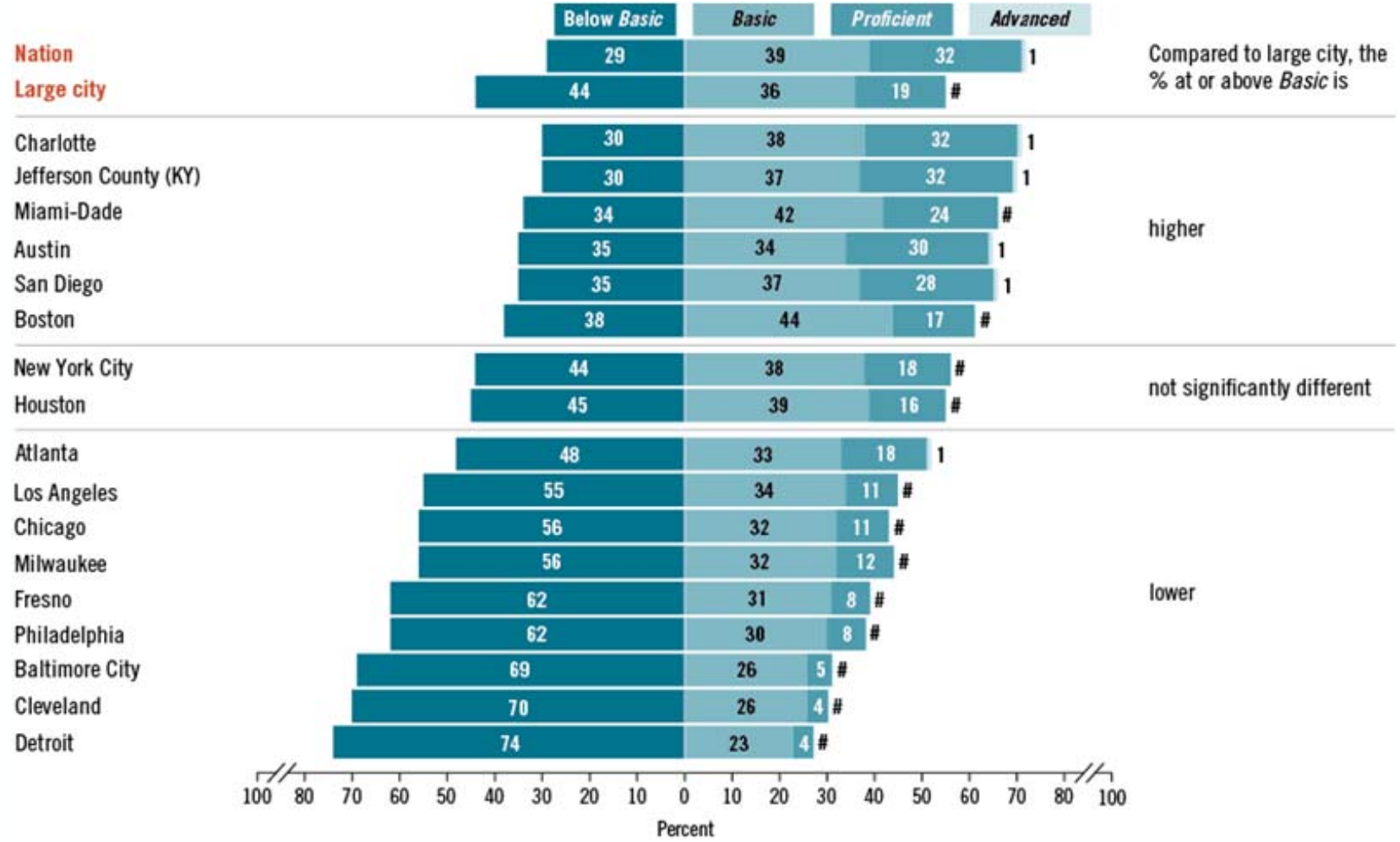
How districts compare to the nation and large cities

- Large cities and most districts scored lower than the nation
- Six districts scored higher than large cities
- Eight districts scored lower than large cities



* Significantly different ($p < .05$) from large city.
** Significantly different ($p < .05$) from the nation.
[1] Large city includes students from all cities in the nation with populations of 250,000 or more, including the participating districts.

Percentages at or above *Basic* range from 26 to 70 percent



Grade 4

	WHITE	BLACK	HISPANIC	ASIAN/PACIFIC ISLANDER
National average score	162	127	130	160
	Atlanta	Boston	Miami-Dade	Boston
	Austin	Charlotte	Austin	Charlotte
	Charlotte	Atlanta	Boston	Chicago
	Houston	Austin	Charlotte	Houston
	Miami-Dade	Houston	Chicago	Los Angeles
	San Diego	Jefferson County (KY)	Detroit	New York City
	Boston	Miami-Dade	Houston	San Diego
	Chicago	New York City	Jefferson County (KY)	Fresno
	Jefferson County (KY)	San Diego	Milwaukee	Philadelphia
	Milwaukee	Baltimore City	New York City	
	New York City	Chicago	San Diego	
	Baltimore City	Cleveland	Cleveland	
	Cleveland	Detroit	Fresno	
	Fresno	Fresno	Los Angeles	
	Los Angeles	Los Angeles	Philadelphia	
	Philadelphia	Milwaukee		
		Philadelphia		

Indicates the district scored higher than the nation.
Indicates no significant difference between the district and the nation.
Indicates the district scored lower than the nation.

Grade 4

Jurisdiction	Overall	Eligibility for free/reduced-price school lunch: Eligible	Eligibility for free/reduced-price school lunch: Not eligible
Large city[1]	135	126	157
Atlanta	◆	▼	▲
Austin	▲	▲	▲
Baltimore City	▼	▼	▼
Boston	▲	▲	◆
Charlotte	▲	▲	▲
Chicago	▼	▼	◆
Cleveland	▼	▼	†
Detroit	▼	▼	▼
Fresno	▼	▼	◆
Houston	◆	▲	◆
Jefferson County (KY)	▲	▲	▲
Los Angeles	▼	▼	▼
Miami-Dade	▲	▲	◆
Milwaukee	▼	▼	▼
New York City	◆	▲	◆
Philadelphia	▼	▼	▼
San Diego	▲	◆	▲

▲ Higher average score than large city.
▼ Lower average score than large city.
◆ No significant difference between the district and large city.
† Not applicable.

[1] Large city includes students from all cities in the nation with populations of 250,000 or more, including the participating districts.

Sample Question: Earth and Space Sciences

When people buy groceries, they may have their groceries packed in plastic bags, paper bags, or cloth bags they bring with them.

Which type of grocery bag is best to use to help protect the environment?

(A) Plastic
(B) Paper
(C) Cloth

Explain why your choice helps protect the environment.

I think paper because it doesn't take long for paper witch is made out of trees to become apart of the graund unlike plastic or cloth.

<u>45% or more of answers received a "Complete" rating in:</u>

- Austin, Boston, Charlotte, Jefferson County (KY), Los Angeles, Miami-Dade, New York City, San Diego

<u>Fewer than 45% of answers received a "Complete" rating in:</u>

- Atlanta, Baltimore City, Chicago, Cleveland, Detroit, Fresno, Houston, Milwaukee, Philadelphia

Skills demonstrated by students performing at different levels

	Scale score	Content area	Question description
Advanced	300 //		
	264	**Physical science**	Determine the source of sound during an investigation about the pitch of sounds
	264	**Life science**	Explain differences between related individuals
	233	**Earth and space sciences**	Draw a conclusion about differences in air temperatures based on data
	224		
Proficient	222	**Life science**	Describe the different stages of the life cycle of an organism
	190	**Earth and space sciences**	Relate the calendar to amount of daylight
	169	**Physical science**	Explain an example of heat (thermal energy) transfer
	167		
Basic	161	**Earth and space sciences**	Explain the choice of material based on protection of the environment
	146	**Life science**	Explain the benefit of an adaptation for an organism
	138	**Physical science**	Recognize an example of a change of state
	131		
Below Basic	118	**Physical science**	Identify the data on a motion chart
	106	**Earth and space sciences**	Identify the best tool to measure rainfall
	94	**Life science**	Place stages of a life cycle in correct order
	// 0		

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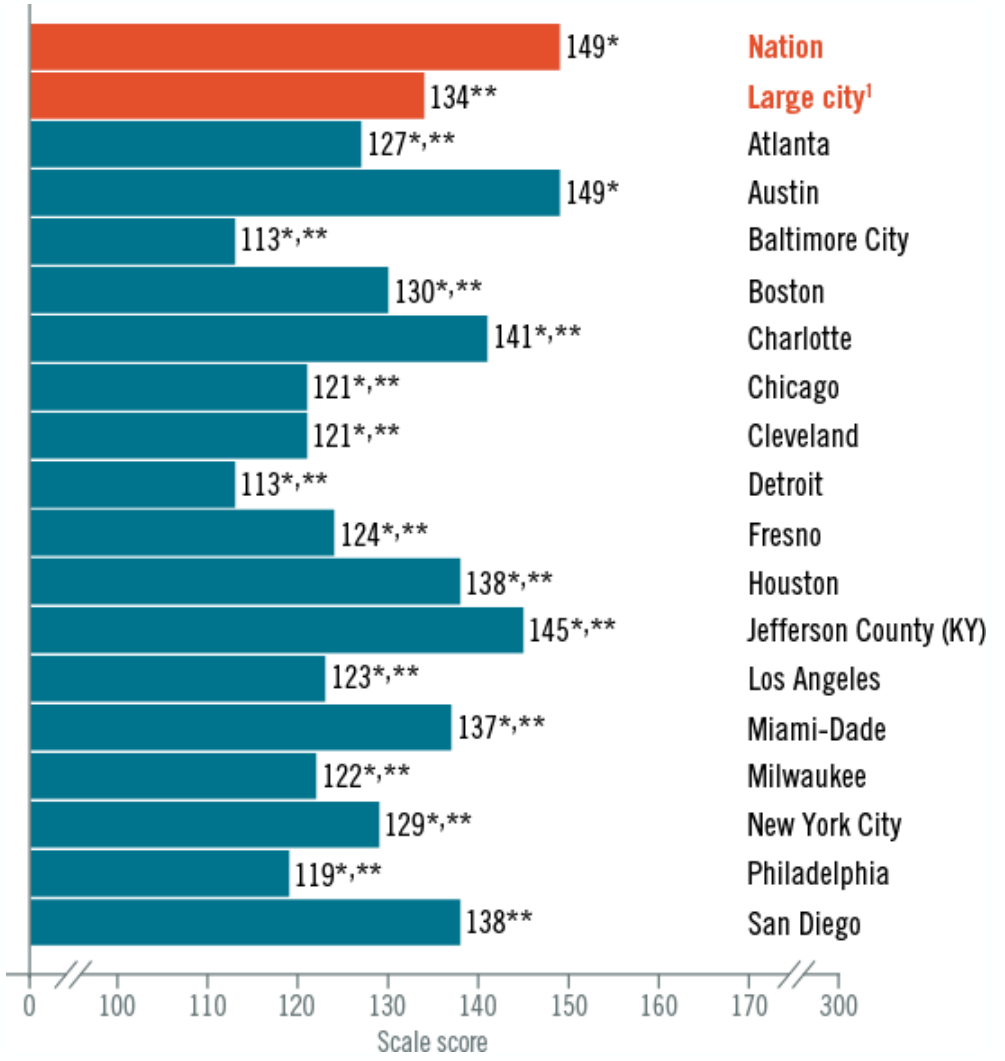
TRIAL URBAN DISTRICT ASSESSMENT RESULTS AT **Grade 8**

How districts compare to the nation and large cities

- Large cities and most districts scored lower than the nation
- Five districts scored higher than large cities
- Eleven districts scored lower than large cities



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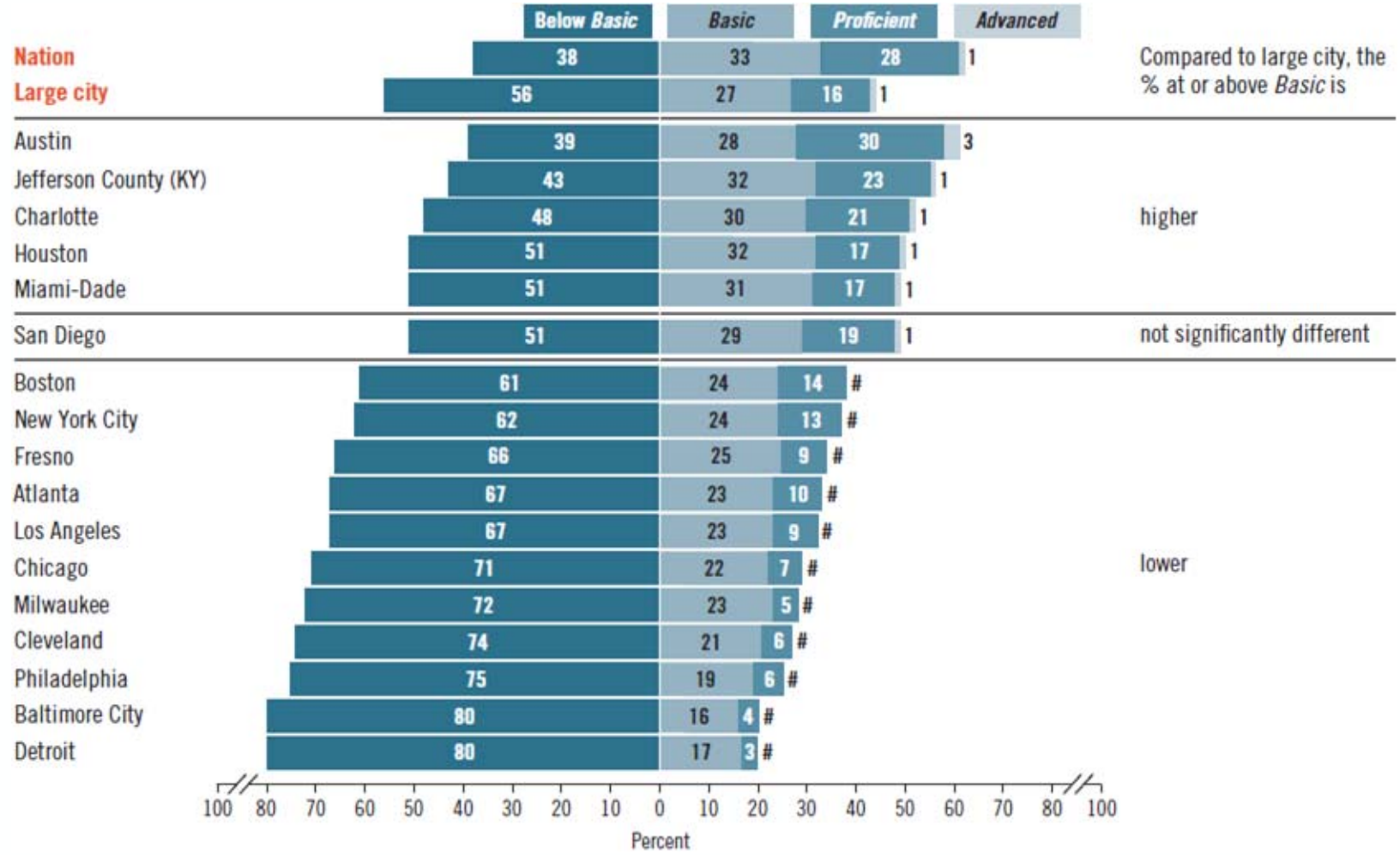
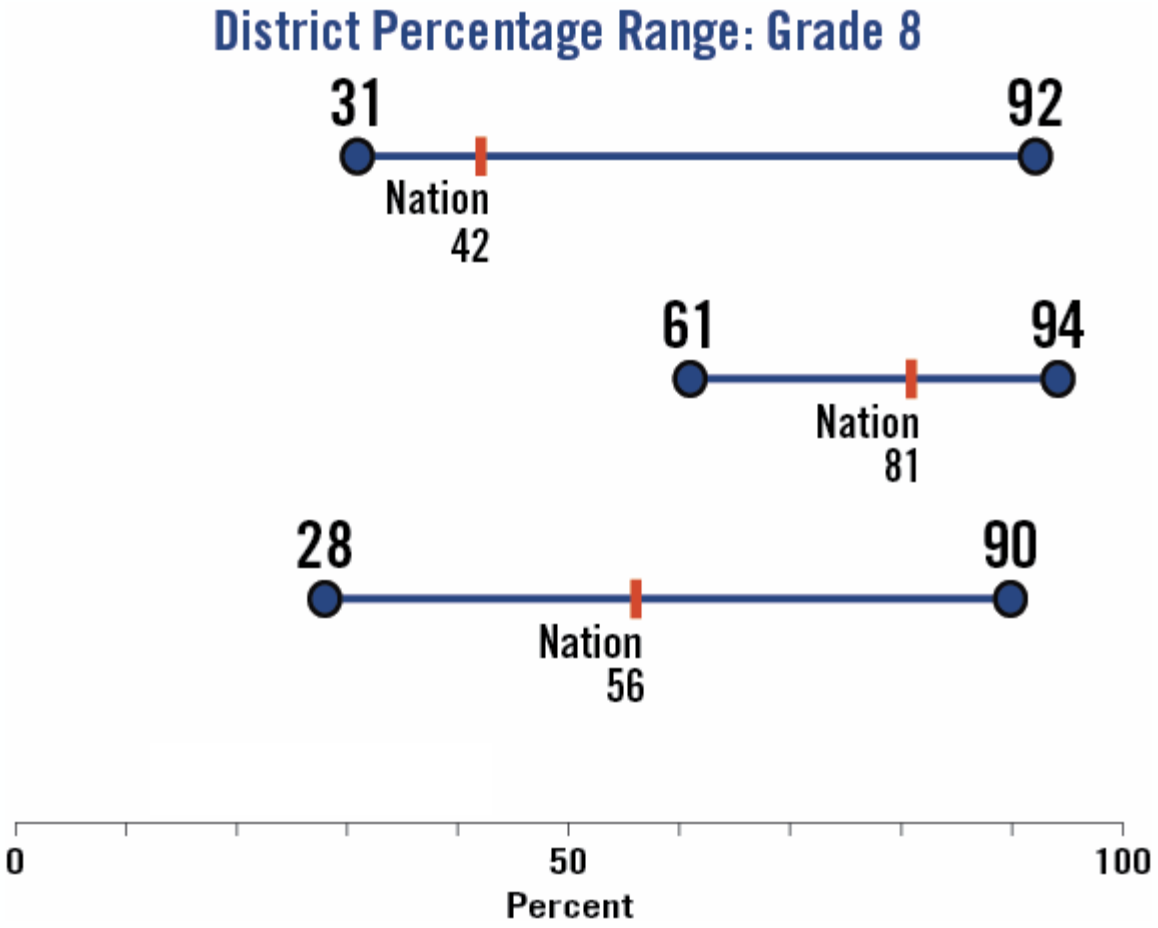
[1] Large city includes students from all cities in the nation with populations of 250,000 or more, including the participating districts.

Percentages at or above *Basic* range from 20 to 61 percent



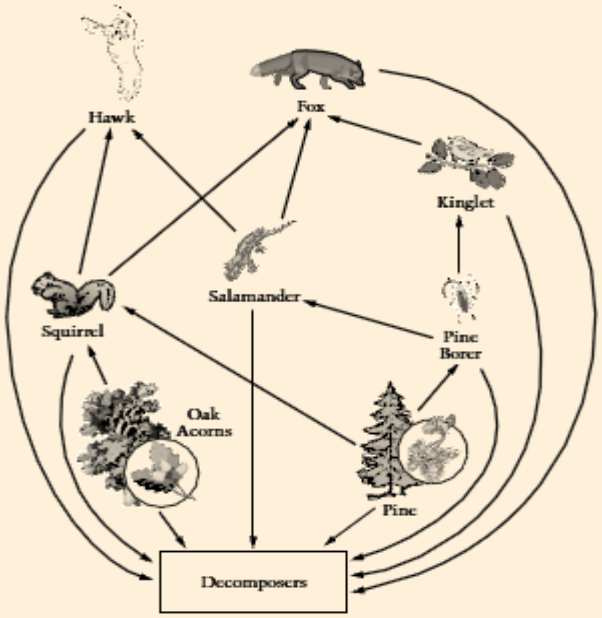
- Districts vary in percentage of students reporting science topics covered in class
  - Life science
  - Physical science
  - Earth and space sciences



Sample Question: Life Science

The diagram below shows a food web. The arrows show the direction of energy flow. Each arrow points from the organism that is consumed to the organism that consumes it. Use the information in the food web to answer the question that follows.

FOOD WEB



Which statement best explains why decomposers are an important part of this food web?

(A) They use sunlight to make their own food.
(B) They give off oxygen for animals to breathe.
(C) They provide camouflage for small animals.
(D) They make nutrients available to plants.

More than 50% answered correctly in:

- Atlanta, Austin, Boston, Charlotte, Cleveland, Houston, Jefferson County (KY), Miami-Dade, Milwaukee, New York City, San Diego

50% or less answered correctly in:

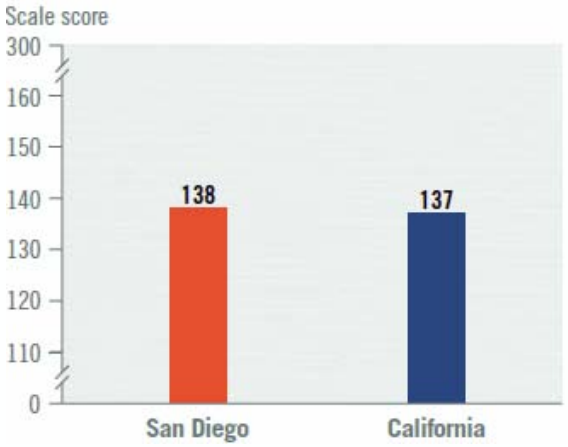
- Baltimore City, Chicago, Detroit, Fresno, Los Angeles, Philadelphia

Skills demonstrated by students performing at different levels

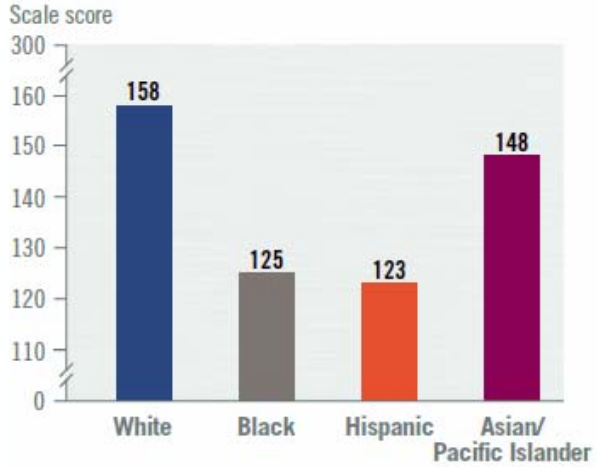
	Scale score	Content area	Question description
Advanced	300 //		
	266	**Physical science**	Describe the evidence for chemical change
	246	**Life science**	Form a conclusion based on data about the behavior of an organism
	223	**Earth and space sciences**	Predict the Sun's position in the sky
	215		
Proficient	201	**Earth and space sciences**	List soils in order of permeability
	194	**Physical science**	Determine a controlled variable of a chemistry investigation
	186	**Life science**	Recognize that plants produce their own food
	170		
Basic	163	**Life science**	Recognize the role of decomposers
	152	**Physical science**	Critique and improve an investigation about forces
	148	**Earth and space sciences**	Identify the mechanism of a weather pattern
	141		
Below Basic	140	**Earth and space sciences**	Identify sequence of formation of Earth features
	130	**Life science**	Predict the effect of an environmental change on an organism
	119	**Physical science**	Describe part of a valid experiment to compare heating rates of different materials
	// 0		

District Profiles

Average scores in NAEP science for eighth-graders in San Diego and California: 2009

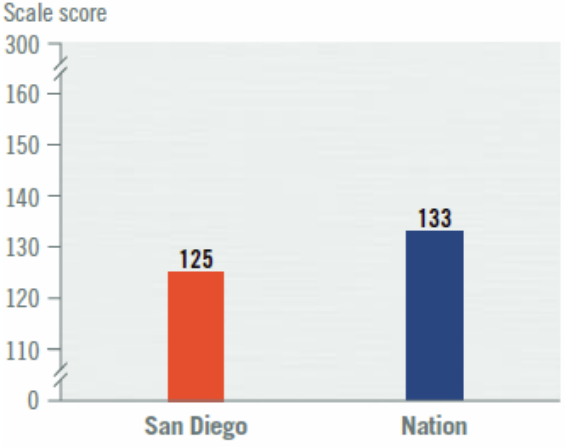


Average scores in NAEP science for eighth-graders in San Diego, by race/ethnicity: 2009



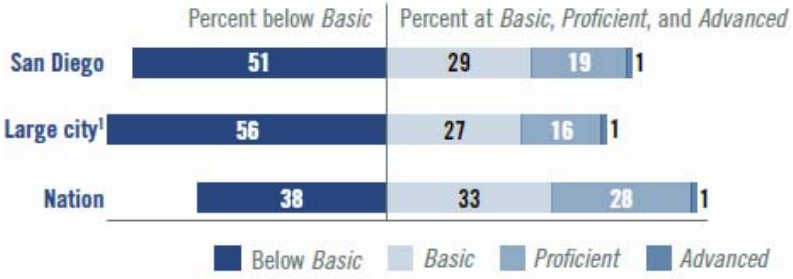
NOTE: Results are not shown for all race/ethnicity categories because of insufficient sample sizes. Black includes African American, Hispanic includes Latino, and Pacific Islander includes Native Hawaiian. Race categories exclude Hispanic origin.

Average scores in NAEP science for lower-income eighth-graders in San Diego and the nation: 2009



NOTE: In NAEP, lower-income students are students identified as eligible for the National School Lunch Program.

Achievement-level results in NAEP science for eighth-graders in San Diego: 2009



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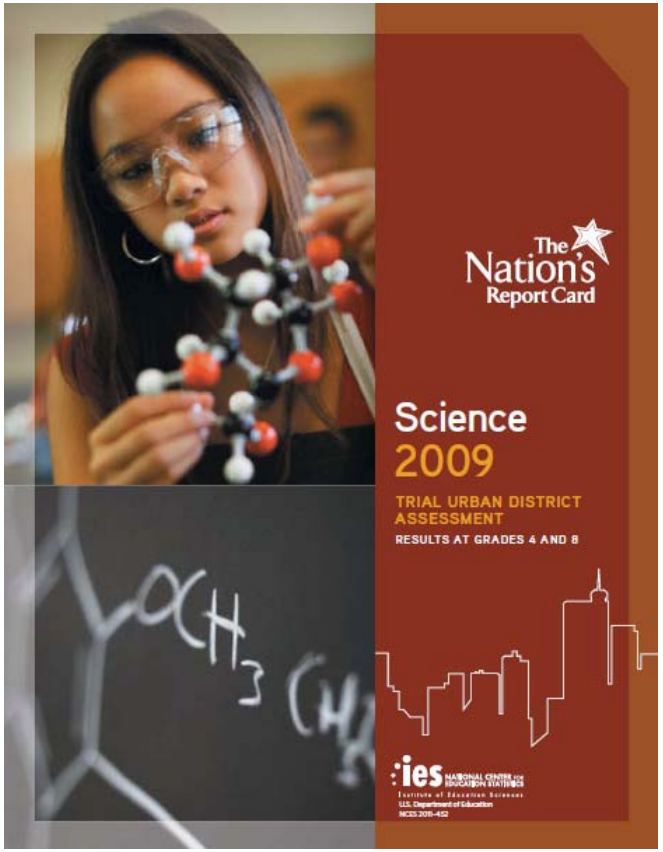
For More Information



http://nationsreportcard.gov