

NECAP 2011 RELEASED ITEMS
GRADE 8 SCIENCE

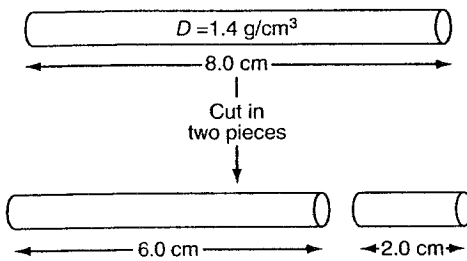
PS1 (5-8) INQ-1 Students will investigate the relationships among mass, volume, and density.

- 1 The table below shows characteristics of a solid, cylindrical rod.

Characteristics of Cylindrical Rod

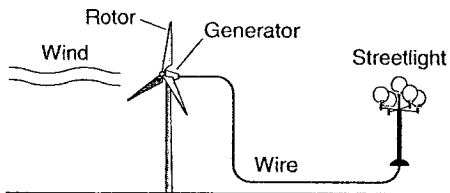
Mass (g)	Volume (cm ³)	Density (g/cm ³)
14.0	10.0	1.4

The rod is cut into two pieces, as shown in the diagram below.



What is the density of the piece of the rod that is 2.0 cm long?

- A. 0.7 g/cm^3
 - B. 1.4 g/cm^3
 - C. 2.0 g/cm^3
 - D. 2.8 g/cm^3
- 2 The diagram below shows a windmill system.



Which part of the system directly changes mechanical energy to electrical energy?

- A. rotor
- B. generator
- C. wire
- D. streetlight

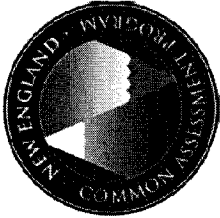


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Spring 2011 - Grade 08 NECAP Tests Grade 08 Students in 2010-2011 Item Analysis Report - Science

School: Demonstration School I
 District: Demonstration District A
 State: Rhode Island
 Code: DA-DEMOI

Item Number	Science Domain	Assessment Target	Released Items										Total Test Results											
			1	2	3	4	5	6	7	8	9	10	Physical Science	Earth Space Science	Life Science	Inquiry	Total Points Earned	Total Points Earned	Scaled Score	Achievement Level				
Depth of Knowledge Code		Item Type																						
Correct MC Response		Item Type																						
Name/Student ID	Total Possible Points																							
Amadorfiores, Kelly	D082000077	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	51	850	3
Anderson, James L	D082000048	C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	35	837	2
Broadbrooks, Ryan O	D082000062	A	+	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	42	842	3
Broadhead, Benjamin L	D082000065	A	+	+	+	C	D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	20	825	1
Brown, Mikka A	D082000075	+	+	+	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	41	841	3
Brown, Morgan M	D082000024	A	+	+	B	C	C	A	A	A	A	A	A	A	A	A	A	A	A	A	A	4	800	1
Buchholz, Kyle A	D082000054	A	A	A	A	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	9	809	1
Caffrey, Peter A	D082000073	A	+	+	+	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	5	800	1
Campos, Kelby	D082000034	A	+	+	+	+	+	B	B	B	B	B	B	B	B	B	B	B	B	B	B	38	839	2
Carpenter, Aren W	D082000031	A	+	+	A	+	+	A	A	A	A	A	A	A	A	A	A	A	A	A	A	19	824	1
Castner, Emily R	D082000026	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	0	840	3
Contreras, Camis P	D082000039	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	40	840	3
Cooper, Hannah L	D082000050	+	C	+	+	+	+	B	B	B	B	B	B	B	B	B	B	B	B	B	B	31	834	2
Davis, Briah	D082000001	+	+	+	+	D	D	B	B	B	B	B	B	B	B	B	B	B	B	B	B	51	850	3
Deangelis, Joseph J	D082000019	+	A	+	+	A	D	A	D	D	D	D	D	D	D	D	D	D	D	D	D	39	839	2
Gaona, Jonathan J	D082000079	A	C	+	+	+	+	B	D	D	D	D	D	D	D	D	D	D	D	D	D	14	819	1
Gardiner, Dakota L	D082000012	A	+	+	+	+	+	D	D	D	D	D	D	D	D	D	D	D	D	D	D	44	843	3
Gillespie, Jenna	D082000078	A	+	+	C	D	D	A	A	A	A	A	A	A	A	A	A	A	A	A	A	26	830	2
Glasscock, James	D082000066	A	C	C	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	10	812	1
Hathaway, Shane R	D082000081	+	C	C	C	+	+	A	A	A	A	A	A	A	A	A	A	A	A	A	A	0	827	1
Howes, Kaia M	D082000072	C	+	+	+	+	+	D	D	D	D	D	D	D	D	D	D	D	D	D	D	22	827	1
Hunt, Wade J	D082000057	C	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	27	831	2
Ibarra, Rosa	D082000011	A	+	+	C	C	C	A	D	B	B	B	B	B	B	B	B	B	B	B	B	17	822	1
Jarrard, Eric G	D082000018	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	45	844	3
Jensen, Sage	D082000006	A	+	+	A	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	17	822	1
Jones, Andrew A	D082000028	A	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	34	836	2
Leonard, Ryan	D082000070	+	+	+	B	+	+	D	D	D	D	D	D	D	D	D	D	D	D	D	D	31	834	2
Lippincott, Kevin A	D082000035	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	35	837	2
Meador, Shelby	D082000056	+	C	+	+	D	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	21	826	1
Methankit, Jonathan J	D082000056	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	52	851	3



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Spring 2011 - Grade 08 NECAP Tests

Grade 08 Students in 2010-2011

Item Analysis Report - Science

School: Demonstration School 1
 District: Demonstration District A
 State: Rhode Island
 Code: DA-DEMO1

Name/Student ID	Item Number	Science Domain	Assessment Target	Depth of Knowledge Code	Item Type	Correct MC Response	Total Possible Points	Released Items										Total Test Results					Scaled Score	Achievement Level						
								1	2	3	4	5	6	7	8	9	10	Domain Points Earned			Total Points Earned									
								PS	PS	PS	ESS	ESS	ESS	LS	LS	LS	LS	Physical Science	Earth Space Science	Life Science		Inquiry								
Pearls, Gregory	D082000037																													
Ramirez, Vanesa M	D082000074																													
Rayborn, Jeremy P	D082000038																													
Royer, Amanda	D082000061																													
Ryan, Jonathan J	D082000052																													
Shields, Justin	D082000042																													
Speidel, Sydne	D082000053																													
Stralsberg, Weston M	D082000014																													
Taveras, Dahiana																														
Thompson, Joshua L	D082000045																													
Tipping, Emily A	D082000049																													
Williams, Brandon P	D082000051																													
Item Number			1	2	3	4	5	6	7	8	9	10				Total Test Results														
Percent Correct/Average Score: Group			28	69	54	49	26	64	56	64	51	1.9	6.1	6.7	7.8	7.8	7.4	15	15	15	18	63	0	0	0	0	0	7	800	E
Percent Correct/Average Score: School			28	69	54	49	26	64	56	64	51	1.9	6.1	6.7	7.8	7.8	7.4	15	15	15	18	63	0	0	0	0	0	7	800	1
Percent Correct/Average Score: District			37	64	57	55	33	64	55	68	52	1.8	6.4	6.9	7.8	7.8	7.5	15	15	15	18	63	0	0	0	0	0	7	800	1
Percent Correct/Average Score: State			40	62	66	54	39	72	60	75	51	1.9	6.8	7.4	8.2	8.2	8.4	15	15	15	18	63	0	0	0	0	0	7	800	1

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Organizing and Presenting Your Data

Directions:

You will work **on your own** to organize and present your data, analyze and use your results, and evaluate the investigation. You may use the Word Bank below during this session.

Word Bank

Average	a typical number for a data set; a value that is found by dividing the sum of a set of terms by the number of terms Example: The average of 4, 5, and 9 is $\frac{4 + 5 + 9}{3} = 6$.
Ecosystem	a part of ecology consisting of the environment, its living parts, and the nonliving parts that affect it
Model	a simple version of something complex; a representation
Predator	an animal that kills other animals for food Example: the fox
Prediction	what you think will happen based on prior knowledge and experience
Prey	animals that are caught and eaten by other animals for food Example: the rabbits
Shrub	a low woody plant usually with several stems Example: a thorny bush
Trial	each time you repeat the same experiment

Directions:

- Copy your data from the data table on page 5 of your Inquiry Booklet to the data table below. **Be sure to double-check that you copied the data correctly.**

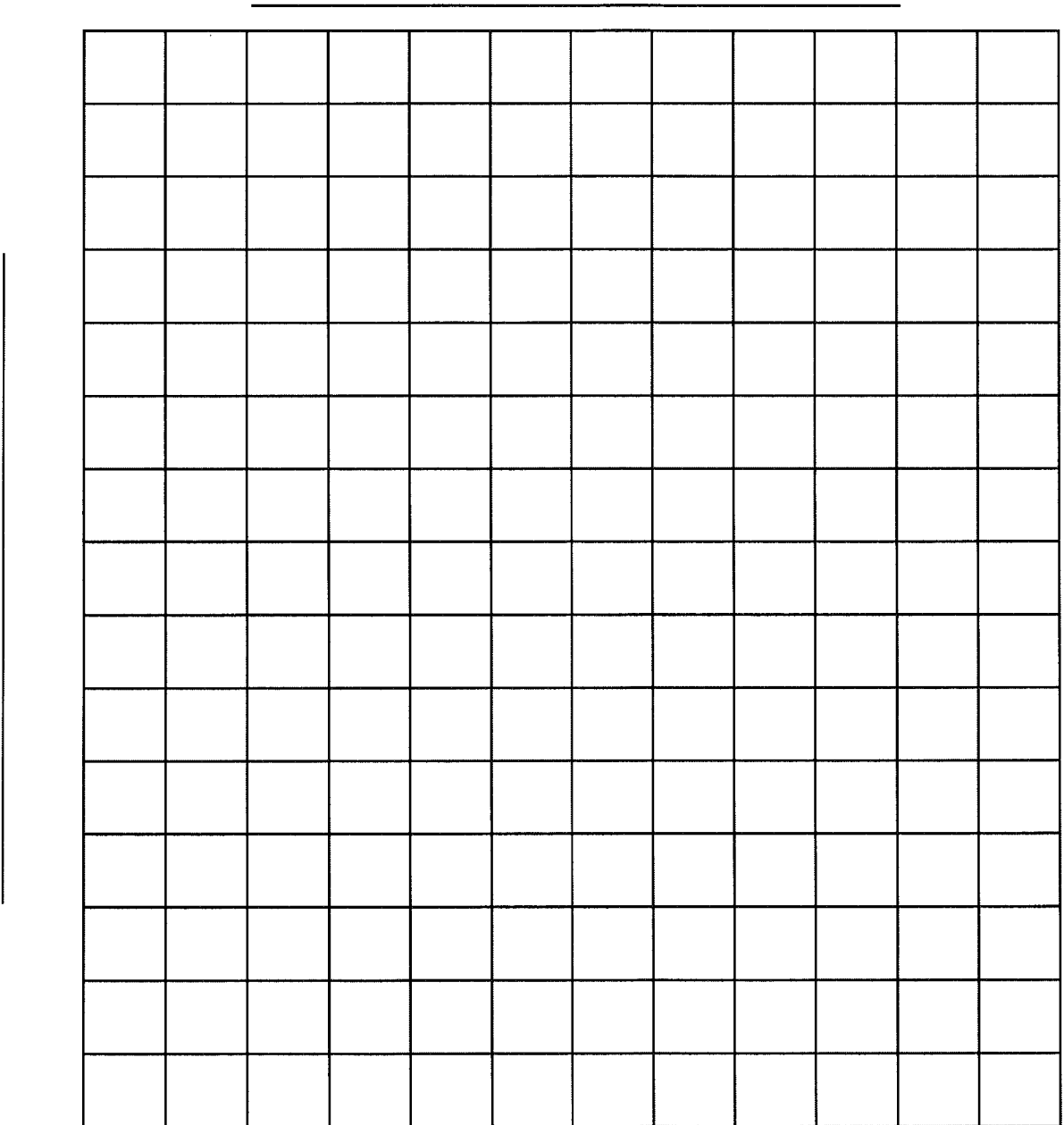
Data Table: Rabbits Caught by Fox

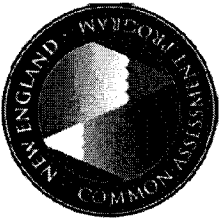
Rabbits Caught by Fox	No Shrubs	Small Shrubs	Medium Shrubs	Large Shrubs
Trial 1				
Trial 2				
Trial 3				
Average (round to nearest whole number)				

- Answer questions 1 through 7.

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1. Use your calculated **averages** from the data table on page 2 to graph the relationship between shrub size (including no shrubs) and number of rabbits caught by the fox. Include a title and all other required elements of a graph.





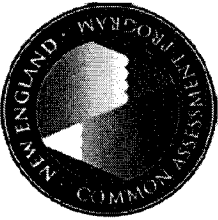
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Spring 2011 - Grade 08 NECAP Tests Grade 08 Students in 2010-2011

Item Analysis Report - Science

School: Demonstration School I
 District: Demonstration District A
 State: Rhode Island
 Code: DA-DEMO1

Item Number	Released Inquiry Task										Total Test Results					Achievement Level		
											Domain Points Earned			Total Points Earned	Scaled Score			
	1	2	3	4	5	6	7	Physical Science	Earth Space Science	Life Science	Inquiry							
Science Domain	INQ	INQ	INQ	INQ	INQ	INQ	INQ	INQ	INQ	INQ	INQ	15	15	15	18	63		
Inquiry Construct	8	4	5	6	13	10	1											
Depth of Knowledge Code	3	3	2	2	3	2	3	2	2	2	3							
Item Type	CR	CR	SA	SA	CR	SA	CR	SA	CR	SA	CR							
Total Possible Points	3	3	2	2	3	2	3	2	2	2	3	15	15	15	18	63		
Name/Student ID												15	15	15	18	63		
Amadorfiores, Kelly	3	3	2	1	3	2	2	2	2	2	2	7	13	15	16	51	850	3
Anderson, James L	3	3	1	0	2	1	1	1	1	1	1	6	8	10	11	35	837	2
Broadbrooks, Ryan O	2	3	1	0	2	1	1	1	1	1	1	6	12	14	10	42	842	3
Broadhead, Benjamin L	3	0	0	1	1	0	0	0	0	0	0	5	5	5	5	20	825	1
Brown, Mikka A	2	3	1	1	2	1	1	2	1	2	2	8	8	13	12	41	841	3
Brown, Morgan M	1	0	1	1	0	0	0	0	0	0	1	0	0	0	4	4	800	1
Burchholz, Kyle A	1	0	0	0	0	0	0	0	0	0	0	3	3	2	1	9	809	1
Caffrey, Peter A	0	0	0	0	0	0	0	0	0	0	0	1	2	2	0	5	800	1
Campos, Kelly	2	2	2	0	2	1	1	2	1	2	2	9	6	12	11	38	839	2
Carpenter, Aren W	1	2	0	0	1	0	0	0	0	0	0	4	4	7	4	19	824	1
Casner, Emily R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Contreras, Camis P	0	0	1	1	1	0	1	0	0	0	1	11	11	14	4	40	840	3
Cooper, Hannah L	2	2	0	1	3	0	1	0	1	0	1	7	8	7	9	31	834	2
Davis, Briah	3	3	1	2	3	2	2	2	2	2	2	10	10	15	16	51	850	3
Deangelis, Joseph J	2	2	1	1	2	1	1	1	1	1	1	7	11	11	10	39	839	2
Gaona, Jonathan J	1	0	0	0	0	0	0	0	0	0	0	4	4	5	1	14	819	1
Gardiner, Dakota L	3	3	1	2	2	1	2	1	2	1	2	9	8	13	14	44	843	3
Gillespie, Jenna	2	2	0	1	1	0	1	0	1	0	1	8	6	5	7	26	830	2
Glasscock, James	0	0	0	0	0	0	0	0	0	0	1	3	3	3	1	10	812	1
Hathaway, Shane R	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	N
Howes, Kaia M	1	2	1	2	1	0	1	0	1	0	1	3	7	4	8	22	827	1
Hunt, Wade J	2	0	0	1	0	1	1	0	1	1	1	6	9	7	5	27	831	2
Ibarra, Rosa	2	2	1	0	1	0	1	0	1	0	1	3	5	2	7	17	822	1
Jarrard, Eric G	3	3	1	2	2	1	2	1	2	1	2	9	11	11	14	45	844	3
Jensen, Sage	0	1	0	1	1	0	1	0	0	0	0	4	4	6	3	17	822	1
Jones, Andrew A	1	3	1	0	1	1	1	1	1	1	1	7	8	11	8	34	836	2
Leonard, Ryan	3	3	0	1	0	0	0	0	0	0	2	5	8	9	9	31	834	2
Jones, Andrew A	2	3	1	1	1	1	1	1	1	1	1	8	7	10	10	35	837	2
Lippincott, Kevin A	3	2	1	0	0	0	0	0	0	0	0	5	4	6	6	21	826	1
Meador, Shelby	2	0	2	1	2	2	1	2	2	2	2	14	13	14	11	52	851	3
Methiankit, Jonathan J																		



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Spring 2011 - Grade 08 NECAP Tests

Grade 08 Students in 2010-2011

Item Analysis Report - Science

School: Demonstration School 1
 District: Demonstration District A
 State: Rhode Island
 Code: DA-DEMO1

Item Number	Science Domain	Released Inquiry Task							Total Test Results				Scaled Score	Achievement Level					
		1	2	3	4	5	6	7	Physical Science	Earth Space Science	Life Science	Inquiry			Total Points Earned	Total Points			
	Inquiry Construct	0	0	0	1	0	0	0	0	0	0	0	0	0	0	800	E		
	Depth of Knowledge Code	1	0	0	0	1	0	0	0	1	0	1	0	0	7	824	1		
	Item Type	3	3	2	2	2	2	3	2	2	3	2	3	3	16	821	1		
	Total Possible Points	3	3	2	2	2	2	3	2	3	2	2	3	24	829	2			
Peals, Gregory	D082000037	0	0	0	1	0	1	0	0	0	0	0	0	0	7	833	2		
Ramirez, Vanesa M	D082000074	1	0	0	0	0	0	1	0	1	0	1	1	3	19	824	1		
Rayborn, Jeremy P	D082000038	1	0	0	1	0	1	0	0	0	1	1	1	3	16	821	1		
Royer, Amanda	D082000061	2	1	0	1	0	1	0	0	0	0	1	5	24	829	2			
Ryan, Jonathan J	D082000052	3	0	1	2	0	2	0	0	0	0	0	6	30	833	2			
Shields, Justin	D082000042	1	1	0	2	2	2	3	0	3	0	2	5	19	824	1			
Speidel, Sydne	D082000053	3	2	2	2	2	2	3	0	2	0	2	3	28	832	2			
Stalsberg, Weston M	D082000014	3	3	1	1	1	1	2	0	3	0	3	10	39	839	2			
Taveras, Dahiana	D082000045	3	0	0	1	1	1	1	2	1	2	1	6	42	842	3			
Thompson, Joshua L	D082000049	3	3	1	2	2	2	2	0	2	0	2	7	38	839	2			
Tipping, Emily A	D082000051	1	0	0	0	0	0	0	0	0	0	0	2	9	809	1			
Williams, Brandon P	D082000051																		
	Item Number	1	2	3	4	5	6	7											
	Percent Correct/Average Score: Group	1.8	1.5	0.6	0.9	1.1	0.5	1.1	0.5	1.1	0.5	1.1	0.5	1.1	0.5	6.1	6.7	7.8	7.4
	Percent Correct/Average Score: School	1.8	1.5	0.6	0.9	1.1	0.5	1.1	0.5	1.1	0.5	1.1	0.5	1.1	0.5	6.1	6.7	7.8	7.4
	Percent Correct/Average Score: District	1.8	1.6	0.6	0.9	1.1	0.4	1.0	0.4	1.0	0.4	1.0	0.4	1.0	0.4	6.4	6.9	7.8	7.5
	Percent Correct/Average Score: State	1.9	1.8	0.8	1.2	1.2	0.5	1.1	0.5	1.1	0.5	1.1	0.5	1.1	0.5	6.8	7.4	8.2	8.4