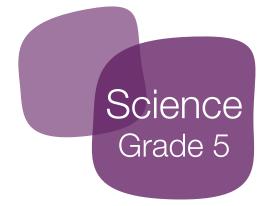
IQ: INVESTIGATING THE QUESTIONS

2013-2015 Released Test

Aligned to the Standards CONTENT BUILDER FOR THE PLC





For more information, visit lead4ward.com.

Users Guide - IQ [Investigating the Questions] Released Tests

Student Expect TO DO: Discuss white expectation has been IQ Analysis Investigating the Question SE # Student Expectation	ch part(s) of the s		stand	Student Expectation and Reporting Categor O: Discuss how many times ard has been assessed RC: #	
SE # Student Expectation		Analysi	s of Asse	ssed Standards	
[Veer] [Question #]	Dual/Mult	iple	Content		Dual/Multiple Coding
[Year] [Question #]	Coding		Process		TO DO: Review content and process standards assessed in each item
	Stimulus				Stimulus and Thinking
	Thinking				TO DO: Note stimulus (visual
	Related SI	Es			representation), level of thinking, and other SEs related to the item
			Data A	nalvsis	
	Item	State	Local	Error Analysis	Item Data and Error Analyses
	Α				TO DO: Add local data (state included),
	В			□Careless Error □Stopped too Early	determine most common error patterns
	C F			Mixed Up Concepts	(see below)
				· · ·	
* Correct answer	li	mplicat	ions for Instruction/Notes		
					Implications TO DO: Note patterns/considerations for instruction

Error Analysis | Type of Errors

The pattern of incorrect responses (highly chosen or distributed) indicates students may have made one or more of these error types:

- **Guessing**: Generally represented by equal distribution of incorrect answers. Students may not know how to start or may not know what the question is about.
- Careless Errors: Students cannot complete content specific procedures accurately. Make low-level, careless mistakes.
- **Stopped Too Early:** Students cannot transfer learning between contexts (item doesn't look like samples used in class), or they stop too early in problem solving.
- **Mixed Up Concepts:** Students misunderstand the underlying concepts. They may mix up concepts often related to academic vocabulary.

IQ Analysis Investigating the Question	SE 3.5	(C)	RC: 1		
SE: 3.5(C)		Units:			
3.5(C) predict, observe, and record changes in the state of matter caused by heating or cooling	Analys	is of Asse	ssed St	andards	
0045 040	Dual Cadina	Content	Suppo	rting	
2015 – Q12	Dual Coding	Process			
12 A student observed liquid wax dripping down the side of a burning candle. After					
putting out the candle's flame, the student left the room. Several hours later the	Stimulus				
student observed that there was no longer any liquid on the side of the candle. Which statement explains what most likely happened to the liquid wax?	Thinking				
F The heat given off by the flame caused the candle wax to evaporate.	Related SEs				
G The liquid wax changed back into a solid as it cooled.	Item State	Data Ar	naiysis		
H The liquid wax condensed and was absorbed by the candle.	F 10	LUCAI	Error A	Analysis	
J None of the above	G* 80		Car	eless Error	
	H 4			oped too Early ed Up Concepts	
	J 6			ed Op Concepts	
	Implica	tions for Ir	nstructi	on/Notes	
* Correct answer (G)					



3.5(C) predict, observe, and record changes in the state of matter caused by heating or cooling		Analysi	s of Asse	ssed Standards
0044 07			Content	Supporting
2014 – Q7	Dual C	oding	Process	5.3(C)
7 A student makes a model of the water cycle by using a cup, some water, and plastic wrap. After the student places the model near a sunny window, moisture forms on	Stimulu	us		
the inside of the plastic wrap.	Thinkir	na		
Plastic wrap	Related	-		
			1	
	Item	State	Data Ar	
6 6 6	A	1	LUCAI	Error Analysis
and and and	B*	78		Careless Error
0 0 0 0 0	С	9		Stopped too Early
6 6 6	D	13		
6	Ir	nplicat	ions for Ir	nstruction/Notes
 What change is the student most likely observing in this model? A Freezing B Condensation C The warming of air D The formation of clouds * Correct answer (B) 3.5(C) predict, observe, and record changes in the state of matter caused 		Analysi	s of Asse	ssed Standards
by heating or cooling		j	1	
2013 – Q38	Dual C	oding		Supporting
			Process	5.2(D)
38 Some students put two ice cubes on separate plates. One ice cube had a mass of 80 grams. The other had a mass of 40 grams. Which result would be the same for both ice cubes in this investigation?		us		
		ng		
F The time it took each ice cube to melt completely	Related	d SEs		
G The temperature at which each ice cube melted			Data A	adveis
H The amount of liquid produced on each plate	Item	State	Data Ar	
J The total volume of each ice cube	F	17		Error Analysis
		<u> </u>		
	G*	60		Careless Error
	G* H	60 11 12		Stopped too Early

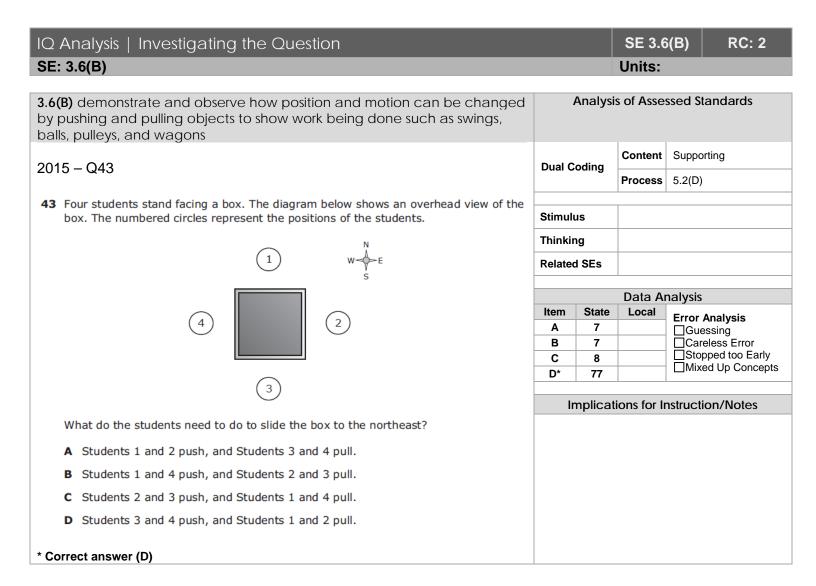
* Correct answer (G)

J

11 12

Implications for Instruction/Notes







3.6(B) demonstrate and observe how position and motion can be ch by pushing and pulling objects to show work being done such as swir balls, pulleys, and wagons		Analysi	s of Asse	ssed Standards			
2014 000	Durk	Dual Coding		Supporting			
2014 – Q36	Dual C			5.2(D)			
36 The picture below shows a pulley system that can be used to lift a	box. Stimul	us					
	Thinki	ng					
Ceiling hook	Relate	d SEs					
		Data Analysis					
	Item	State	Local	Error Analysis			
	F	4		Guessing			
End of rope	G H*	17 76		Careless Error			
	J	3		Mixed Up Concepts			
Box		mplicat	ions for Ir	nstruction/Notes			
Which of these should a person do to lift the box?							
F Tie the end of the rope to the box							
G Tie the end of the rope to the ceiling hook							
H Pull the end of the rope downward							
J Allow the end of the rope to move upward							
* Correct answer (H)							



3.6(B) demonstrate and observe how position and motion can be changed Analysis of Assessed Standards by pushing and pulling objects to show work being done such as swings, balls, pulleys, and wagons Content Supporting 2013 – Q1 **Dual Coding** Process 5.2(D) 1 The diagram below shows a view of a ball from above a table. The ball is rolling Stimulus across the table. A student lightly taps the rolling ball in the direction shown below Thinking **Related SEs** Data Analysis Direction of original diret tap by student Item State Local Error Analysis Α 8 Guessing Careless Error **B*** 86 Stopped too Early С 4 Mixed Up Concepts D 2 Implications for Instruction/Notes In which direction does the ball most likely move after the student taps the ball? С A в D * Correct answer (B)

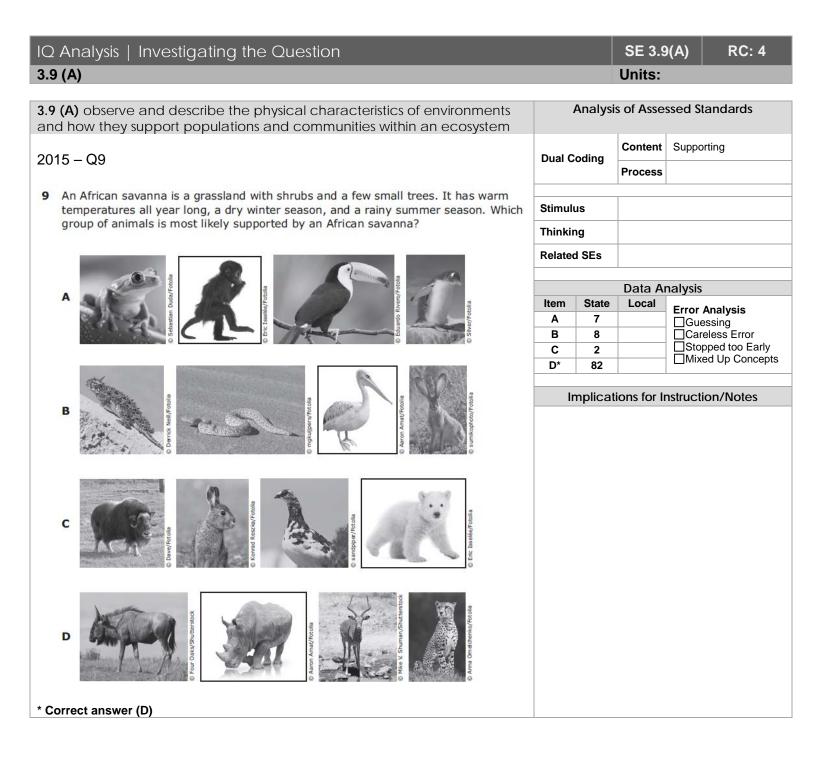


IQ Analysis Investigating the Question		SE 3.7	′(B)	RC: 3
3.7 (B)		Units:		
3.7 (B) investigate rapid changes in the Earth's surface such as volcanic eruptions, earthquakes, and landslides	Analysi	s of Asse	ssed Sta	andards
2015 – Q28	Dual Coding	Content	Suppor	ting
2013 - Q20	Dual couling	Process	5.2(G)	
28 A scientist was studying a type of event that occurred on Earth in various places within a 30-day period. The circles indicate where the events happened.	Stimulus			
	Thinking			
	Related SEs			
		Data Ar	a by cic	
	Item State	Data Ar Local	nalysis	
	F 16 G 10		Gues	
	H* 57		Stop	ped too Early
Equator of the second	J 17			d Up Concepts
$W \rightarrow E$ 5,000 km	Implicat	ions for Ir	nstructio	on/Notes
The events being studied involved rapid changes to Earth's surface at the locations shown on the map. What type of event do the circles on the map most likely represent?				
F Landslides, because they are all located along ocean coastlines				
G Volcanoes, because they occur only near the equator				
H Earthquakes, because they occur on land and on the ocean floor				
J Floods, because heavy rains can make riverbeds deeper and create deltas				
* Correct answer (H)				



IQ Analysis Investigating the Question					RC: 3
3.8 (D)			Units:		
3.8 (D) identify the planets in Earth's solar system and their position in relation to the Sun		Analysi	s of Asses	ssed Sta	andards
2014 – Q42	Dual C	oding	Content	t Supporting	
			Process		
42 One of the brightest objects in the night sky is a planet that is closer to the sun than Earth is. What is the name of this planet?	Stimulu	ıs			
F Mars	Thinkin	ng			
G Saturn	Related	l SEs			
H Jupiter					
J Venus		0 4 4	Data Ar	nalysis	
	Item F	State 24	Local		Analysis
	G	3			ssing eless Error
	H	4		Stop	ped too Early
	J*	69		□Mixe	ed Up Concepts
	In	nplicat	ions for Ir	nstructio	on/Notes
		•			
* Correct answer (J)					







3.9 (A) observe and describe the physical characteristics of environments
and how they support populations and communities within an ecosystem

Analysis of Assessed Standards

2014 – Q11

11 A teacher is setting up the terrarium shown below in a science classroom.



Which of these organisms is best suited for the terrarium?

- A Blue jay
- **B** Lobster
- C Snail
- D Water lily

* Correct answer (C)

Analysis of Assessed Standards							
Dual C	odina	Content	Supporting				
Dual C	buing	Process	5.4(A)				
Stimulu	ıs						
Thinkin	g						
Related	l SEs						
		Data A	nalysis				
Item	State	Local	Error Analysis				
Α	32						
В	9		Careless Error				
C *	51		Stopped too Early				
D	8		Mixed Up Concepts				

Implications for Instruction/Notes

D

8



IQ Analysis Investigating the Question		SE 3.10	0(C) RC: 4
3.10(C)		Units:	
3.10(C) investigate and compare how animals and plants undergo a series of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs	Analysi	s of Asses	ssed Standards
2015 – Q37	Dual Coding	Content	Supporting
37 Some species of rain forest frogs reproduce in the moist leaf litter on the forest floor. These frogs do not need a nearby body of water to complete their life cycle. Which stage of the typical frog life cycle is most likely missing from their life cycle?	Stimulus	Process	5.2(D)
A Egg	Thinking Related SEs		
B Tadpole			
C Froglet	Item State	Data Ar Local	
D Adult frog	A 10	Loodi	Error Analysis
	B* 63		Careless Error
	C 18 D 9		Mixed Up Concepts
	Implicat	ions for Ir	nstruction/Notes
* Correct answer (B) 3.10(C) investigate and compare how animals and plants undergo a series	Analysi	s of Asses	ssed Standards
of orderly changes in their diverse life cycles such as tomato plants, frogs, and lady bugs			
2013 – Q11	Dual Coding	Content Process	Supporting
11 At which stage in the life cycle of a plant are seeds produced?	Stimulus		
	Thinking		
	Related SEs		
		Data Ar	nalvsis
A C C	Item State	Local	Error Analysis
The The	A 11		Guessing
-#13 - #14	B 15 C* 67		□Careless Error □Stopped too Early
Seedling Mature plant	D 6		Mixed Up Concepts
B D Fourier Sprouting seed Young plant	Implicat	ions for Ir	nstruction/Notes
* Correct answer (C)			



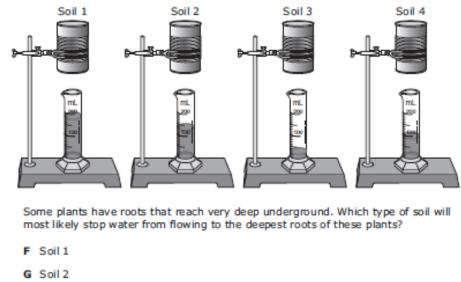
IQ Analysis Investigating the Question		SE 4.7	(A)	RC: 3	
4.7 (A)		Units:			
4.7 (A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants	F	Analysi	s of Asse	ssed Sta	andards
2214 040	Dual Coding		Content Supporting		ting
2014 – Q12	Dual Co	baing	Process	5.2(C)	
12 Several students investigate the characteristics of soil. The students observe samples of common soils. In one sample they observe that water drains through the soil	Stimulu	IS			
easily. When they rub the soil between their fingers, it feels rough and scratchy, and its particles feel hard. The soil the students observed is most likely $-$	Thinkin	g			
F clay	Related SEs				
G silt			Data Ar	aalveie	
H loam	ltem	State	Data Ar Local		well-reie
J sand	F	15			nalysis ssing
	G	16			less Error ped too Early
	H J*	12 56			d Up Concepts
* Correct answer (J)			ions for Ir	nstructio	on/Notes



4.7 (A) examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants

Analysis of Assessed Standards

12 A student conducts an investigation using four identical cans, each with a hole in the bottom. The student fills each can with a different type of soil and then adds 200 milliliters (mL) of water to each can. The graduated cylinders in the diagram below show the amount of water that drains through the soil and out the bottom of each can.



- H Soil 3
- J Soil 4

* Correct answer (H)

Dual Coding	Content	Supporting
Dual county	Process	5.2(D)
Stimulus		
Thinking		
Related SEs		

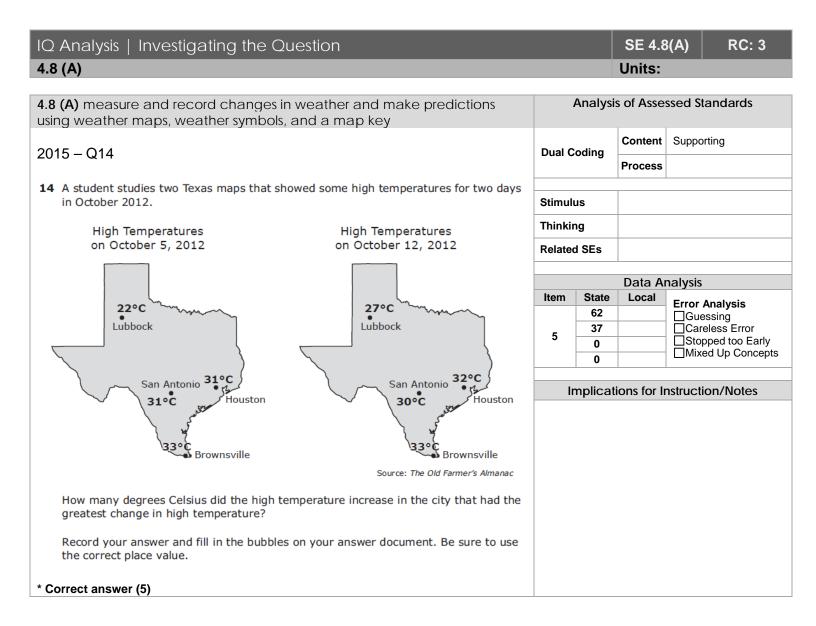
	Data Analysis							
Item	State	Local	Error Analysis					
F	14							
G	2		Careless Error					
H*	83		Stopped too Early					
J	2		Mixed Up Concepts					

Implications for Instruction/Notes



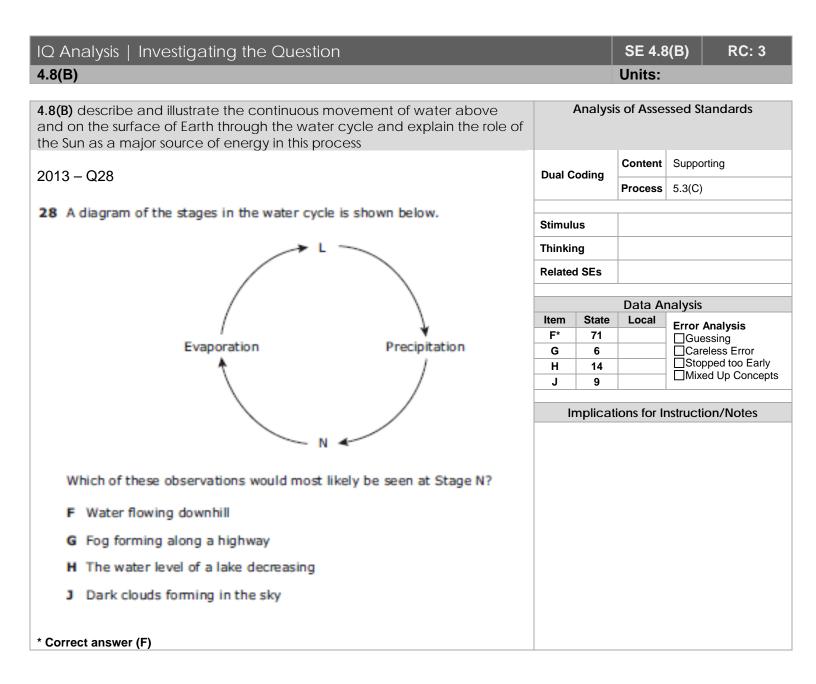
IQ Analysis Investigating the Question		SE 4.7	′(C)	RC: 3	
4.7 (C)			Units:	ľ	
	1				
4.7 (C) identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation	1	Analysis	s of Asse	ssed St	andards
2015 – Q26	Dual Co	odina	Content	Suppo	rting
2015 - Q20	Buaro	ounig	Process	35	
26 Resources can be classified as renewable or nonrenewable. Which of these resources					
is classified in the same category as coal?	Stimulu	IS			
F Wood	Thinkin	g			
G Wind	Related	I SEs			
H Corn oil			Data Ar	nalvsis	
J Petroleum	Item	State	Local		Analysis
J red oledini	F	11		□Gue	essing
	G H	3 15			eless Error oped too Early
	п J*	71			ed Up Concepts
	In	nplicati	ons for Ir	nstructi	on/Notes
* Correct answer (J)					



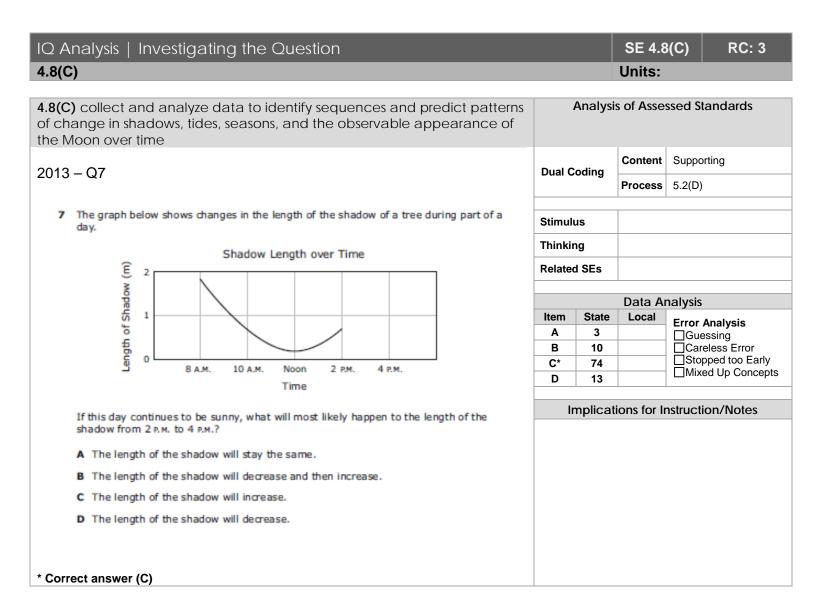














IQ Analysis Investigating the Question							SE 5.5(A) RC: 1	
SE: 5.5(A)				Units:				
5.5(A) classify matter magnetism, physical and floating), solubili thermal energy or ele	y (sinking		Analysi	s of Asse	ssed Sta	andards		
2015 02					oding	Content	Readine	ess
2013 - Q2	2015 – Q2					Process	5.02(C)	
		our clear sealed containers. Each container ident records some observations about the		Stimul	us			
each container.				Thinki	ng			
		Student Observations	_	Related	d SEs			
Cont	ainer	Observations		Data Analysis				
:	1	The substance takes the shape of the container and is clear. Small particles float on top of the substance.		Item F	State 14	Local		nalysis
:	2	The substance is hard and cube-shaped. The surface of the substance is shiny.		G H*	2 83		□Care □Stop	less Error ped too Early
:	3	The substance is not visible, and the container appears empty.		J	1			d Up Concepts
	4	The substance is cold and made of crystals.		Implications for Instruction/Notes				



2015 – Q8

8 Some students investigate the properties of four objects using a hand lens, a magnet, and a beaker containing water. Their observations are recorded in the table.

Observed Properties				
Object	Mass (g)	Observations		
Cork	2	Light brownHas small holesFloats in water		
Marble	2	• Blue • Shiny • Sinks in water		
Wood cube	2	Light brownNot attracted by a magnetFloats in water		
Rubber stopper	2	BlackSinks in waterNot attracted by a magnet		

Analysis of Assessed Standards

Dual C	Dual Coding		Readiness
		Process	5.04(A)
		1	
Stimulu	JS		
Thinking			
Related	d SEs		
		Data Ai	nalysis
Itom	State		

Data Analysis					
Item	State	Local	Error Analysis		
F*	80				
G	G 11		Careless Error		
Н	4		Stopped too Early		
J	5		Mixed Up Concepts		

Implications for Instruction/Notes

Which statement identifies a property that could be used to classify these objects into two different groups?

- **F** Density can be used to separate objects that sink in water from objects that do not.
- **G** Magnetism can be used to separate objects that are attracted by a magnet from objects that are not.
- ${\bf H}~$ Solubility can be used to separate objects that dissolve in water from objects that do not.
- **J** Physical state can be used to separate objects that are solids from objects that are not.

* Correct answer (F)



magnetism and floatin	m, physica ng), solub	er based on physica al state (solid, liquid, ility in water, and the electric energy	and gas), relativ	ve density (sinking	A	Analysis	of Asses	ssed Standards
2015 – Q2	22				Dual Co		Content	Readiness
2015 - Q2	23				Dual Oc		Process	5.02(D)
23 A stude	ent classifie	s the objects shown bas	sed on their physic	al properties.	Stimulu	e		
		\sim		\searrow	Thinking	-		
States of the second				il and the	Related	-		
Penny		Cotton ball					Data Ar	nalysis
	$ \leq $		Plastic ru	ler Metal paper clip	Item A	State 12	Local	Error Analysis
					B C	21 14		Careless Error
Eraser		Key Iro	on nail	Rubber band	D*	53		Mixed Up Concepts
					Im	nlicatio	ons for Ir	nstruction/Notes
Which	property ca	nnot be used to classif	fy these objects int	o more than one group?		piedic		
A Mag	gnetism							
B Mas								
	ctrical cond	-						
D Solu	ubility in wa	lter						
* Correct ar	nswer (D)							
		er based on physica			A	nalysis	of Asses	ssed Standards
and floatin	ng), solub	al state (solid, liquid, ility in water, and the electric energy						
and floatin thermal en	ng), solub nergy or e	ility in water, and the			Dual Co		Content	Readiness
and floati	ng), solub nergy or e	ility in water, and the			Dual Co	oding	Content Process	
and floatin thermal en 2015 – Q2 29 A scien	ng), solub nergy or e 29	ility in water, and the lectric energy	e ability to cond	luct or insulate		oding		
and floatin thermal en 2015 – Q2 29 A scien	ng), solub nergy or e 29 ace class tes	ility in water, and the lectric energy	e ability to cond	uct or insulate	Stimulu	s		
and floatin thermal en 2015 – Q2 29 A scien	ng), solub nergy or e 29 ace class tes table below. Material	ility in water, and the electric energy sted three properties of Conducts electricity?	e ability to cond different materials Conducts heat?	The results are shown Is flexible?	Stimulu	s g		
and floatin thermal en 2015 – Q2 29 A scien	ng), solub nergy or e 29 ace class tes cable below. Material Wood	ility in water, and the electric energy sted three properties of Conducts electricity? No	e ability to cond different materials Conducts heat? No	The results are shown Is flexible?	Stimulu	oding s g SEs	Process	5.02(D)
and floatin thermal en 2015 – Q2 29 A scien	ng), solub nergy or e 29 ace class tes table below. Material	ility in water, and the electric energy sted three properties of Conducts electricity?	e ability to cond different materials Conducts heat?	The results are shown Is flexible?	Stimulu Thinking Related	oding s g SEs	Process Data Ar	5.02(D)
and floatin thermal en 2015 – Q2 29 A scien	ng), solub nergy or e 29 dece class tes table below. Material Wood Plastic	ility in water, and the electric energy sted three properties of Conducts electricity? No No	e ability to cond different materials Conducts heat? No No	The results are shown Is flexible? No Yes	Stimulu	oding s g SEs	Process	5.02(D) nalysis Error Analysis
and floatin thermal en 2015 – Q2 29 A scien in the t	ng), solub nergy or e 29 dece class tes cable below. Material Wood Plastic Copper Steel	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes No	Stimulu Thinking Related Item A B*	s g SEs State 13 47	Process Data Ar	5.02(D) nalysis Error Analysis Guessing Careless Error
and floatin thermal en 2015 – Q2 29 A scien in the t	ng), solub nergy or e 29 ce class tes cable below. Material Wood Plastic Copper Steel on the table	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes	Stimulu: Thinking Related Item A	s g SEs State 13	Process Data Ar	5.02(D) nalysis Error Analysis □Guessing
and floatin thermal en 2015 – Q2 29 A scien in the t Based A Woo	ng), solub nergy or e 29 ace class tes table below. Material Wood Plastic Copper Steel on the table	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes No	Stimulu: Thinking Related Item A B* C D	s g SEs State 13 47 32 8	Process Data Ar Local	5.02(D) nalysis Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
and floatin thermal en 2015 – Q2 29 A scien in the t Based A Woo B Plas	ng), solub nergy or e 29 ace class tes table below. Material Wood Plastic Copper Steel on the table od	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes No	Stimulu: Thinking Related Item A B* C D	s g SEs State 13 47 32 8	Process Data Ar Local	5.02(D) nalysis Error Analysis Guessing Careless Error Stopped too Early
and floatin thermal en 2015 – Q2 29 A scien in the t Based A Woo B Plas C Cop	ng), solub nergy or e 29 ce class tes cable below. Material Wood Plastic Copper Steel on the table od stic	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes No	Stimulu: Thinking Related Item A B* C D	s g SEs State 13 47 32 8	Process Data Ar Local	5.02(D) nalysis Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
and floatin thermal en 2015 – Q2 29 A scien in the t Based A Woo B Plas	ng), solub nergy or e 29 ce class tes cable below. Material Wood Plastic Copper Steel on the table od stic	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes No	Stimulu: Thinking Related Item A B* C D	s g SEs State 13 47 32 8	Process Data Ar Local	5.02(D) nalysis Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
and floatin thermal en 2015 – Q2 29 A scien in the t Based A Woo B Plas C Cop	ng), solub nergy or e 29 ace class tes table below. Material Wood Plastic Copper Steel on the table od stic	ility in water, and the electric energy ated three properties of Conducts electricity? No No Yes Yes	e ability to cond different materials Conducts heat? No No Yes Yes	The results are shown Is flexible? No Yes Yes No	Stimulu: Thinking Related Item A B* C D	s g SEs State 13 47 32 8	Process Data Ar Local	5.02(D) nalysis Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts



2014 – Q14

14 A student measures the mass of several substances and records the results in the table below.

Substances for Investigation				
Substance	Mass (g)			
Water	125			
Toothpicks	5			
Table salt	30			
Sugar cubes	20			
Alcohol	98			
Cooking oil	75			
Marbles	40			
Plastic cubes	35			

Dual C	Dual Coding		Readiness
Dual C	oung	Process	5.2(C)
Stimul	us		
Thinkiı	ng		
Related	Related SEs		
		1	
		Data A	nalysis
Item	State	Data Ai Local	
Item	State 56		Error Analysis
Item 168	56		Error Analysis Guessing Careless Error Stopped too Early
	56 44		Error Analysis Guessing Careless Error
	56 44 0		Error Analysis Guessing Careless Error Stopped too Early

Analysis of Assessed Standards

What is the difference in grams between the total mass of the liquid substances and the total mass of the solid substances used in the investigation?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

* Correct answer (168)

Analysis of Assessed Standards 5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy Content Readiness 2014 – Q23 Dual Coding Process 5.1(A) 23 A teacher wears protective gloves to lift a metal pan filled with boiling water from a Stimulus hot plate. Why are the protective gloves necessary? Thinking A The metal pan creates thermal energy. **Related SEs B** The metal pan insulates thermal energy. **C** The metal pan conducts thermal energy. Data Analysis Item State Local **D** The metal pan reduces thermal energy. Error Analysis 17 Α Guessing Careless Error Stopped too Early в 14 C* 66 Mixed Up Concepts D 4 Implications for Instruction/Notes * Correct answer (C)



mag and	in flo	classify matter based on physical properties, including mass, etism, physical state (solid, liquid, and gas), relative density (sinking pating), solubility in water, and the ability to conduct or insulate al energy or electric energy		Analysi	s of Asse	ssed Standards
004		000	Dual Coding		Content	Readiness
2014	+ -	- Q33			Process	
33	Oł	pjects that blow into a swimming pool or that are dropped into the pool by				
	s٧	immers need to be removed. These objects include foam cups, keys, and coins.	Stimul	us		
	W	hich of the following explains a useful method for removing some of these objects?	Thinkir	ng		
	A	The keys and coins are less dense than water, so they can be easily picked up off the bottom of the pool by divers.	Related	d SEs		
	B	The foam cups have the same density as water, so they can be crumbled up for			Data A	nalysis
		removal by the pool filter.	Item	State	Local	Error Analysis
	С	The foam cups are less dense than water, so they can be removed from the	A	16		Guessing
		surface with a pool cleaning net.	B C*	6 73		Careless Error
	D		D	5		Mixed Up Concepts
		when the pool is drained.	lr	nplicat	ions for Ir	nstruction/Notes

* Correct answer (C)



2014 – Q39

Α

В

39 A cook uses the ingredients listed below to prepare a meal.



Which table correctly shows the physical properties of these ingredients when placed in hot water?

Ingredient	Physical Property
Sugar cubes	Solid that becomes a liquid and floats
Salt	Solid that becomes a liquid and sinks
Cooking oi l	Liquid that floats
Carrots	Solid that does not dissolve
Butter	Solid that dissolves

Ingredient	Physical Property
Sugar cubes	Solid that dissolves
Salt	Solid that dissolves
Cooking oi l	Liquid that sinks
Carrots	Solid that dissolves
Butter	Solid that becomes a liquid and floats

* Correct answer (D)

	Ingredient	Physical Property
	Sugar cubes	Solid that does not dissolve
с	Salt	Solid that dissolves
Č	Cooking oi l	Liquid that sinks
	Carrots	Solid that does not dissolve
	Butter	Solid that becomes a liquid and floats

	Ingredient	Physical Property					
	Sugar cubes	Solid that dissolves					
D	Salt	Solid that dissolves					
	Cooking oi l	Liquid that floats					
	Carrots	Solid that does not dissolve					
	Butter	Solid that becomes a liquid and floats					

Analysis of Assessed Standards

Dual Coding	Content	Readiness
Buar oounig	Process	5.02(D)
Stimulus		
Thinking		
Related SEs		

Data Analysis										
Item	State	Local	Error Analysis							
Α	10									
В	5		Careless Error							
С	9		Stopped too Early							
D*	76		Mixed Up Concepts							



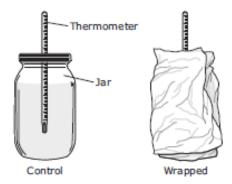
* Correct answer (J) Implications for Instruction/Notes * Correct answer (J) Implications for Instruction/Notes 5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy Analysis of Assessed Standards 2013 - Q10 Dual Coding Content Readiness 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher thinking Stimulus Thinking F Solubility G Density Related SEs Coata Analysis Item State Local Fror Analysis Carless Error Carless Error H conductivity Base Carless Error Carless Error	5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy	Analysis of Assessed Standards			ssed Standards	
2 Which of these is the best conductor of electricity? F Glass rod G Cotton string H Plastic tubing J Copper penny Etem State Local Error Analysis G Cotton string H Plastic tubing J Copper penny Etem State Local Error Analysis G G G Stimulus Timiking Error Analysis G G G Stopper penny Stopper penny Mixed Up Concep Implications for Instruction/Notes Implications for Instruction/Notes Stopper penny Implications for Instruction/Notes Stimulus Implications for Instruction/Notes Stopper penny <td>2013 - 02</td> <td>Dual C</td> <td>odina</td> <td>Content</td> <td>Readiness</td>	2013 - 02	Dual C	odina	Content	Readiness	
F Glass rod Thinking G Cotton string Thinking H Plastic tubing Totat Analysis J Copper penny Totat Analysis Image: State		Buar county		Process		
G Cotton string Related SEs H Plastic tubing J Copper penny J Copper penny Implications for Instruction/Notes * Correct answer (J) Implications for Instruction/Notes 5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy Analysis of Assessed Standards 2013 - Q10 Dual Coding Content Readiness It is a basker of water. The powder cannot be seen in the water. The powder is the teacher demonstrating? State Local Trior Analysis F Solubility Content Readiness Process 5.02(A) It is a basker of water. The powder is the teacher demonstrating? F Solubility Related SEs Error Analysis F Solubility Conductivity J J J J J J Mass J Mass Data Analysis Error Analysis Dual Coding Content Readiness J J J J J J J J J J J J J J J J J J J J J	2 Which of these is the best conductor of electricity?	Stimulus				
H Plastic tubing Data Analysis J Copper penny Error Analysis Implications for Instruction/Notes G a a b careless Error H 8 a b color Careless Error H 8 a b color Brook of analysis Implications for Instruction/Notes Implications for Instruction/Notes * Correct answer (J) Implications for Instruction/Notes 5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy Analysis of Assessed Standards 2013 – Q10 Dual Coding Content Readiness 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? Stimulus F Solubility G Density Related SEs Trinking Heat State Local Error Analysis Careless Error J Mass Stoppet to Entry Glueesing H G Density Glueesing Careless Error J J Stoppet to Canlysis Carele	F Glass rod	Thinkir	g			
Image: State Local From Analysis Gamma Control of Control	G Cotton string	Related	l SEs			
Image: State Local From Analysis Gamma Control of Control				Data A	nalvsis	
J Copper penny F 6	n Plastic Cubing	Item	State			
* Correct answer (J) Implications for Instruction/Notes 5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy Analysis of Assessed Standards 2013 - Q10 Dual Coding Content Readiness 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? Dual Coding Content Readiness F Solubility G Density Error Analysis Thinking Related SE's Stimulus 10 Mass J a Data Analysis Content (Gouessing) Could Coding (Gouessing) Could Coding (Gouessing) 10 A teacher mixer as white powder into a beaker of water. The powder is the teacher demonstrating? F Solubility Content (Gouessing) Could Coding (Gouessing) 10 A teacher mixer as a seen again. Which property of the powder is the teacher (Gouessing) Could Coding (Gouessing) Could Coding (Gouessing) 11 A teacher mixer as a seen again. Which property of the powder is the teacher (Gouessing) Could Coding (Gouessing) Could Coding (Gouessing) 12 A malysis Item (Gouessing) <td< td=""><td>J Copper penny</td><td>-</td><td>-</td><td></td><td>Guessing</td></td<>	J Copper penny	-	-		Guessing	
Correct answer (J) Correct answer (J) Correct answer (J) Correct answer (J) Context and the based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy 2013 – Q10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? F Solubility G Density H Conductivity J Mass Mass Analysis Analysis Analysis Analysis Analysis Analysis of Assessed Standards Analysis Analysis of Assessed Standards Analysis of Assessed Standards Analysis of Assessed Standards Analysis of Assessed Standards Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Coding Content Readiness Dual Content Content Readiness Dual Content Readiness Dual Content Readiness Dual Content Readiness Dual Dua			-		Stopped too Early	
* Correct answer (J) 5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy 2013 – Q10 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? F Solubility G Density H Conductivity J Mass Analysis of Assessed Standards Analys		J*	83		Mixed Up Concepts	
5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy Analysis of Assessed Standards 2013 - Q10 Dual Coding Content Readiness 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? Stimulus Stimulus F Solubility G Density Error Analysis Error Analysis Item State Local Error Analysis Guessing G 9 Guessing Guessing J Mass Mixed Up Concep		Ir	nplicat	ions for Ir	nstruction/Notes	
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magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy 2013 - Q10 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? F Solubility G Density H Conductivity J Mass						
2013 - Q10 Dual Coding Process 5.02(A) 10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? Stimulus Stimulus F Solubility G Density Related SEs Thinking H Conductivity J Mass Data Analysis Item State Local Error Analysis G 9 Careless Error G 9 H 6 Stopped too Early J 3	magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate	Analysis of Assessed Standards			ssed Standards	
10 A teacher mixes a white powder into a beaker of water. The powder cannot be seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? Stimulus F Solubility Solubility G Density Related SEs H Conductivity Data Analysis J Mass Error Analysis G 9 Careless Error H 6 Stopped too Early J Mass Mixed Up Concep	2013 – Q10	Dual C	oding	Content	Readiness	
seen in the water. The teacher then heats the mixture until the water evaporates and the powder can be seen again. Which property of the powder is the teacher demonstrating? F Solubility G Density H Conductivity J Mass Stimulus Stimulus Thinking Related SEs Data Analysis Item State Local Error Analysis G 9 G 0 G 0 G 0 G 0 H 0 G 0 G 0 G 0 G 0 G 0 H 0 G 0 H 0 G 0				Process	5.02(A)	
demonstrating? Thinking F Solubility Related SEs G Density Data Analysis H Conductivity Item State Local Guessing J Mass F* 82 Guessing G 9 Guessing G 9 Guessing G 9 Mixed Up Concept	seen in the water. The teacher then heats the mixture until the water evaporates	Stimulu	IS			
G Density H Conductivity J Mass Data Analysis Data Analysis Item State Local Error Analysis G 9 □ □Careless Error H 6 □ □Stopped too Early J 3 0		Thinkir	g			
Item State Local J Mass F* 82 Guessing G 9 Careless Error H 6 Stopped too Early J 3 Mixed Up Concept	F Solubility	Related	l SEs			
H Conductivity Item State Local Error Analysis J Mass F* 82 □Guessing G 9 □Careless Error H 6 □Stopped too Early J 3 ■Mixed Up Concept	G Density	Data Analysis			nalvsis	
J Mass F* 82 Guessing G 9 Careless Error H 6 Stopped too Early J 3 Mixed Up Concept	H Conductivity		State			
H 6 Stopped too Early J 3 Mixed Up Concept	J Mass	-			Guessing	
J 3 Mixed Up Concep			-		Stopped too Early	
Implications for Instruction/Notes					Mixed Up Concepts	
		- In	nnlicat	ions for h	struction/Notos	
				1311 UC11011/110183		
* Correct answer (F)	* Correct answer (F)					



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2013 - Q26

26 A teacher sets up an experiment using five jars like the ones shown below. The teacher keeps one jar unwrapped as the control. The other four jars are wrapped with equal thicknesses of four different materials.



The jars are each filled with an equal amount of water that is 92°C. Students observe and record the water temperature in each jar after 10 minutes. The results are shown in the table below.

Water	Temperature	After 10	Minutes
-------	-------------	----------	---------

Material Wrapping Jar	Water Temperature (℃)
No wrapping (control)	84
Newspaper	87
Construction paper	87
Paper towel	85
Cotton towel	90

Which property of the materials wrapping the jars are the students most likely investigating?

- F State of matter
- G Thermal energy insulation
- H Thermal energy production
- J Ability to conduct electricity

* Correct answer (G)

Analysis of Assessed Standards

Dual Coding	Content	Readiness
Dual couling	Process	5.02(A)
Stimulus		
Thinking		
Related SEs		

	Data Analysis											
	ltem	State	Local	Error Analysis								
Γ	F	8										
Γ	G*	65		Careless Error								
Γ	н	23		Stopped too Early								
	J	3		Mixed Up Concepts								

Implications for Instruction/Notes

5.5(A) classify matter based on physical properties, including mass, magnetism, physical state (solid, liquid, and gas), relative density (sinking and floating), solubility in water, and the ability to conduct or insulate thermal energy or electric energy	Ana	alysis of Ass	essed Standards
2013 – Q33	Dual Codir	Conten	t Readiness
2013 - Q33		•	s 5.02(D)
33 A student reads the label on the bottle of salad dressing shown below.	Stimulus		
	Thinking		
	Related SE	Es	
Ingredients: Oil, Vinegar, Spices.		Data	Analysis
Directions: Shake we before	Item St	tate Local	Error Analysis
using Refrigerate after	A* 5	52	Guessing
Salad opening.	B 2	27	Careless Error
Contraction (Contraction)		4	Stopped too Early
All all and y	D 1	18	
	Impli	ications for	Instruction/Notes
Why would the student shake the salad dressing well before using it?			
A Vinegar and oil have different densities.			
B Vinegar and oil easily form a solution.			
C Vinegar and oil both contain water.			
D Vinegar and oil are both liquids.			
* Correct answer (A)			



IQ Analysis Investigating the Question			SE 5.5	5(B)	RC: 1
SE: 5.5(B)			Units:		
5.5(B) identify the boiling and freezing/melting points of water on the Celsius scale		Analysi	s of Asse	ssed St	andards
2015 – Q35		oding	Content	ntent Supporting	
			Process		
35 Cracks in the seafloor called hydrothermal vents send streams of hot water into the ocean. The water from a vent is 387°C. How many degrees above the boiling point of	Stimul	us			
water is this temperature?	Thinking				
A 175°C	Related SEs				
B 287°C					
C 387°C			Data Analysis		
	Item	State	Local	Error	Analysis
D 487°C	A B*	9 76			essing eless Error
	C	6			oped too Early
	D	9			ed Up Concepts
		1	1		
	I	mplicat	ions for Ir	nstructi	on/Notes
* Correct answer (B)					
		_			
E E(P) identify the bailing and freezing/malting points of water on the		Analysi	ς οf Δςςο	t2 have	andards

5.5(B) identify the boiling and freezing/melting points of water on the Celsius scale	Analysis of Assessed Standards			ssed Standards		
2014 – Q2			Content	Supporting		
2014 - Q2	Dual Coding		Process			
2 A student observes ice forming on the edge of a school building.						
	Stimulu	JS				
	Thinking Related SEs					
	Data Analysis					
	Item	State	Local	Error Analysis		
	F	3				
	G	8		Careless Error		
	н	5		Stopped too Early		
	J*	84		Mixed Up Concepts		
	Implications for Instruction /Notes					

Implications for Instruction/Notes

At what temperature did the water outside the school building most likely begin to change to ice?

F 100°C

- G 32°C
- H 25°C
- **J** 0°C

* Correct answer (J)



5.5(B) identify the boiling and freezing/melting points of water on the Celsius scale	Analysis of Assessed Standards						
2013 – Q14	Dual Coding		Content Supporting				
2013 - Q14			Process				
14 A student measures the temperature of water being heated on a hot plate. The	Stimulu						
student observes that the temperature of the water is 53°C. How many more degrees Celsius must the temperature rise before it reaches the boiling temperature of water?	Thinkir	ng					
Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.			Related SEs				
			Data Analysis				
	Item	State	Local	Error Analysis			
		80		Guessing			
	47	20 0		Careless Error			
	0			Mixed Up Concepts			
	Implications for Instruction/Notes						
* Correct answer (47)							



IQ Analysis Investigating the Question	SE 5.5	(C)	RC: 1				
SE: 5.5(C)				Units:			
5.5(C) demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand	Analysi	s of Assessed Standards					
2015 – Q42	Dual Coding	Content Process	Suppo	orting			
42 Some people add sugar to their hot tea. Which property of the sugar remains the same when the sugar is in the tea solution?	Stimulus						
F The taste of the sugar	Thinking						
G The size of the sugar crystals	Related SEs						
H The color of the sugar		Data Ar	nalvsis				
J The texture of the sugar	Item State F* 79 G 6 H 6 J 9 Implicat	Local	Error Gue Car Sto Mix	Analysis essing eless Error pped too Early ed Up Concepts ion/Notes			
* Correct answer (F)							
5.5(C) demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand	Analysis of Assessed Standards						
2014 – Q29	Dual Coding	Content	Suppo	orting			
		Process	5.2(B)				
29 A student made a mixture using equal amounts of salt and pepper. The salt grains	Stimulus						
were the same size as the pepper grains. What should the student do to most easily separate the pepper from the salt?							
A Use a pair of tweezers to remove each grain of pepper	Related SEs						
A use a pair of tweezers to remove each grain of pepper	1						

- **B** Run a small magnet through the mixture to attract the pepper
- **C** Put the mixture in water and filter the pepper out of the water
- **D** Use a strainer with a fine wire screen to remove the pepper

Implications for Instruction/Notes

Data Analysis

Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts

Local

State

12

11

60

18

v. 1.25.16

ltem

Α

в

C*

D

lead4ward

* Correct answer (C)

5.5(C) demonstrate that some mixtures maintain physical properties of their ingredients such as iron filings and sand	Analysis of Assessed Standards						
				Supporting			
2013 – Q21	Dual Coding		Process				
21 A mixture of beads was placed in a container, as shown below. The beads are of various sizes, and each one is made of plastic, glass, or steel.	Stimulu	us					
various sizes, and each one is made of place, grass, or steer.	Thinkir	ıg					
	Related	dSEs					
			Data Analysis				
	Item	State	Local	Error Analysis			
	Α	11					
	B*	75		Careless Error			
	С	5		Stopped too Early			
	D	9					
The mixture would be easy to separate because all the beads —							
A are less dense than water	Implications for Instruction/Notes						
B are solids							
C have the same mass							
D are attracted to a magnet							
* Correct answer (B)							



IQ Analysis Investigating the Question		SE 5.5	5(D) RC: 1			
SE: 5.5(D)		Units:				
5.5(D) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water	Analysis of Assessed Standards					
2015 – Q15	Dual Coding	Content	Supporting			
		Process	5.2(B)			
15 A student adds 10 grams of four different powdered solids into four different beakers. The student then adds 100 mL of water to each beaker, stirs the mixtures, and allows	Stimulus					
them to sit for half an hour before recording observations. Which question is the student most likely trying to answer with this investigation?	Thinking					
A At what water temperature do the substances dissolve?	Related SEs					
B How much water is needed to cause a substance to change state?		Data Ar	nalysis			
C What causes a substance to sink when put in water?	Item State	Local	Error Analysis			
D Which substances dissolve in water?	A 7 B 12		Guessing Careless Error			
	C 6		Stopped too Early			
	D* 75		Mixed Up Concepts			
	Implicat	ions for Ir	nstruction/Notes			
* Correct answer (D)						
		<i>.</i> .				
5.5(D) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water	Analysi	s of Asses	ssed Standards			
2014 – Q17	Dual Coding	Content	Supporting			
		Process				
17 When a powdered drink mix was added to water, the liquid turned orange. A student decided the taste was too strong, so he poured out half of the liquid and added more	Stimulus					
water. Which of the following most likely occurred when more water was added?	Thinking					
A The physical state changed.B The orange color became lighter.	Related SEs					
C The liquid had a sweeter taste.		Data Ar	nalysis			
	Item State	Local	Error Analysis			
D None of the above	A 13 B* 54		Guessing Careless Error			
	Б <u>34</u> С 13		Stopped too Early			
	D 20		Mixed Up Concepts			
	Implications for Instruction/Note					
* Correct answer (B)						



5.5(D) identify changes that can occur in the physical properties of the ingredients of solutions such as dissolving salt in water or adding lemon juice to water	Analysis of Assessed Standards					
2013 – Q40			Content	Supporting		
2013 - Q40	Dual Coding		Process	5.2(D)		
40 A worker built a sidewalk and pressed some large salt particles into the concrete while it was still wet. When the concrete was dry, the worker washed the sidewalk	Stimulu	IS				
with water. The picture below shows the sidewalk after it was washed.	Thinkin	g				
Holes in Concrete	Related	I SEs				
		Data Analysis				
	ltem	State	Local	Error Analysis		
	F	7		□Guessing		
	G H*	13 66		Careless Error		
	<u>н</u> " Ј	13		Mixed Up Concepts		
	Implications for Instruction/Notes					
What most likely happened to the salt?						
F It evaporated into a gas.						
G It turned into concrete.						
H It dissolved in the water.						
J It turned into a solid.						
* Correct answer (H)						



Q Analysis Investigating the Question			SE 5.6(A) RC: 2		
E: 5.6(A)			Units:		
6(A) explore the uses of energy, including mechanical, light, thermal, lectrical, and sound energy	A	nalysi	s of Asse	ssed Sta	indards
015 – Q1		dina	Content Readiness		ess
	Dual Coding		Process		
1 Many people ride a bicycle for fun and exercise. Some people ride a bicycle to work because it saves money and benefits the environment by reducing the use of fossil	Stimulu	s			
fuels.	Thinking				
	Related	SEs			
Reflector P					
	Item	State	Data Ai Local		nelvoie
Gear	Α	4		Error A	
Gear	В	5			less Error bed too Early
	C D*	5 87			d Up Concept
Chain Wheels			ions for Ir	nstructio	on/Notes
Which of these is not an example of the bicycle using mechanical energy?					
A The pedals, gears, and chain help turn the wheels.					
B The wheels turn when the bicycle moves.					
C The front wheel guides the bicycle as it moves.					
D The reflector allows the bicycle to be seen at night.					
Correct answer (D)					



5.6(A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy	Analysis of Assessed Standards		ssed Standards			
2015 – Q39	Dual Coding		Dual Coding		Content	Readiness
2013 - 039			Process			
39 When a bat searches for prey at night, it makes sounds as it flies, and it uses the sounds' echoes to find its prey. When the bat flies and listens to echoes to locate	Stimulus					
prey, it is using —	Thinkin	ng				
A thermal energy and light energy	Related	l SEs				
B sound energy and thermal energy			Data Analysis			
C mechanical energy and sound energy	Item	State	Local	Error Analysis		
D light energy and mechanical energy	A B	1 32		Guessing Careless Error		
	С*	52 65		Stopped too Early		
	D	2		Mixed Up Concepts		
	In	nplicat	ions for Ir	nstruction/Notes		
* Correct answer (C)						
5.6(A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy		Analysi	s of Asses	ssed Standards		
2014 – Q19	Dual C	odina	Content	Readiness		
19 A class is learning about states of matter. The teacher shows the students how to set			Process	5.2(D)		
up the investigation shown in the diagram.	Stimulus					
			Thinking			
	Related	-				
Candle		Data Analysis				
		Item State		Error Analysis		
	A B*	24 55		□Guessing □Careless Error		
	C	15		Stopped too Early		
6	D	5		Mixed Up Concepts		
	Implications for Instruction/Notes					
ets -						
Wood block						
What kinds of energy are needed in this investigation to change the state of matter of the candle?						
A Light, mechanical, and thermal						
B Electrical and thermal						
C Mechanical, light, and electrical						
D Thermal and mechanical * Correct answer (B)						



5.6(A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy

Analysis of Assessed Standards

Content

Dual Coding

Readiness



44 Rube Goldberg was an artist who drew cartoons that showed a very complicated way to do a simple task. The picture below shows a cartoon like the ones Goldberg drew.

How to Turn On a Light Switch the Rube Goldberg Way

- 1. The bird in the clock hits the ball.
- 2. The ball rolls down the ramp.
- 3. The ball falls into the balance pan.
- 4. The balance pan moves down.
- The hand moves up.
 The switch turns on.



Dual Couling		Process	5.2(C)				
Stimulu	JS						
Thinkir	ng						
Related	d SEs						
		Data A	nalysis				
Item	State	Local	Error Analysis				
F	4						
G	1		Careless Error				
н	10		Stopped too Early				
J*	84		Mixed Up Concepts				
Implications for Instruction/Notes							
·							

Analysis of Assessed Standards

Data Analysis

Implications for Instruction/Notes

Local

Readiness

Error Analysis

Careless Error Stopped too Early

Mixed Up Concepts

Guessing

5.2(D)

Content

Process

Dual Coding

Stimulus

Thinking Related SEs

Item

F

G

н

J*

State

2

8

1

89

Which form of energy is used to turn on the switch?

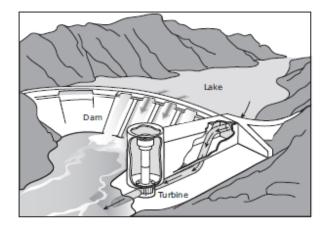
- F Light energy
- G Thermal energy
- H Electrical energy
- J Mechanical energy

* Correct answer (J)

5.6(A) explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy

2013 – Q6

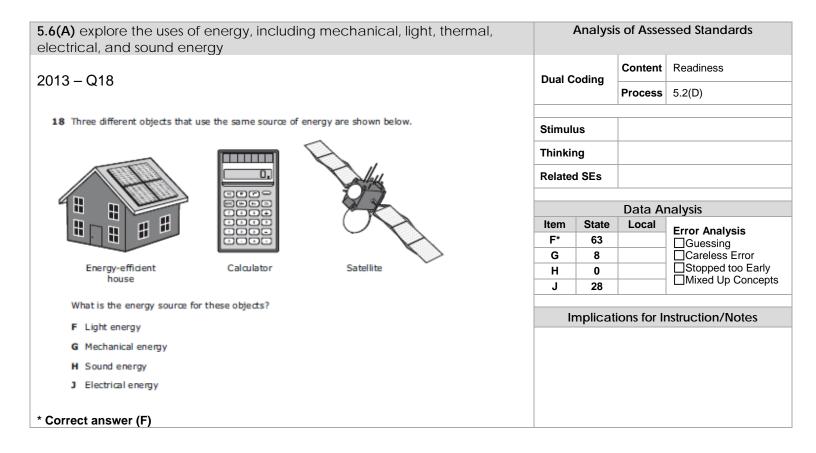
6 Water flows through turbines in dams like the one shown below. The flowing water makes the turbines spin.



What type of energy is used to make the turbines spin in this type of dam?

- F Light energy
- G Thermal energy
- H Sound energy
- J Mechanical energy
- * Correct answer (J)







IQ Analysis Investigating the Question		SE 5.6	6(B)	RC: 2
SE: 5.6(B)		Units:		
5.6(B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound	Analysi	s of Asse	ssed Sta	andards
2015 – Q4	Dual Coding	Content	Readin	ess
2013 - Q4	Buar obuing	Process	5.3(A)	
4 A group of students built the circuit shown below.	Stimulus			
Bulb (m)	Thinking			
	Related SEs			
		Data Ar		
Battery	Item State	Local	Error A	Analysis
Bell	F 1 G* 79			eless Error
	H 9 J 10			pped too Early ed Up Concepts
The lightbulb does not glow. Which statement explains this observation?				
F The battery is not charged.	Implicat	ions for Ir	nstructio	on/Notes
G The lightbulb is not part of a complete circuit.				
H The circuit does not have a switch.				
J The bell uses most of the energy from the battery.				
* Correct answer (G)				



5.6(B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound	ļ	Analysi	s of Asse	ssed Standards
2015 – Q16	Dual Co	odina	Content	Readiness
2015 - Q10	Dual C	Buar county		
16 Many types of fans are used in homes. One type of electric fan is shown below.				1
	Stimulu	IS		
	Thinkin	g		
	Related	l SEs		
			Data A	nalveic
	Item	State	Local	
	F*	74		Error Analysis
	G	9		Careless Error
	H J	11 5		Mixed Up Concepts
		J		
In addition to mechanical energy, which of these is produced as electric current	In	nplicat	ions for li	nstruction/Notes
passes through the circuit of this fan?				
F Heat				
G Mass				
H Light				
J Water vapor				
* Correct answer (F)				



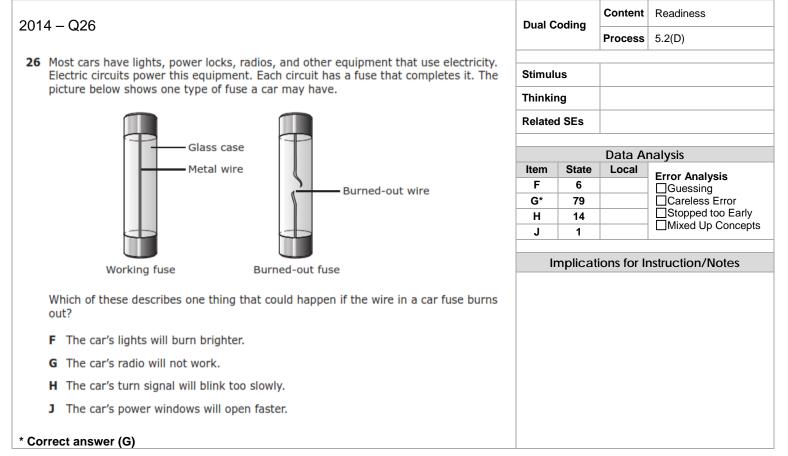
5.6(B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound	¢	Analysi	s of Asse	ssed Standards
2015 – Q25	Dual Co	odina	Content	Readiness
2013 - 023	Duul Ot	Buar obainig		5.4(A)
25 A simplified diagram of a system using solar energy is shown.	<u>.</u>			
	Stimulu			
	Thinkin	g		
	Related	SEs		
			Data A	nalvsis
	ltem	State	Local	Error Analysis
	Α	24		Guessing
	B C*	8 49		Careless Error
	D	19		Mixed Up Concepts
	In	nplicat	ions for lı	nstruction/Notes
To recharge the battery for later use without lighting the bulb, which of the following switches should be closed?				
A Switch S only				
B Switches R and S only				
C Switches R and T only				
D Switches R, S, and T				
* Correct answer (C)				



path t	demonstrate that the flow of electricity in circuits requires a complete hrough which an electric current can pass and can produce light, and sound	Analysis of Assessed Standards			
2014 -	015	Dual Coding		Content	Readiness
2014	- 015			Process	5.2(F)
15 Th	e diagram shows the metal posts that are usually found on a battery.	Stimulu	JS		
	Metal posts	Thinkir	ng		
		Related	d SEs		
	B 0			Data A	aalucic
		ltem	State	Data Ai Local	<u> </u>
		Α	3		Error Analysis
		B *	75		Careless Error
		C D	19 3		Stopped too Early
	Battery			ions for lr	nstruction/Notes
	e battery can be connected to a bell and a switch to produce sound. Which atement best explains why there are two metal posts on the battery?				
A	The battery needs only one metal post to connect to the bell, but the other metal post is present in case the first post fails to work.				
В	The battery needs to form a complete circuit that starts with one metal post and ends with the other metal post.				
С	One metal post makes a complete circuit with the switch, and the other metal post makes a complete circuit with the bell.				
D	One metal post makes the bell start to ring, and the other metal post makes the bell ring louder.				
* Corro	ect answer (B)				
Corre					



5.6(B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound



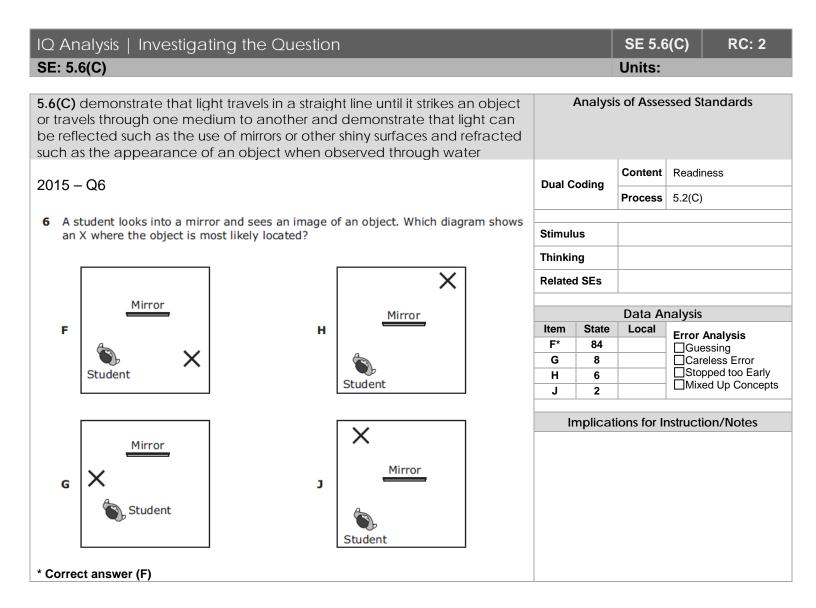


5.6(B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound	Analysis of Assessed Standards		
2013 – Q16	Dual Coding	Content	Readiness
2013 - Q16	Dual Couling	Process	
Battery	Stimulus		
	Thinking		
(L' L' L'	Related SEs		
f(p) = -(p) =		Data A	nalysis
	Item State F* 63	Local	Error Analysis
Bulb 1 Switch Bulb 2 Bulb 3	G 21		Guessing Careless Error
	H 10		Stopped too Early
Cut wire here	J 6		
	Implicat	ions for lı	nstruction/Notes
16 The diagram shows a series circuit with three lit bulbs. How many of the bulbs will remain lit if the wire is cut at the point shown by the arrow?			
F 0			
G 1			
H 2			
J 3			
* Correct answer (F)			



5.6(B) demonstrate that the flow of electricity in circuits requires a complete path through which an electric current can pass and can produce light, heat, and sound	Analysis of Assessed Standards		
2013 – Q35	Dual Coding	Content	Readiness
35		Process	
Battery	Stimulus		
Battery holder	Thinking		
	Related SEs		
	Item State	Data A Local	
Lightbulb	A 4		Error Analysis
	B 14 C* 78		Careless Error
	D 3		Mixed Up Concepts
	Implica	tions for li	nstruction/Notes
Which of these changes to the electric circuit shown above will cause the lightbulb to light up?			
A Straightening the wire so that the current can flow more easily			
B Adding a switch and more wire so that the current can flow more easily			
C Turning one battery so that its positive end connects to the other battery's negative end			
D Making the length of wire the same on both sides of the lightbulb			
* Correct answer (C)			
5.6(B) demonstrate that the flow of electricity in circuits requires a complete	Analy	is of Asse	ssed Standards
path through which an electric current can pass and can produce light, heat, and sound	Analy	13 01 1330	sica standards
2013 – Q43	Dual Coding	Content	Readiness
2013 - Q+3		Process	
43 A string of lights with small bulbs is shown below. The bulbs are connected by wire that is covered with an insulator.	Stimulus		
	Thinking		
	Related SEs		
		Data A	nalvsis
	Item State	Local	Error Analysis
When the lights are on, electricity travels in —	A* 83 B 1		☐Guessing ☐Careless Error
A a complete circuit	C 6		Stopped too Early Mixed Up Concepts
B a sound wave	D 9		
C a light ray	Implica	tions for li	nstruction/Notes
D an incomplete path			
* Correct answer (A)			



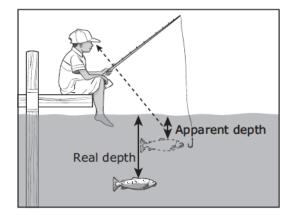




5.6(C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water

2015 – Q19

19 The diagram below shows a fish being viewed from above the water.



Dual Coding		Content	Readiness		
	oung	Process	5.2(D)		
Stimulus					
Thinking					
	•				
Related SEs					
Data Analysis					
Item	State	Local	Error Analysis		
Α	18				

nem	State	LUCAI	Error Analysis
Α	18		Guessing
B *	78		Careless Error
С	2		Stopped too Early
D	2		Mixed Up Concepts

Implications for Instruction/Notes

The fish appears to be closer to the surface than it really is. What causes this difference?

- A Light is reflected.
- B Light is refracted.
- C Light is focused.
- **D** Light is blocked.

* Correct answer (B)

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5.6(C) demonstrate that light travels in a straight line until it strikes an object Analysis of Assessed Standards or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water Content Readiness **Dual Coding** 2015 - Q36 Process 5.2(D) 36 In 1859, Henry Bursill published a book of hand shadows. The picture below shows one of these hand shadows. Stimulus Thinking **Related SEs** Data Analysis State Item Local **Error Analysis** F 32 Guessing Careless Error Stopped too Early G 7 H* 59 Mixed Up Concepts J 2 Series. ill antriba Implications for Instruction/Notes Which property of light makes it possible to produce hand shadows? F Light can be refracted. G Light is a form of energy. **H** Light travels in straight lines. J Light can be separated into different colors. * Correct answer (H)



5.6(C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water

2014 – Q4

4 The picture below shows a child standing in a swimming pool.



Dual Coding	Content	Readiness
Dual Couling	Process	
Stimulus		
Thinking		
Related SEs		

ltem		Data Analysis								
nem	State	Local	Error Analysis							
F*	73									
G	14		Careless Error							
Н	10		Stopped too Early							
J	3		Mixed Up Concepts							

Implications for Instruction/Notes

Why does the lower part of the child appear so much different in size from the upper part?

- F The light rays that travel through water and then into air are refracted.
- ${\bf G}\,$ The light rays that travel through water and then into air are enlarged.
- **H** The light rays that travel through air and then into water are reflected.
- J The light rays that travel through air and then into water are reduced.

* Correct answer (F)



5.6(C) demonstrate that light travels in a straight line up or travels through one medium to another and demon be reflected such as the use of mirrors or other shiny su such as the appearance of an object when observed	strate that light can rfaces and refracted		Analysi	s of Asses	ssed Standards
2014 – Q22		Dual C	oding	Content	Readiness
				Process	5.2(D)
22 Some students paint the inside of several boxes. They paint each color. They observe that the inside of the box painted white looks		Stimulu	IS		
others. What is the most likely reason this box looks brighter?		Thinkir	ng		
F More light is reflected off white paint.G More light is refracted by white paint.		Related	l SEs		
 H More light passes through white paint. 				Data Ar	
J More light is absorbed by white paint.		Item	State	Data Ar Local	Error Analysis
		F*	54		Guessing
		G H	10 11		Careless Error
		J	25		Mixed Up Concepts
				1 1	
		Ir	nplicat	ions for Ir	nstruction/Notes
* Correct answer (F)					
5.6(C) demonstrate that light travels in a straight line up or travels through one medium to another and demon be reflected such as the use of mirrors or other shiny su such as the appearance of an object when observed	strate that light can rfaces and refracted		Analysi	s of Asses	ssed Standards
2014 – Q40		Dual C	odina	Content	Readiness
2014 - Q40		Dual C	oung	Process	5.3(C)
40 The model shows a special glass fiber that is thinner than so light enters one end of the fiber, it moves through the fiber	ome metal wires. When as shown.	Stimulu	ıs		
Light enter	ing	Thinkir	ng		
fiber		Related	l SEs		
/\$~				Data Ar	nalysis
		Item	State	Local	Error Analysis
	Glass fiber	F*	75		□Guessing □Careless Error
		G H	4		Stopped too Early
Light leaving fiber		J	17		Mixed Up Concepts
		Ir	nplicat	ions for Ir	nstruction/Notes
After the light leaves the fiber, it travels —			•		
F in a straight line					
G back into the fiber					
H around the fiber					
J in a curve					
* Correct answer (F)					

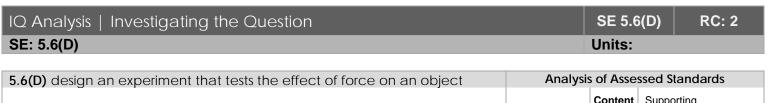


5.6(C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water	Analysis of Assessed Standards			
2013 – Q4	Dual Coding		Content	Readiness
			Process	
4 Which of these best demonstrates the reflection of light?	Stimulu	IS		
F Looking through the glass of a large window	Thinkin	g		
G Looking at an image formed on a silver spoon	Related	l SEs		
			Data A	nalysis
H Looking at a lightbulb that is glowing	Item	State	Local	Error Analysis
J Looking at a star on a clear night	F G*	17 77		Guessing
	H	4		Stopped too Early
	J	3		Mixed Up Concepts
* Correct answer (G)				
5.6(C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water		Anaiysi	s of Asse	ssed Standards
2013 – Q23	Dual C	odina	Content	Readiness
		j	Process	5.4(A)
23 When light travels through air into a prism, it bends and separates into many colors.	Stimulu	ıs		
	Thinkin	g		
White	Related	I SEs		
White light Color spectrum			Data A	nalveic
Color	Item	State	Local	Error Analysis
	A *	60		Guessing
Prism	B C	5 3		Careless Error
	D	31		Mixed Up Concepts
	Im	nnligat	ions for h	estruction (Notos
In which other situation does light bend?	If	nplicat		nstruction/Notes
A When light moves through air into water				
B When light hits a wall				
C When light passes through outer space				
D When light hits a mirror				
* Correct answer (A)				



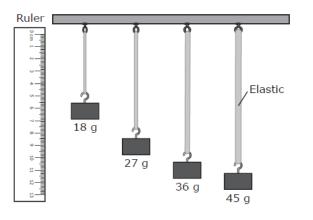
5.6(C) demonstrate that light travels in a straight line until it strikes an object or travels through one medium to another and demonstrate that light can be reflected such as the use of mirrors or other shiny surfaces and refracted such as the appearance of an object when observed through water				ssed Standards	
2013 – Q31			Content	Readiness	
2013 - Q31		oding	Process	5.3(C)	
31 Scientists use telescopes to make distant objects appear doser. Some parts of a telescope are shown below.	Stimulu	IS			
	Thinkin	g			
Objective lens	Related	SEs			
	Data Analysis				
	Item	State	Local	Error Analysis	
Evening light	Α	60			
Eyepiece	В	5		Careless Error	
Which of the following best describes how the objective lans of this telescope being a	C	3		Stopped too Early	
Which of the following best describes how the objective lens of this telescope helps a scientist observe the meen?				Miyod Up Concepto	
scientist observe the moon?	D*	31		Mixed Up Concepts	
scientist observe the moon?	-	-		Mixed Up Concepts	
A The objective lens produces light.	D*	31	ons for Ir	Mixed Up Concepts	
	D*	31	ons for Ir		
A The objective lens produces light.	D*	31	ons for Ir		
 A The objective lens produces light. B The objective lens blocks light. 	D*	31	ons for Ir		
 A The objective lens produces light. B The objective lens blocks light. C The objective lens reflects light. 	D*	31	ons for Ir		





2015 – Q31

31 A student designs an experiment to test the effect of the width of a piece of elastic on the elastic's ability to stretch. The student selects four pieces of elastic with different widths but the same length. The student then attaches blocks with different masses to the pieces of elastic. The results of the student's experiment are shown below.



What should the student do to improve this experiment?

- A Use blocks of equal mass on the four pieces of elastic
- **B** Use blocks with enough mass to cause the four pieces of elastic to break
- C Use more than four pieces of elastic and four blocks
- ${\bf D}$ $\,$ Use four pieces of elastic with different lengths but the same width

* Correct answer (A)

Analysis of Assessed Standards						
Dual Coding	Content	Supporting				
Dual County	Process	5.2(A)				
Stimulus						
Thinking						
Related SEs						

	Data Analysis								
Item	State	Local	Error Analysis						
A*	43								
В	12		Careless Error						
С	12		Stopped too Early						
D	33		Mixed Up Concepts						



5.6(D) design an experiment that tests the effect of force on an object

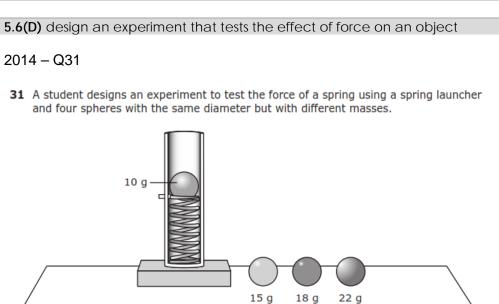
2014 – Q10

- **10** A student observes that the craters on the moon are different sizes. The student designs an experiment to study the formation of craters. The materials for the experiment are marbles and a pan of flour. The student makes a hypothesis that the size of the craters made on the surface of the flour will depend on the height from which the marble is dropped. Some of the steps in the student's experiment are described below.
 - 1. Fill a round pan with flour
 - 2. Smooth out the flour in the pan
 - 3. _____
 - 4. For each trial, measure the size of the crater formed and then smooth out the flour again

Which of these is most likely Step 3 in the student's experiment?

- F Drop the same marble from different heights into the pan of flour
- G Drop marbles of different masses from the same height into the pan of flour
- **H** Drop marbles of different sizes from different heights into the pan of flour
- J Drop a single marble one time into the pan of flour

* Correct answer (F)



What other piece of equipment would be most useful for this experiment?

- **A** A graduated cylinder to measure the volume of each sphere before the sphere is launched
- **B** A beaker to collect the spheres after they are launched
- ${\bf C}~$ A stopwatch to measure how long it takes to load each sphere on the spring
- **D** A meterstick to measure the height each sphere reaches after the sphere is launched

* Correct answer (D)

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Analysi	Analysis of Assessed Standards					
Dual Coding	Content	Supporting				
Dual County	Process	5.2(A)				
Stimulus						
Thinking						
Related SEs						

Data Analysis								
Item	State	Local	Error Analysis					
F*	50							
G	14		Careless Error					
Н	30		Stopped too Early					
J	6		Mixed Up Concepts					

	Analysis	s of Asses	ssed Standards
Dual C	odina	Content	Supporting
Duaro	oung	Process	5.4(A)
Stimulu	JS		
Thinkir	ng		
Related	d SEs		
		Data Ar	nalysis
ltem	State	Local	Error Analysis
Α	11		
~			
B	3		Careless Error
	3 8		Careless Error
B	-		Careless Error
B C D*	8 77	ions for Ir	Careless Error
B C D*	8 77	ions for Ir	Careless Error Stopped too Early Mixed Up Concepts
B C D*	8 77	ions for Ir	Careless Error Stopped too Early Mixed Up Concepts
B C D*	8 77	ions for Ir	Careless Error Stopped too Early Mixed Up Concepts
B C D*	8 77	ions for Ir	Careless Error Stopped too Early Mixed Up Concepts
B C D*	8 77	ions for Ir	Careless Error Stopped too Early Mixed Up Concepts



5.6(D) design an experiment that tests the effect of force on an object	Analysis of Assessed Standards			ssed Standards			
2013 – Q41	Dual Coding		Content	Supporting			
			Process	5.2(B)			
41 A student uses a spring scale to pull a 50-gram block horizontally across a wood desk. Then the student pulls the block the same distance across surfaces of carpet,	Stimulu	IS					
sandpaper, and glass.		Thinking					
50 g block Spring scale	Related	l SEs					
			D 1 4				
		•	Data Ar	nalysis			
	Item	State	Local	Error Analysis			
Desk	A	10		Guessing			
	B *	69		Careless Error			
Which question is this investigation most likely designed to answer?	С	5		Stopped too Early			
	D	16					
A How do blocks of different sizes react to force?							
B How do different surfaces affect the amount of force needed to move a block?	In	nplicati	ons for Ir	nstruction/Notes			
C How do blocks affect spring scales?							
D How does the mass of a block change when it is pulled across a desk?							
* Correct answer (B)							



IQ Analysis Investigating the Question			SE 5.7(A)		RC: 3	
SE: 5.7(A)						
5.7(A) explore the processes that led to the formation of sedimentary rocks and fossil fuels	A	nalysis	s of Asses	ssed St	tandards	
2015 – Q20		oding	Content	Readir	ness	
			Process			
20 Fossil fuels formed over long periods of time after particles in water settled to the						
sea floor and formed marine mud. What kinds of particles needed to be present in the marine mud in order for fossil fuels to form?	Stimulu	S				
the marine mud in order for lossif fuels to form?						
F Mostly sand and a few small bits of wood Related						
G Mostly decaying organisms						
			Data Ar	nalysis		
H Mostly lava and a few sedimentary rocks	Item	State	Data Ar Local	Error	Analysis	
	F	7		Error A	Analysis essing	
H Mostly lava and a few sedimentary rocks	F G*	7 75		Error	Analysis essing eless Error	
H Mostly lava and a few sedimentary rocks	F G* H	7 75 14		Error Gue Care Stop	Analysis essing	
H Mostly lava and a few sedimentary rocks	F G*	7 75		Error Gue Care Stop	Analysis essing eless Error pped too Early	
H Mostly lava and a few sedimentary rocks	F G* H J	7 75 14 4	Local	Error A Gue Care Stop Mixe	Analysis essing eless Error pped too Early	
H Mostly lava and a few sedimentary rocks	F G* H J	7 75 14 4	Local	Error A Gue Care Stop Mixe	Analysis essing eless Error pped too Early ed Up Concepts	
H Mostly lava and a few sedimentary rocks	F G* H J	7 75 14 4	Local	Error A Gue Care Stop Mixe	Analysis essing eless Error pped too Early ed Up Concepts	
H Mostly lava and a few sedimentary rocks	F G* H J	7 75 14 4	Local	Error A Gue Care Stop Mixe	Analysis essing eless Error pped too Early ed Up Concepts	

•	A) explore the processes that led to the formation of sedimentary rocks fossil fuels	Analysis of Assessed Standards			ssed Standards	
2015 – Q44		Dual Coding		Content	Readiness	
201	2013 - Q44			Process	5.3(C)	
44	44 Some students make a model to show one of the first steps in the formation of sedimentary rock. The students pour 2 centimeters of light-colored sand into a clear					
	plastic box. Then they add 1 centimeter of gravel. Finally they pour 2 centimeters of	Stimulus Thinking				
	dark-colored sand on top of the gravel. Which characteristic of sedimentary rock does this model best show?		'9 I SEs			
	F Sedimentary rock is made of layers.	Related	1 323			
				Data Ar	nalvsis	
	G Sedimentary rock is cemented bits of rock.	Item	State	Local	Error Analysis	
	H Sedimentary rock is often limestone.	F*	82		Guessing	
		G	11		Careless Error	
	J Sedimentary rock is common in Texas.	н	4		Stopped too Early	
		J	3			
		Ir	nplicat	ions for Ir	nstruction/Notes	
* Co	rrect answer (F)					

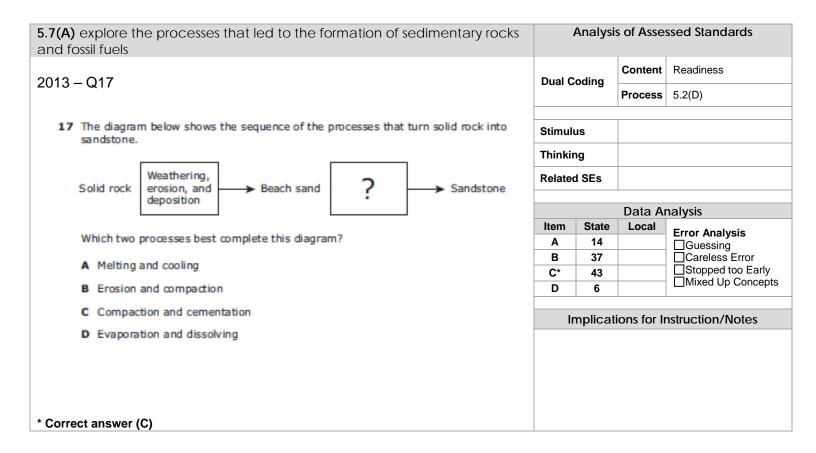


5.7(A) explore the processes that led to the formation of sedimentary rocks and fossil fuels	Analys	is of Asse	ssed Standards
2014 – Q20	Dual Coding	Content	Readiness
2014 - Q20	Duar oounig	Process	
20 All of these are related to the formation of oil or natural gas <code>EXCEPT</code> —	Stimulus		
F decomposed animals	Thinking		
G decayed plants	Related SEs		
H sedimentary rocks		Dete A	nolucio
J active volcanoes	Item State	Data A	Error Analysis
	F 11		Guessing
	G 7 H 28		□Careless Error □Stopped too Early
	J* 53		Mixed Up Concepts
	Implica	tions for II	nstruction/Notes
* Correct answer (J)			
5.7(A) explore the processes that led to the formation of sedimentary rocks and fossil fuels	Analys	is of Asse	ssed Standards
	5 I 6 II	Content	Readiness
2014 – Q32	Dual Coding	Process	5.3(C)
32 The model below shows layers of sediment on the floor of an ocean.	Stimulus		
	Thinking		
Ocean	Related SEs		
	Item State	Data A	
Rock	F 14	Local	Error Analysis
	G* 70		Careless Error
Sediment	H 13		Stopped too Early
	J 4		
	Implica	tions for l	nstruction/Notes
Which of the following best explains how these layers can become rock over many years?			
F Sand in the sediment melts and turns into rock.			
G The weight of the water compacts the sediment into rock.			

J Pollution caused by humans turns the sediment into rock.

* Correct answer (G)







Analysis Investigating the Question			SE 5.7	(B)	RC: 3
E: 5.7(B)			Units:		
7(B) recognize how landforms such as deltas, canyons, and sand dunes e the result of changes to Earth's surface by wind, water, and ice		Analysi	s of Asse	ssed Sta	indards
015 – Q22	Dual Co		Content Readines		ess
		oung	Process	5.2(D)	
2 The photograph below shows a canyon in northern Arizona.	Stimulu	JS			
	Thinkir	ng			
	Related	l SEs			
			Data A	nalysis	
	Item	State	Local	Error A	nalysis
	F* G	53 14		□Gues □Carel	sing ess Error
	H	19		Stopp	bed too Early
Canyon walls					
Which of these describes how this canyon was most likely formed?					
F Floods eroded the sandstone away from the canyon walls.					
G Glaciers eroded the canyon rock as they melted and moved.					
${\bf H}$ Ice wedged into cracks in the rock and weathered the canyon walls.					
J Wind blew large rocks that smashed against the canyon walls.					



5.7(B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice

Analysis of Assessed Standards

2015 – Q40

40 A wide U-shaped valley is shown in the photograph below.



This valley was most likely formed by -

- F flash flooding
- G a glacier
- H a hurricane
- J melting snow

* Correct answer (G)

,		
Dual Coding	Content	Readiness
Dual county	Process	5.2(D)
Stimulus		
Thinking		
Related SEs		

		Data A	nalysis
Item	State	Local	Error Analysis
F	23		
G*	67		Careless Error
Н	6		Stopped too Early
J	3		Mixed Up Concepts



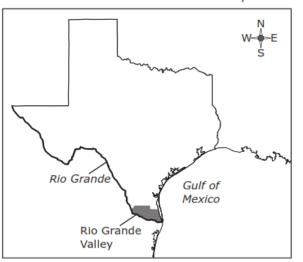


5.7(B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice

2014 – Q8

8 The Rio Grande Valley is located at the southern tip of Texas at the end of a long river known as the Rio Grande.

Location of the Rio Grande Valley



How did the delta at the end of the Rio Grande form?

- F Sand and mud from the Gulf of Mexico were washed ashore by tsunamis.
- **G** The river cut through the solid bedrock of the valley.
- **H** The river deposited large amounts of sediment from land erosion.
- J Hurricanes pushed soil and debris from the Gulf of Mexico onto the land.

* Correct answer (H)

	1	Analysi	s of Asse	ssed Standards
	Dual Coding		Content	Readiness
		oung	Process	5.2(D)
	Stimulu	JS		
	Thinkir	ng		
	Related	l SEs		
-			Data A	nalysis
	Item	State	Local	Error Analysis
				ELIOLANAIVSIS
Γ	F	5		
	F G	5 18		Guessing Careless Error
	-			Guessing Careless Error Stopped too Early
	G	18		Guessing



5.7(B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice		Analysi	s of Asses	ssed Standards
2014 – Q24	Dual C	oding	Content	Readiness
			Process	
24 A student hiking in a rocky area on a mountain notices that wide, deep cracks have formed in some of the large rocks. Some of the cracks are so large that the rocks have broken apart. Which process most likely caused these rocks to crack and	Stimulu	JS		
break?	Thinkir	ng		
F Erosion by wind	Related	SEs		
G Water freezing and thawing			Data Ar	nalysis
H Erosion by fast-moving water	Item	State	Local	Error Analysis
J Sediments being deposited	F G*	24 48		□Guessing □Careless Error
	H	19		Stopped too Early Mixed Up Concepts
	J	9		
	Ir	nplicat	ions for Ir	nstruction/Notes
* Correct answer (G)				
5.7(B) recognize how landforms such as deltas, canyons, and sand dunes are the result of changes to Earth's surface by wind, water, and ice		Analysi	s of Asses	ssed Standards
2013 – Q20	Dual C	oding	Content	Readiness
			Process	
20 Glaciers are masses of ice that move slowly on land. Which of these features was	Stimulu	JS		
most likely formed by a glacier?	Thinkir	ng		
F A wide valley	Related	d SEs		
G A deep ocean			Data Ar	alveis
H A lava flow	Item	State	Local	Error Analysis
J A mountain range	F *	62		Guessing
	G H	13 2		Careless Error
	J	23		Mixed Up Concepts
	Implications for Instruction/Notes			
* Correct answer (F)				

v. 1.25.16

IQ Analysis Investigating the Question				SE 5.7	(C) RC:	3
SE: 5.7(C)				Units:		
5.7(C) identify alternative energy resources suc hydroelectric, geothermal, and biofuels	h as wind, solar,	A	nalysis	of Asses	sed Standards	
2015 – Q7		Dual Co	ding	Content	Readiness	
 7 An energy company wants to build a hydroelectric characteristics of an area is most important to the power plant? A The area has a cool, rainy climate. 		Stimulus Thinking Related S	l	Process	5.2(D)	
B The area is located in a valley with very little w	vind and frequent heavy fog.					
C The area has a river that flows rapidly from ne	arby mountains through a valley.	Item	State	Data Ar Local	alysis	
D The area has no geysers or hot springs.		A	15	LUCAI	Error Analysis	
		В	7		Careless Error	
* Correct answer (C)		C*	68 9			
		Im	plicati	ons for Ir	struction/Notes	S
5.7(C) identify alternative energy resources suchydroelectric, geothermal, and biofuels	h as wind, solar,	Aı	nalysis	of Asses	sed Standards	
				Content	Readiness	
2015 – Q38		Dual Co	ding	Process		
38 A group of fifth-grade students was researching al school library. Each student made a list of resource alternative energy resources?		Stimulus	;			
		Thinking				
Alternative Energy A Resources	lternative Energy Resources	Related	SEs			
• Wind	• Hydroelectric			Data Ar	alysis	
F • Solar H	• Coal		State	Local	Error Analysis	
• Oil	• Gas	F G	10 8		Guessing Careless Error	
• Geothermal	• Wind	н	8		Stopped too Ea	
		J*	74			
Alternative Energy A Resources	lternative Energy Resources	Im	plicati	ons for Ir	struction/Notes	s
G • Biofuel J	• Solar • Biofuel					

• Geothermal • Solar

* Correct answer (J)

© lead4ward

• Wind

Geothermal

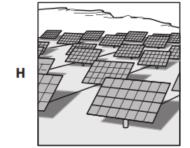


5.7(C) identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels

2014 – Q6

6 Which of the methods of generating electricity shown below does **NOT** use alternative energy resources?





G	



Analysis of Assessed Standards

Dual Coding	Content	Readiness
	Process	
<u> </u>	1	
Stimulus		
Thinking		
Related SEs		

		Data A	nalysis
Item	State	Local	Error Analysis
F*	72		
G	4		Careless Error
Н	8		Stopped too Early
J	16		Mixed Up Concepts

Implications for Instruction/Notes

* Correct answer (F)

5.7(C) identify alternative energy resources such as wind, solar, nydroelectric, geothermal, and biofuels		Analysi	s of Asse	ssed Standards
	Dual C	مطانعهم	Content	Readiness
2014 – Q38	DuarC	Dual Coding		
38 Which alternative energy source is generated beneath Earth's crust and can be used			1	I
to heat buildings?	Stimulu	IS		
F Hydroelectric energy	Thinkin	g		
G Geothermal energy	Related	l SEs		
H Wind energy			.	
J Solar energy			Data A	naiysis
J Solar energy	Item	State	Local	Error Analysis
	F	6		□Guessing
	G*	81		Careless Error
	H	1 12		Mixed Up Concepts
	In	nplicat	ions for li	nstruction/Notes
^e Correct answer (G)				



5.7(C) identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels	Analysi	s of Asse	ssed Standards
2012 024	Dual Coding	Content	Readiness
2013 – Q24		Process	5.2(D)
24 The poster shown below advertises tours of a power plant.	Stimulus		
	Thinking		
Visit the Power Plant	Related SEs		
We have enough cheap energy to last thousands of years.			
Our energy does not pollute the air.	Item State	Data Ar Local	
	F 11		Error Analysis
Here's how it works.	G 13 H 14		Careless Error
Power plant	J* 62		Mixed Up Concepts
Cold water into well Steam from nearby well Water flowing through hot rocks underground			nstruction/Notes
This power plant produces electricity most likely by using			
F fossil fuels			
G biofuels			
H solar energy			
J geothermal energy			
* Correct answer (J)			



5.7(C) identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels	Analysis of Assessed Standards			ssed Standards
2013 – Q30		Dual Cadina		Readiness
2013 – Q30	Dual C	Dual Coding		5.1(B)
30 Many cities are taking actions to cause less harm to the environment. Which action produces energy from an alternative source?	Stimul	JS		
	Thinkir	ng		
F Burning coal to heat homes	Related	d SEs		
G Replacing lawns with plants that require less water			1	
H Using biofuels to generate electricity			Data Ai	nalysis
	Item	State	Local	Error Analysis
J Building a new water-treatment plant to improve water quality	F	15		
	G	16		Careless Error
	H*	54		Stopped too Early
	J	15		
	Ir	nplicat	ions for Ir	nstruction/Notes



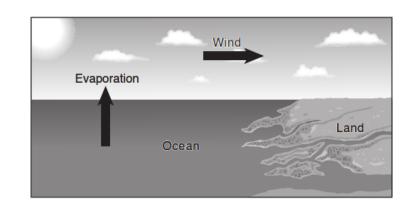
IQ Analysis Investigating the Question		SE 5.7	(D)	RC: 3
5.7(D)		Units:		
5.7(D) identify fossils as evidence of past living organisms and the nature of the environments at the time using models	Ana	alysis of Asses	ssed St	andards
2013 – Q9	Dual Codir	Content	Suppo	rting
2013 - Q9	Dual Couli	Process	5.2(D)	
9 The diagram below shows rock layers next to a road.	Stimulus			
4	Thinking			
	Related SE	s		
3		Data A	n ah kaia	
	Item St	Data Ar ate Local		Analyzia
2		7	Gue	Analysis ssing
		33 3		eless Error oped too Early
		7	Mixe	ed Up Concepts
1				
	Impl	ications for Ir	nstructi	on/Notes
Layer 3 contains many plant fossils. Layer 3 most likely formed in which of these environments?				
A Desert				
B Forest				
C Ocean				
D Tundra				
* Correct answer (B)				



Q Analysis Investigating the Question		SE 5.8	B(A) RC: 3
5.8(A)		Units:	
.8(A) differentiate between weather and climate	Ana	lysis of Asse	ssed Standards
	Duel On I		Supporting
2014 – Q18	Dual Codi	Process	
18 Each school year for 30 years, the amount of rain that fell at a school was measured and recorded. Tracking rainfall over a long period provides the most information	Stimulus		1
about which characteristic of an area?	Thinking		
F Climate	Related SE	s	
G Temperature of one day			
H Weather	ltama Cr	Data A ate Local	nalysis
J Type of soil		ate Local 71	Error Analysis
	· · · · ·	2	Guessing
	H :	26	Stopped too Ea
	J	1	Mixed Up Conce
	Impl	ications for l	nstruction/Notes
Correct answer (F)			

5.8(A) differentiate between weather and climate	Analysis of Assessed Standards				
2013 – Q37		Content	Supporting		
	Dual Coding	Process			
37 Which of these best describes dimate rather than weather?	Stimulus				
A Wind speed is changing as a storm moves through an area.	Thinking				
B The temperature is decreasing in a slow-moving cold front.	Related SEs				
C Annual high temperatures in the summer have increased over many decades.		nalysis			
D The rainfall during one year was greater than the rainfall during the following upper	Item Sta		Error Analysis		
year.	A 11 B 15		Guessing		
	C* 49		Stopped too Early		
	D 24		Mixed Up Concepts		
	Implications for Instruction/Notes				
* Correct answer (C)					

IQ Analysis Investigating the Question		SE 5.8	(B)	RC: 3	
5.8(B)					
5.8(B) explain how the Sun and the ocean interact in the water cycle	Analysi	Analysis of Assessed Standards			



- 27 The diagram above shows the process of evaporation over the ocean. What is the most likely effect of this process on the land areas nearby?
 - A Increased drought conditions
 - **B** Decreased erosion of the shoreline
 - **C** Increased precipitation
 - D Decreased solar energy

* Correct answer (C)

5.8(B) explain how the Sun and the ocean interact in the water cycle		Analysi	s of Asse	ssed Standards	
2012 015	Dual Coding		Content	Supporting	
2013 – Q15			Process		
15 Which of the following events in the water cycle is an example of solar energy being absorbed?	Stimulus Thinking				
A Water vapor condensing to form douds					
B Water evaporating from the surface of an ocean	Relate	Related SEs			
C Rain freezing as it falls toward the ground			Data Analysis		
D Clouds releasing precipitation over a mountain	Item	State	Local	Error Analysis	
	A	21	Gu	Guessing	
	B*	73		Careless Error	
	C D	3		Mixed Up Concepts	
* Correct answer (B)	lı	nplicat	ions for Ir	nstruction/Notes	

Dual C	odina		
		Process	
Stimulu	JS		
Thinkir	ng		
Related	d SEs		
		Data A	nalysis
ltem	State	Local	Error Analysis
Α	16		
В	17		Careless Error
C*	62		Stopped too Early
D	5		Mixed Up Concepts



Q Analysis Investigating the Question			SE 5.8	3(C)	RC: 3
SE: 5.8(C)	_		Units:		
			Uniter		
5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the sun across the sky	A	Analysis	s of Asses	ssed Sta	ndards
2015 – Q18	Dual Co	oding	Content Process	Readine	ess
18 A student draws diagrams of her house and the location of the sun in the sky. Which diagram below does not correctly represent the location of the sun at the time	Stimulu	s		()	
indicated?	Thinkin	q			
	Related	SEs			
			Data Ar	nalysis	
F F	Item	State	Local	Error A	nalysis
West East West East	F	12 21		□Gues □Carel	sing ess Error
12:05 р.м. 8:45 л.м.	H*	51		Stopp	ed too Early
	J	16			Up Concep
West East West East 10:15 A.M. 7:00 p.m.					
Correct answer (H)					
8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the		Nalysi s	s of Asses	ssed Sta	ndards
8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky		-	s of Asses		
8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 – Q33	Dual Co	-		Readine	
8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 – Q33	Dual Co	oding	Content	Readine	
 Correct answer (H) 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 – Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day 	Dual Co	oding	Content	Readine	
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 - Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? 	Dual Co Stimulu	oding s g	Content	Readine	
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 - Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day 	Dual Co Stimulu Thinkin	oding s g	Content Process	Readine	
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 – Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day B The appearance of shadows changing throughout the day 	Dual Co Stimulu Thinkin	oding s g	Content	Readine 5.3(A) nalysis	255
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 - Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day B The appearance of shadows changing throughout the day C The presence of other planets in the night sky 	Dual Co Stimulu Thinkin Related	oding s g SEs State 3	Content Process	Readine 5.3(A) nalysis Error Au	nalysis sing
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 - Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day B The appearance of shadows changing throughout the day C The presence of other planets in the night sky 	Dual Co Stimulu Thinkin Related	oding s g SEs State	Content Process	Readine 5.3(A) nalysis Error Ai Gues Carel Stopp	nalysis sing ess Error ped too Early
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the in across the sky 015 - Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day B The appearance of shadows changing throughout the day C The presence of other planets in the night sky 	Dual Co Stimulu Thinkin Related Item A B*	oding s g SEs State 3 67	Content Process	Readine 5.3(A) nalysis Error Ai Gues Carel Stopp	nalysis sing ess Error ped too Early
 8(C) demonstrate that Earth rotates on its axis once approximately every 4 hours causing the day/night cycle and the apparent movement of the un across the sky 015 - Q33 3 A student is looking for evidence that Earth is always rotating on its axis. Which of the following would provide the best evidence? A The different amount of rain that falls each day B The appearance of shadows changing throughout the day C The presence of other planets in the night sky 	Dual Co Stimulu Thinkin Related Item A B* C D	oding s g SEs State 3 67 6 24	Content Process	Readine 5.3(A) nalysis Error Au Gues Carel Stopp Mixeo	ess nalysis sing ess Error ped too Early d Up Concep

* Correct answer (B)



5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky

20	14 – Q1	Dual C	Dual Coding		Readiness		
20	14 - Q1			Process	5.3(C)		
1	Some students used a globe to model the rotation of Earth. They shaded in Texas on the globe, as shown below. They rotated the globe and observed that Texas was in	Stimulu	ıs				
	exactly the same place after each rotation.	Thinkin	ng				
	and the second se	Related	l SEs				
		Data Analysis					
				Local	Error Analysis		
		Α	2		Guessing		
		В	1		Careless Error		
		C*	86		Stopped too Early		
		D	10				
	en la	Implications for Instruction/Notes					
	The students could rotate the globe quickly or slowly. If the globe could rotate only at the rate that Earth actually rotates, about how long would each complete rotation take?						
	A 30 days						
	B 60 minutes						
	C 24 hours						
	D 365 days						
* C	orrect answer (C)						



5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky

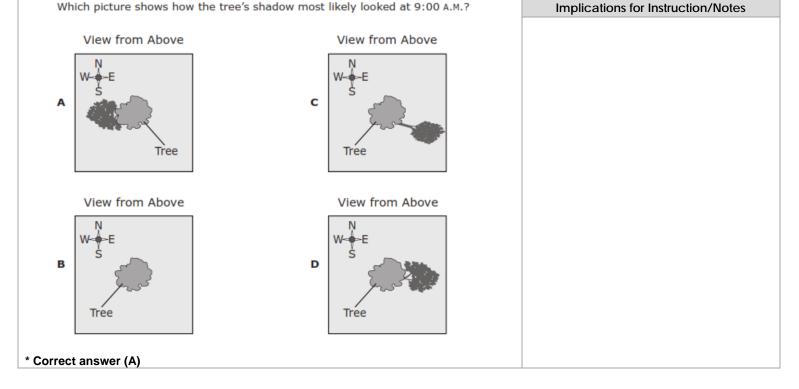
2014 - Q35

35 Shadows cast by objects change throughout the day. The picture below shows the shadow cast by a tree at 3:00 P.M.

View from Above

Which picture shows how the tree's shadow most likely looked at 9:00 A.M.?

Tree



Analysis of Assessed Standards

Data Analysis

Local

Readiness

Error Analysis

Guessing Careless Error

Stopped too Early

Mixed Up Concepts

5.2(D)

Content

Process

Dual Coding

Stimulus

Thinking

Item

A*

в

С

D

Related SEs

State

63

8

18

11



5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky	Analysis of Assessed Standards			
2013 – Q5	Dual Coding	Content Process	Readiness	
A.				
	Stimulus			
	Thinking			
Rotation	Related SEs			
of Earth		Data Ar	alveis	
	Item State	Local	Error Analysis	
	A* 84		Guessing	
8	B 2 C 0		Careless Error	
	D 14		Mixed Up Concepts	
5 Which of these cycles is a direct result of Earth's rotation?	Implications for Instruction/Notes			
A Day and night				
B Moon phases				
C Rainfall and evaporation				
D Seasons				
* Correct answer (A)				
	A malu vai	f A		
5.8(C) demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky	Anarysi	S OF ASSe	ssed Standards	
2013 – Q32	Dual Coding	Content	Readiness	
		Process		
32 On which side of a house in Texas should a window be placed so that the people inside the house can see the sunrise each day through the window?	Stimulus			
F North	Thinking			
r nyidi				
C Coult	Related SEs			
G South	Related SEs	Data Ar		
G South H East	Related SEs	Data Ar Local		
	Item State F 16		Error Analysis	
H East	Item State F 16 G 8		Error Analysis	
H East	Item State F 16		Error Analysis	
H East	Item State F 16 G 8 H* 54 J 22	Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts	
H East	Item State F 16 G 8 H* 54 J 22	Local	Error Analysis Guessing Careless Error Stopped too Early	
H East	Item State F 16 G 8 H* 54 J 22	Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts	
H East	Item State F 16 G 8 H* 54 J 22	Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts	



2 Ana	lysis Investigating the Question			SE 5.8	(D)	RC: 3
8 (D)				Units:		
B (D) id	lentify and compare the physical characteristics of the Su	n, Earth, A	nalysi	s of Asses	ssed Sta	andards
nd Moo	on				-	
15 – C	210	Dual Co	ding	Content	Suppor	ting
6		halaw		Process		
Som	ie characteristics of objects in the solar system are listed	Stimulus	6			
	Characteristics of Some Objects in	Thinking	J			
		Related	SEs			
		elsius.		Data Ar	nalvsis	
		Item	State	Local	_	Analysis
	-	F G*	15 53		Gues	ssing eless Error
		H	6		Stop	ped too Early
		J	26			d Up Concepts
		Im	plicat	ions for Ir	nstructio	on/Notes
Г						
	• The core temperature is 15 million degrees Celsius.					
-						
L	• Rocks and dust can be found on the surface.					
-						
	• Meteor craters can be found on the surface.					
1	• The source of light is the sun.					
	 An ender characteristics of objects in the solar system are listed below. Characteristics of Some Objects in the Solar System The core temperature is 15 million degrees Celsius Meteor craters can be found on the surface. The source of light is the sun. Water covers most of the surface. Rocks and dust can be found on the surface. The core temperature is 15 million degrees Celsius. Meteor craters can be found on the surface. The core temperature is 15 million degrees Celsius. Meteor craters can be found on the surface. Water covers most of the surface. Water covers most of the surface. Meteor craters can be found on the surface. Meteor craters can be found on the surface. The source of light is the sun. Rocks and dust can be found on the surface. The source of light is the sun. Meteor craters can be found on the surface. The core temperature is 15 million degrees Celsius. Meteor craters can be found on the surface. The source of light is the sun. Rocks and dust can be found on the surface. Meteor craters can be found on the surface. Meteor craters most of the surface. Meteor craters can be found on the surface. Meteor craters can be found on the surface. Meteor craters can be found on the surface. 					
г						
	• The core temperature is 15 million degrees Celsius.					
н						
L	• Rocks and dust can be found on the surface.					
Г						
ן נ	_					
	• Rocks and dust can be found on the surface.					
-						
orrect	answer (G)					



IQ Analy	ysis Investi	gating	g the Que	estion				SE 5.9	(A)	RC: 4
SE: 5.9(A	A)							Units:		
					ecosystem by		Analysi	s of Asses	ssed Sta	andards
2015 – Q	 5.9(A) A) observe the way organisms live and survive in their ecosystem lacting with the living and non-living elements 5 – Q11 The table below lists ways that four organisms obtain energy. Methods for Obtaining Energy Organism Method Oak tree Produces food through photosynthesis Mushroom Absorbs nutrients from decomposing plants and ar Cottontail rabbit Eats grasses, twigs, and bark Mountain lion Preys on deer, wild hogs, and rodents Which organism obtains energy without depending on another organism? A Oak tree B Mushroom C Cottontail rabbit D Mountain lion rect answer (A) A) observe the way organisms live and survive in their ecosystem acting with the living and non-living elements 5 – Q21 The table below lists the preferred diet of several types of birds. Preferred Diets of Birds Type of Bird Preferred Diet American goldfinch Seeds from grasses and wildflowers Eastern bluebird A large variety of insects Lesser goldfinch Seeds from sunflower plants 					Dual C	oding	Content	Readin	ess
11 The ta	able below lists	ways tha	at four orgar	nisms obtain energ	v.			Process	5.2(D)	
			-	-	/-	Stimulu	JS			
	Organism	Pietri	1003 101 00			Thinkir	ng			
07					Related	SEs				
								Data A	aalveie	
						Item	State	Data Ar Local	_	
						A*	79	LUCAI		nalysis
THE		FICYS 0	on deer, wild	nogs, and rouents		B	8			ssing less Error
						C	8		Stop	ped too Early
Which	 5.9(A) A) observe the way organisms live and survive in their ecosystem acting with the living and non-living elements 5 – Q11 The table below lists ways that four organisms obtain energy. Methods for Obtaining Energy Organism Method Oak tree Produces food through photosynthesis Mushroom Absorbs nutrients from decomposing plants and al Cottontail rabbit Eats grasses, twigs, and bark Mountain lion Preys on deer, wild hogs, and rodents Which organism obtains energy without depending on another organism A Oak tree B Mushroom C cottontail rabbit D Mountain lion rect answer (A) A) observe the way organisms live and survive in their ecosystem acting with the living and non-living elements 5 – Q21 The table below lists the preferred diet of several types of birds. Preferred Diets of Birds Type of Bird Preferred Diet American goldfinch Seeds from grasses and wildflowers Eastern bluebird A large variety of insects Lesser goldfinch Seeds from sunflower plants Purple martin Winged insects Yellow warbler Caterpillars, moths, mosquitoes, and be 			er organism?	D	5		Mixe	d Up Concepts	
A Oa					Ir	nplicat	ions for Ir	nstructio	on/Notes	
B Mu	ushroom						-ipiiout			
C Co	ottontail rabbit									
D Mo	ountain lion									
* Correct a	nswer (A)									
					ecosystem by		Analysi	s of Asse	ssed Sta	andards
2015 - 0	21					Dual C	odina	Content	Readin	ess
2010 Q	<u> </u>							Process 5.2(G)		
21 The ta	able below lists	the pref	ferred diet o	of several types of	f birds.	Stimulu	IS			
		I	Preferred [Diets of Birds		Thinkir				
	Type of B	Bird		Preferred Di	et	Related	-			
			Seeds from			Neialet	1 325			
				-				Data Ar	nalysis	
				-	2	Item	State	Local	Error A	nalysis
					5	Α	9			
	2015 – Q11 11 The table below lists ways that four organisms obtain energy. Methods for Obtaining Energy Organism Method Oak tree Produces food through photosynthesis Mushroom Absorbs nutrients from decomposing plants and a Cottontail rabbit Cottontail rabbit Eats grasses, twigs, and bark Mountain lion Preys on deer, wild hogs, and rodents Which organism obtains energy without depending on another organism A Oak tree B Mushroom Cottontail rabbit D Mountain lion 2015 – Q21 2015 – Q21 21 The table below lists the preferred diet of several types of birds. Preferred Diets of Birds Preferred Diets of Birds Eastern bluebird A large variety of insects Lesser goldfinch Seeds from sunflower plants Purple martin Winged insects Yellow warbler Caterpillars, moths, mosquitoes, and to be plants 					В	12			less Error
	Yellow warble	er	Caterpillar	s, moths, mosqui	toes, and beetles	C*	43 37			ped too Early d Up Concepts
Baser	on this inform	ation w	which two ty	nes of birds do n a	t compete for food		01			
			men wo cy			Ir	nplicat	ions for Ir	nstructio	on/Notes
A Pu	Methods for Obtaining Energy Method Organism Method Qak tree Produces food through photosynthesis Mushroom Absorbs nutrients from decomposing plants and an Coltontail rabbit Eats grasses, twigs, and bark Mountain lion Preys on deer, wild hogs, and rodents Which organism obtains energy without depending on another organism? A Oak tree B Mushroom Coltontail rabbit Descent to the way organisms live and survive in their organism? Q Observe the way organisms live and survive in their ecosystem lacting with the living and non-living elements Descent to the way organisms live and survive in their ecosystem lacting with the living and non-living elements G - Q21 Type of Bird Preferred Diets of Birds Eastern Diubird Seeds from sunflowers and wildflowers Eastern Diubird A large variety of insects Lesser goldfinch Seeds from sunflower plants Purple martin Winged insects Purple martin Winged insects Based on this information, which two types of birds do not compete for resources? A Purple martin and yellow warbler E Eastern bluebird and purple martin C Lesser goldfinch and eastern bluebird D American goldfinch and lesser go									
B Ea	racting with the living and non-living elements 5 - Q11 The table below lists ways that four organisms obtain energy. <u>Methods for Obtaining Energy</u> <u>Organism Method</u> <u>Oak tree</u> <u>Produces food through photosynthesis</u> <u>Mushroom</u> <u>Absorbs nutrients from decomposing plants and a</u> <u>Cottontail rabbit</u> <u>Eats grasses, twigs, and bark</u> <u>Mountain lion</u> <u>Preys on deer, wild hogs, and rodents</u> Which organism obtains energy without depending on another organism <u>A</u> Oak tree <u>B</u> Mushroom <u>C</u> Cottontail rabbit <u>D</u> Mountain lion <u>rrect answer (A)</u> <u>A</u> observe the way organisms live and survive in their ecosystem racting with the living and non-living elements 5 - Q21 The table below lists the preferred diet of several types of birds. <u>Preferred Diets of Birds</u> <u>Type of Bird</u> <u>Preferred Diets of Birds</u> <u>Eastern bluebird</u> <u>A large variety of insects</u> <u>Lesser goldfinch</u> <u>Seeds from grasses and wildflowers</u> <u>Eastern bluebird</u> <u>A large variety of insects</u> <u>Lesser goldfinch</u> <u>Seeds from sunflower plants</u> <u>Purple martin</u> <u>Winged insects</u> <u>Vellow warbler</u> <u>Caterpillars, moths, mosquitoes, and b</u> Based on this information, which two types of birds do not competer resources? A Purple martin and yellow warbler B Eastern bluebird and purple martin C Lesser goldfinch and eastern bluebird									
C Le	(A) observe the way organisms live and survive in their ecosystem to a constrain the living and non-living elements 15 - Q11 1 The table below lists ways that four organisms obtain energy. Methods for Obtaining Energy Organism Method Oak tree Produces food through photosynthesis Mushroom Absorbs nutrients from decomposing plants and an Cottontail rabbit Eats grasses, twigs, and bark Mountain lion Preys on deer, wild hogs, and rodents Which organism obtains energy without depending on another organism? A Oak tree B Mushroom C Cottontail rabbit D Mountain lion Derect answer (A) C (A) observe the way organisms live and survive in their ecosystem to a cottontail rabbit D Mountain lion Derect answer (A) (A) observe the way organisms live and survive in their ecosystem to a cottontail rabbit D Mountain lion Derect answer (A) (A) observe the way organisms live and survive in their ecosystem to a cottontail rabbit D Mountain lion Derect answer (A) Easter a consect a consect a consect a consect a consect a consect a consecon a consecon consecon a consect a consect a consect a consect a									
D An	nerican goldfind	ch and le	esser goldfir	nch						
* Correct a	nswer (C)									



5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements	A	nalysis	of Asses	ssed Standards
			Content	Readiness
2015 – Q27	Dual Co	ding	Process	
27 A student observes the following activities while walking in a park.				
	Stimulus	5		
A fire ant digging a tunnel in sandy soil	Thinking	J		
 A blue jay drinking water from a puddle A bee collecting pollen from a tree 	Related	SEs		
A hawk circling in the air over a tree			Data Ar	nalysis
	Item	State	Local	Error Analysis
Which of these living organisms was interacting with another living organism in the environment?	A B	6 6		☐Guessing ☐Careless Error
A Fire ant	C*	66		Stopped too Early
	D	22		
B Blue jay	Im	plicati	ons for Ir	nstruction/Notes
C Bee				
D Hawk				
* Correct answer (C)				
5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements	A	nalysis	of Asses	ssed Standards
			Content	Readiness
2014 – Q21	Dual Coding			
			Process	
		g	Process	
21 A prickly pear cactus is shown below.	Stimulus		Process	
		6	Process	
	Stimulus	5	Process	
	Stimulus	5		nalysis
	Stimulus Thinking Related	s SEs State	Process Data Ar Local	nalysis Error Analysis
	Stimulus Thinking Related	s J SEs	Data Ar	
	Stimulus Thinking Related Item A B C*	s SEs State 28 6 58	Data Ar	Error Analysis Guessing Careless Error Stopped too Early
	Stimulus Thinking Related Item A B	s SEs State 28 6	Data Ar	Error Analysis
	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early
	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
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<text><text><text><text></text></text></text></text>	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
<text><text><text><text><list-item><list-item><list-item></list-item></list-item></list-item></text></text></text></text>	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
<text><text><text><text><list-item><list-item><list-item></list-item></list-item></list-item></text></text></text></text>	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts
<text><text><text><text><list-item><list-item><list-item></list-item></list-item></list-item></text></text></text></text>	Stimulus Thinking Related Item A B C* D	s SEs State 28 6 58 8	Data Ar Local	Error Analysis Guessing Careless Error Stopped too Early Mixed Up Concepts

5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements	ŀ	Analysi	s of Asse	ssed Standards	
2014 – Q41	Dual Co	oding	Content	Readiness	
			Process	5.2(D)	
41 Some facts about birds called cattle egrets are listed below.	Stimulu	16			
Cattle Egrets	Thinkin				
	Related SEs				
 They have yellow bills and light-orange legs. They make nests in trees away from predators. 	Telated	OE3			
3. They eat ticks off cattle while the cattle graze.	Item	.	Data Analysis		
4. They are often found in the same fields as cattle.		State 2	Local	Error Analysis	
Stood Stood	A B	19		Careless Error	
Which of these facts best describes how these birds depend on other animals to	C*	74 5		Stopped too Early	
Which of these facts best describes how these birds depend on other animals to survive?		5			
A Fact 1	Implications for Instruction/Notes				
B Fact 2					
C Fact 3					
D Fact 4					
* Correct answer (C)					
5.9(A) observe the way organisms live and survive in their ecosystem by	ŀ	Analysi	s of Asse	ssed Standards	
interacting with the living and non-living elements		5			
2013 – Q3	Dual Co	odina	Content	Readiness	
2013 - Q3	Dual C	Jung	Process		
3 Some beetles break down the remains of dead animals. Some mushrooms break					
down the remains of dead trees. How do these actions most benefit plants?	Stimulu				
A By returning nutrients to the soil	Thinkin	•			
B By releasing oxygen into the air	Related	SEs			
C By making space for new animals			Data A	nalysis	
D By decreasing the population of herbivores	Item	State	Local	Error Analysis	
by decreasing the population of nerowores	A* B	82 10		☐Guessing ☐Careless Error	
	С	4		Stopped too Early	
	D	5			
	In	nplicat	ions for Ir	nstruction/Notes	

* Correct answer (A)

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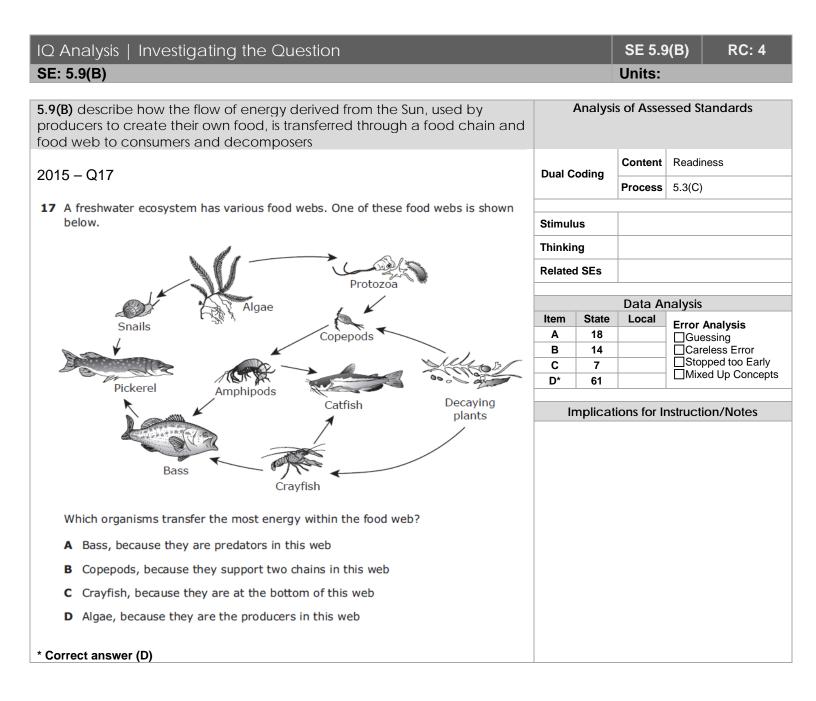


5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements	Ana	lysis of Asse	essed Standards
2013 – Q25	Dual Codin	•	Readiness 5.2(D)
25 Some facts about a bird called the painted redstart are listed in the box shown below.	Stimulus		
Facts About the Painted Redstart	Thinking Related SE	s	
 1. Builds nests on hillsides covered with dense vegetation 2. Usually raises one group of young each year 3. Hunts for insects and spiders on plant leaves 4. Feeds on sugar water and peanut butter at feeders Which fact best describes one way this bird changes its environment to meet its needs?	Item Sta A* 4 B 1 C 2	-	
A Fact 1	Impli	cations for	Instruction/Notes
B Fact 2 C Fact 3 D Fact 4			
C Fact 3			
 c Fact 3 D Fact 4 * Correct answer (A) 5.9(A) observe the way organisms live and survive in their ecosystem by 	Ana	lysis of Asse	essed Standards
C Fact 3 D Fact 4	Ana Dual Codin	Content	Readiness
 C Fatt 3 D Fatt 4 * Correct answer (A) 5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements 		Content	Readiness
 c Fact 3 D Fact 4 * Correct answer (A) 5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements 2013 – Q29 29 In fall and winter many trees lose their leaves in response to cooler temperatures 	Dual Codin Stimulus	Generation Content Process	Readiness
 c Fact 3 D Fact 4 * Correct answer (A) 5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements 2013 – Q29 29 In fall and winter many trees lose their leaves in response to cooler temperatures and — 	Dual Codin Stimulus Thinking	s	Readiness
 c Fatt 3 D Fatt 4 c Correct answer (A) 5.9(A) observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements 2013 – Q29 29 In fall and winter many trees lose their leaves in response to cooler temperatures and – A a decrease in average wind speed 	Dual Codin Stimulus Thinking Related SE Item Sta A 1 B* 4	s	Readiness

* Correct answer (B)

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5.9(B) describe how the flow of energy derived from the Sun, used by Analysis of Assessed Standards producers to create their own food, is transferred through a food chain and food web to consumers and decomposers Content Readiness 2015 – Q32 **Dual Coding** Process 5.3(C) 32 A food web for some organisms in an African rain forest is shown below. Stimulus Leopards Thinking Related SEs Data Analysis Item State Local **Error Analysis** Civets F 7 Guessing Careless Error G 8 Woody Stopped too Early H* 75 Mixed Up Concepts vines 10 J Implications for Instruction/Notes Gorillas Grasshoppers Wild celery Which organisms in this food web eat only consumers? F Okapis G Civets H Leopards J Gorillas

* Correct answer (H)



5.9(B) describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers

Analysis of Assessed Standards

2014 – Q9

9 Which table shows the correct role of each organism in the food chain below?

 $\mathsf{Algae} \longrightarrow \mathsf{shrimp} \longrightarrow \mathsf{arctic} \ \mathsf{cod} \longrightarrow \mathsf{ringed} \ \mathsf{seals} \longrightarrow \mathsf{polar} \ \mathsf{bears}$

	Organlsm	Role
	Algae	Producers
A	Shrimp	Consumers
	Arctic cod	Consumers
	Ringed seals	Consumers
	Polar bears	Consumers

	Organism	Role		
в	Algae	Decomposers		
	Shrimp	Producers		
	Arctic cod	Producers		
	Ringed seals	Producers		
	Polar bears	Consumers		

	Organism	Role		
	Algae	Producers		
с	Shrimp	Producers		
	Arctic cod	Consumers		
	Ringed seals	Consumers		
	Polar bears	Consumers		

	Organism	Role
	Algae	Producers
D	Shrimp	Decomposers
_	Arctic cod	Decomposers
	Ringed seals	Decomposers
	Polar bears	Consumers

Dual Coding	Content	Readiness			
Dual Coding		Process	5.2(D)		
Stimulus					
Thinkir	ng				
Related	d SEs				
Data Analysis					
ltem	State	Local	Error Analysis		

Item	State	Local	Error Analysis		
A*	73				
В	11		Careless Error		
С	9		Stopped too Early		
D	7		Mixed Up Concepts		

Implications for Instruction/Notes	

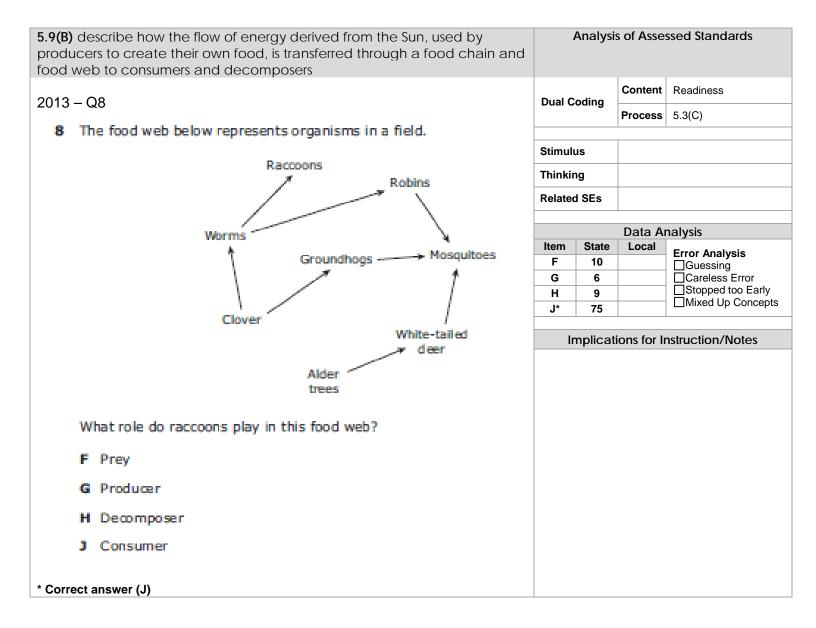
* Correct answer (A)

5.9(B) describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers	F	Analysi	s of Asse	ssed Standards
0014 000			Content	Readiness
014 – Q28		Dual Coding		
28 In a food chain, energy does NOT flow directly from —	Stimulu	s		
F producer to decomposer	Thinkin	g		
G producer to consumer	Related	SEs		
U consumer to decomposer	Data Analysis			nalysis
H consumer to decomposer	Item	State	Local	Error Analysis
J consumer to producer	F G	30 11		□Guessing □Careless Error
	H	12		Stopped too Early
	J*	47		Mixed Up Concepts
* Correct answer (J)	In	nplicat	ions for lı	nstruction/Notes



5.9(B) describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers	Analysi	s of Asse	ssed Standards
2014 – Q37	Dual Coding	Content	Readiness
		Process	5.3(C)
37 The food web below is made up of organisms that live in a forest.	Stimulus		
Mice	Thinking		
Foxes	Related SEs		
State and the second se		Data Ai	aalveie
Owls Owls	Item State	Local	
	A 4		Error Analysis
	B* 83		Careless Error
	C 6 D 7		Stopped too Early
Rabbits Grasses and seeds	Implicat	ions for lr	nstruction/Notes
Which change would most likely occur if all the producers in this ecosystem were removed?			
A The mice would become the new producers.			
B All the animals would either die or move away.			
C The number of mice would increase.			
D All the animal populations would increase.			
* Correct answer (B)			









5.9(B) describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers

2013 – Q27

27 The diets of several types of prairie animals are described in the table below.

Diets of Some Prairie Animals

Type of Animal	Foods Eaten		
Badger	Prairie dogs, rabbits		
Prairie dog	Leaves, stems, and roots of grasses		
Grasshopper	Grasses, wildflowers		
Sparrow	Insects, seeds		
Coyote	Prairie dogs, rabbits		
Eagle	Prairie dogs, rabbits, coyotes		

Which of the following prairie food chains is in the correct order?

- A Eagles → prairie dogs → coyotes
- B Wildflowers → badgers → grasshoppers
- C Sparrows → seeds → insects
- D Grasses → prairie dogs → badgers

* Correct answer (D)

Dual Coding		Content	Readiness
		Process	5.2(D)
Stimul	us		
Thinkir	ng		
Related	d SEs		
		Data Ar	nalysis
Item	State	Local	Error Analysis
Α	14		
В	3		Careless Error
С	12		Stopped too Early
D*	71		Mixed Up Concepts
	nnligat	ions for Ir	nstruction/Notes

Analysis of Assessed Standards



Q Analysis Investigating the	Question				SE 5.9	(C)	RC: 4
SE: 5.9(C)					Units:		
5.9(C) predict the effects of change organisms, including humans, such a puilding of highways			ŀ	Analysi	s of Asse	ssed Sta	indards
2015 – Q30			Dual Co	oding	Content	Support	ing
30 The nesting habits of four types of bird	ts are described in the tabl	a balow			Process	5.2(D)	
		e below.	Stimulu	IS			
	ng Habits	1	Thinkin	g			
Type of Bird	Nest Description	4	Related	SEs			
2012	The nest hangs from				Data A	nalysis	
Baltimore	thin branches in tall trees.		Item F	State 36	Local	Error A	
onoie		4	G	4			ess Error
	The nest is attached		H* J	57 3			bed too Early d Up Concept
Barn swallow	under the roof of a house or barn.				tions for Instruction/Notes		n/Notes
Downy woodpecker	The nest is dug into rotting or decaying trees.						
Belted kingfisher	The nest is built in tunnels or burrows.						
If all the dead branches and dying tree nesting habit would be most affected?		moved, which bird's					
F Baltimore oriole							
G Barn swallow							
H Downy woodpecker							
J Belted kingfisher							
Correct answer (H)							



5.9(C) predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways

Analysis of Assessed Standards

2014 – Q25

25 Prairie dogs eat plants and dig underground tunnels. Prairie dog tunnels help break up hard prairie soils, and the animals' waste adds nutrients to the soil. In the past, large groups of prairie dogs lived in many parts of the U.S. Great Plains, but people have destroyed most of these colonies.



Which of these will most likely happen when prairie dogs are removed from an area?

- A The population of predators that eat prairie dogs will decrease.
- B The population of plants that prairie dogs eat will decrease.
- **C** The nutrients in the soil will increase.
- D The number of underground tunnels will increase.

* Correct answer (A)

Dual Coding	Content	Supporting					
	Process	5.2(D)					
Stimulus							
Thinking							
Related SEs							
Data Analysis							

Data Analysis									
Item	State	Local	Error Analysis						
A *	78								
В	10		Careless Error						
С	8		Stopped too Early						
D	4		Mixed Up Concepts						





5.9(C) predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways

2014 - Q43

43 Wild Texas hogs, similar to the one shown below, are descended from hogs brought here from other countries.



These wild hogs eat many different kinds of foods, including plants, fungi, and insects. Besides being very destructive to the habitats of other animals, how do wild hogs most likely harm other animals? A By competing with other animals for food

- **B** By moving slower than most other animals
- C By causing other animals to reproduce more
- D By eating foods that no other animals eat

* Correct answer (A)

Analysis of Assessed Standards

	Dual Coding		Supporting			
Dual C	oung	Process	5.2(D)			
Stimulus						
Thinking						
Related SEs						
Data Analysis						
ltem	State	Local	Error Analysis			
A *	78					
В	3		Careless Error			
С	10		Stopped too Early			
D	9		Mixed Up Concepts			
		1				
Implications for Instruction/Notes						



5.9(C) predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways

Analysis of Assessed Standards

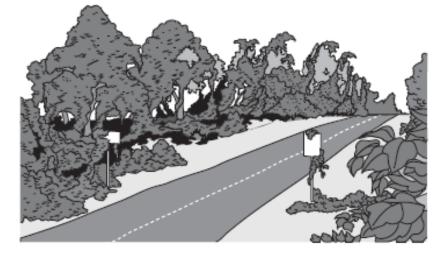
Dual Coding	Content	Supporting
	Process	5.2(D)
	1	
Stimulus		
Thinking		
Related SEs		

	Data Analysis							
Item	State	Local	Error Analysis					
F*	59							
G	13		Careless Error					
Н	7		Stopped too Early					
J	21		Mixed Up Concepts					

Implications for Instruction/Notes

2013 – Q36

36 The picture below shows a type of plant called kudzu. Kudzu is a fast-growing Asian vine that was introduced into the United States. Kudzu quickly uses available resources and can completely cover the plants in an area.



What effect does the rapid growth of kudzu most likely have on an ecosystem?

- F The variety of native plants decreases.
- G The water supply in the area increases.
- H Weather patterns in the area change.
- J The number of other plants increases.

* Correct answer (F)



IQ Analysis Investigating the Question	SE 5.9	(D)	RC: 4	
SE: 5.9(D)		Units:		
5.9(D) identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals	Analys	is of Asses	sed Sta	andards
2015 – Q13	Dual Coding	Content	Support	ting
2013 - Q13	Dual oounig	Process	ess	
12 Which statement best describes the relationship between humans and plants in the				

- **13** Which statement best describes the relationship between humans and plants in the carbon dioxide-oxygen cycle?
 - A Humans depend on oxygen released into the air by plants, and plants depend on carbon dioxide that humans release into the air.
 - **B** Plants produce carbon dioxide as a product of photosynthesis and release it into the air to provide energy for humans.
 - C Plants depend primarily on energy supplied by oxygen for photosynthesis, a process which releases carbon dioxide needed by humans.
 - Humans and plants use gases in the air and the energy of sunlight to produce D their own food.

	, in real y of		
Dual Coding		Content	Supporting
		Process	
Stimul	us		
Thinking			
Related SEs			
		Data Ar	nalysis
ltem	State	Local	Error Analysis
A*	83		
В	9		Careless Error
С			Stopped too Early
П			Mixed Up Concepts

Implications fo	r Instruction/Notes
-----------------	---------------------

D

2

* Correct answer (A)

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5.9(D) identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals				Analysis of Assessed Standards			
2244			Dual Cadina		Content	Supporting	
20	2014 – Q5			Dual Coding			
						·	
5		nimals and plants use substances that cycle through the environment. Which	Stimul	us			
		ibstance is needed by plants to survive and is released into the environment by nimals?	Thinkir	ng			
	A	Oxygen	Related	d SEs			
	в	Sugar		Data Analysis			
	~	Salt	Item	State	Local	Error Analysis	
	C	Sait	A	20		Guessing	
	D	Carbon dioxide	В	0		Careless Error	
			C	0		Mixed Up Concepts	
			D*	79			
				nplicat	ions for l	nstruction/Notes	
* C	orre	ect answer (D)					



5.9(D) identify the significance of the carbon dioxide-oxygen cycle to the survival of plants and animals	9	Analysi	s of Asse	ssed Standards	
2013 – Q42		Dual Coding		Supporting	
			1		
42 Many types of plants grow in a forest ecosystem. How do plants affect the air that forest animals breathe?	Stimul	us			
The state of the s	Thinki	ng			
F Plants use oxygen from the air to make food.	Relate	d SEs			
G Plants release pollution into the air.					
H Plants release energy from the sun into the air.		Data Analysis			
 Director trains in contrast distribution and colonge converse into the size 	Item	State	Local	Error Analysis	
J Plants take in carbon dioxide and release oxygen into the air.	F				
	G	5		Careless Error	
	н	3		Stopped too Early	
	J*	83			
	li	nplicat	ions for Ir	nstruction/Notes	
* Correct answer (J)					



IQ Analysis Investigating the Question SE: 5.10(A)			SE 5.1 Units:	0(A)	RC: 4
5.10(A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals		Analys	is of Asse	ssed Sta	ndards
2015 – Q5	Dual C	oding	Content Process	Readine	SS
5 The whiskers of a river otter and the antennae of a cockroach are shown below.	Stimulı Thinkir				
	Related	-			
J/Fooile		State 67 2 2 2 29	Data Ai Local	Error Au	
© photobypixe	lr	nplicat	tions for Ir	nstructio	n/Notes
How do structures such as whiskers and antennae benefit organisms?					
A They help the organisms detect their surroundings.					
B They help the organisms eat food quickly.					
C They help the organisms fight predators.					
D None of these					
* Correct answer (A)					



5.10(A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals

Analysis of Assessed Standards

Dual Coding	Content	Readiness			
	Process				
Stimulus					
Thinking					
Related SEs					

Data Analysis						
Item	State	Local	Error Analysis			
F*	79					
G	3		Careless Error			
Н	8		Stopped too Early			
J	11		Mixed Up Concepts			

Implications for Instruction/Notes

2015 – Q34

34 Some animals, such as lions, have pointed teeth, while other animals, such as cattle, have flat teeth.





The difference in the shape of these animals' teeth is most closely related to -

- F the type of organisms the animals consume
- G the sounds the animals make
- H the habitat the animals live in
- J the type of predators the animals have

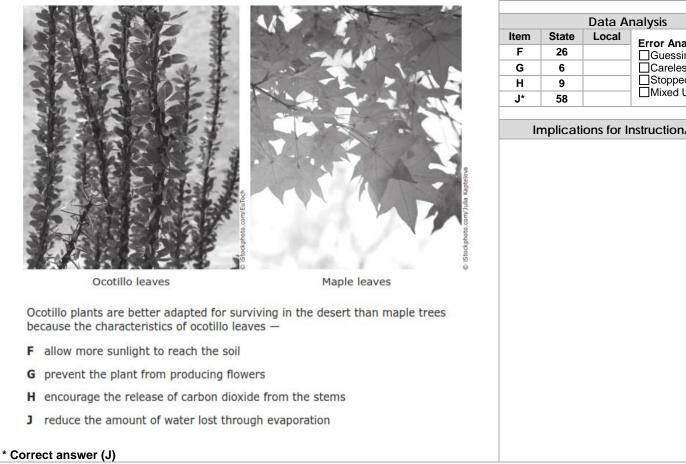
* Correct answer (F)



5.10(A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals

Analysis of Assessed Standards

16 The ocotillo is a desert plant with long, straight branches. Its leaves are small and appear for only a short time after a rain. Most of the time, the branches of the ocotillo do not have leaves. Maple trees grow in areas where water is more abundant than in the desert. Maple leaves can be very large and are present for most months of the year.



	1				
Dual Coding	Content	Readiness			
Buar obuing	Process	5.2(D)			
Stimulus					
Thinking					
Related SEs					

Data Analysis							
Item	State	Local	Error Analysis				
F	26						
G	6		Careless Error				
Н	9		Stopped too Early				
J*	58		Mixed Up Concepts				



5.10(A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals

Analysis of Assessed Standards

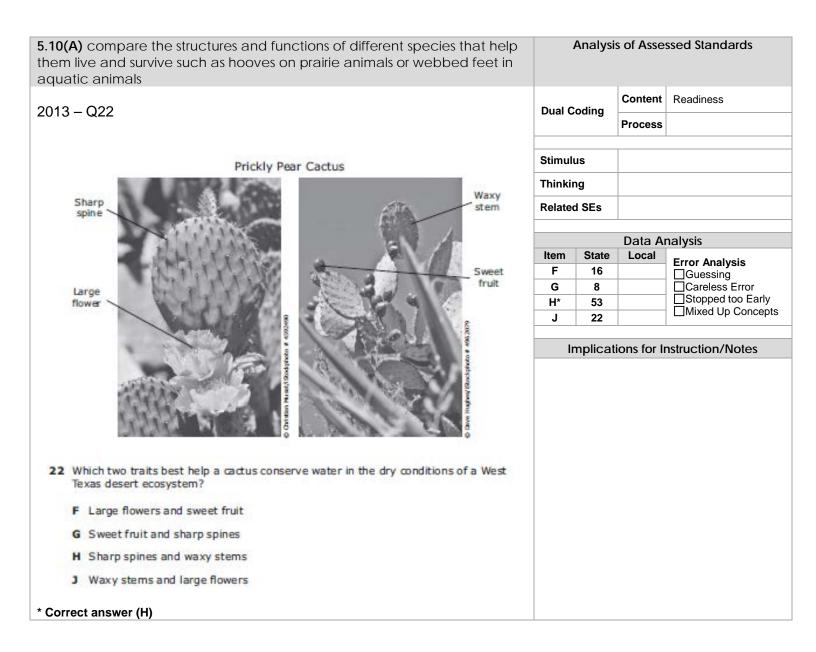
2014 – Q34

- **34** Most kangaroos have large, heavy tails, while spider monkeys have long, thin tails. Kangaroo tails are useful when the kangaroos are hopping and also when they are crawling around on the ground to feed. Spider monkey tails are useful when the spider monkeys are moving through trees. Both of these animals use their tails primarily for —
 - **F** grabbing and holding their food
 - G supporting and balancing their body
 - H attracting the attention of other animals
 - J carrying their young

Dual Coding		Content	Readiness	
Dual C	Dual Coding			
Stimul	us			
Thinkiı	ng			
Related	d SEs			
		Data A	nalysis	
Item	State	Data Ai Local	3	
ltem F	State 18	1	Error Analysis	
		1	2	
F	18	1	Error Analysis Guessing Careless Error Stopped too Early	
F G*	18 75	1	Error Analysis Guessing Careless Error	

* Correct answer (G)





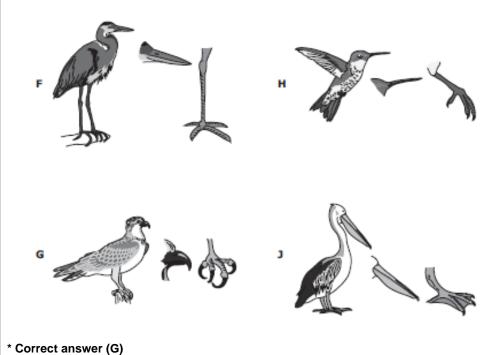


5.10(A) compare the structures and functions of different species that help them live and survive such as hooves on prairie animals or webbed feet in aquatic animals

Analysis of Assessed Standards

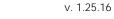
2013 – Q44

44 Eagles catch fish in rivers with their talons. They fly with the fish to a tree branch and tear the fish into small pieces. Which bird most likely catches and eats its food the way an eagle does?



Dual Coding		Readiness				
	Process	5.2(D)				
Stimulus						
Thinking						
Related SEs	;					
	Data Analysis					
Item Sta	te Local					

	Item	State	Local	Error Analysis
	F	5		
	G*	87		Careless Error
	Н	1		Stopped too Early
	J	6		Mixed Up Concepts



IQ Analysis	s Investigating the Question			SE 5.10	D(B)	RC: 4
SE: 5.10(B)				Units:		
spines on a	rentiate between inherited traits of plants and animals such as cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle	A	nalysis	s of Asses	ssed Sta	andards
2015 – Q3		Dual Co	ding	Content	Readiness	
•				Process		
3 A farmer k the bees.	keeps bees to pollinate crops. The farmer makes several observations about	Stimulus	s			
	Bees make return trips to drink sugar water from a	Thinking	9			
	 bowl placed 40 meters from their hive. Bees have dark eyes and black-and-yellow stripes. 	Related	SEs			
	 Bees produce honey from the nectar they collect. 			Data Ar	nalysis	
	• Bees will sting when threatened or disturbed.	Item	State	Local	Error A	nalysis
		A* B	65 1			sing less Error
Which of t	hese observations describes a learned behavior?	C	17		Stop	ped too Early
A Bees m their hi	nake return trips to drink sugar water from a bowl placed 40 meters from ive.	D	17			d Up Concepts
	ave dark eyes and black-and-yellow stripes.	Im	plicati	ons for Ir	nstructio	on/Notes
C Bees p	roduce honey from the nectar they collect.					
	ill sting when threatened or disturbed.					
* Correct ansv	ver (A)					
	and the fact that the second stand the different second second second second second second second second second	•	n a lu ali			
spines on a	rentiate between inherited traits of plants and animals such as cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle	A	nalysis	s of Asses	ssed Sta	andards
spines on a animal learn	•			s of Asses Content	ssed Sta	
spines on a	cactus or shape of a beak and learned behaviors such as an	A Dual Co			Readine	ess
spines on a animal learn 2015 – Q41	cactus or shape of a beak and learned behaviors such as an			Content	Readine	ess
spines on a animal learn 2015 – Q41 41 A group o	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle	Dual Co Stimulus	ding s	Content	Readine	ess
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands.	Dual Co	ding s	Content	Readine	ess
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle f students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their	Dual Co Stimulus	ding s	Content	Readine	ess
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers.	Dual Co Stimulus Thinking	ding s	Content	Readine 5.02(C)	ess
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle f students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their	Dual Co Stimulus Thinking Related	ding s SEs State	Content Process	Readine 5.02(C) nalysis Error A	nalysis
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers.	Dual Co Stimulus Thinking Related	ding s SEs State 10	Content Process	Readine 5.02(C) nalysis Error A Gues	ess nalysis ssing
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers.	Dual Co Stimulus Thinking Related Item A B C*	ding s SEs State 10 5 75	Content Process	Reading 5.02(C) nalysis Error A Guess Carel	ess nalysis sing less Error ped too Early
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers. 5. Seven students have pointer fingers and ring fingers that	Dual Co Stimulus Thinking Related Item A B	ding s SEs State 10 5	Content Process	Reading 5.02(C) nalysis Error A Guess Carel	ess nalysis sing less Error
spines on a animal learn 2015 – Q41 41 A group o appearance	cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers. 5. Seven students have pointer fingers and ring fingers that	Dual Co Stimulus Thinking Related Item A B C* D	ding s SEs SEs 10 5 75 10	Content Process	Readine 5.02(C) nalysis Error A Gues Carel Stopp Mixed	ess nalysis sing less Error ped too Early
spines on a animal learn 2015 – Q41 41 A group o appearance	 cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle of students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers. 5. Seven students have pointer fingers and ring fingers that are the same length. 	Dual Co Stimulus Thinking Related Item A B C* D	ding s SEs SEs 10 5 75 10	Content Process	Readine 5.02(C) nalysis Error A Gues Carel Stopp Mixed	nalysis sing less Error bed too Early d Up Concepts
spines on a animal learn 2015 – Q41 41 A group o appearance appearance Which of t A Observ	 cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle f students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers. 5. Seven students have pointer fingers and ring fingers that are the same length. 	Dual Co Stimulus Thinking Related Item A B C* D	ding s SEs SEs 10 5 75 10	Content Process	Readine 5.02(C) nalysis Error A Gues Carel Stopp Mixed	nalysis sing less Error bed too Early d Up Concepts
spines on a animal learn 2015 – Q41 41 A group o appearance () () () () () () () () () (cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle af students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers. 5. Seven students have pointer fingers and ring fingers that are the same length. 	Dual Co Stimulus Thinking Related Item A B C* D	ding s SEs SEs 10 5 75 10	Content Process	Readine 5.02(C) nalysis Error A Gues Carel Stopp Mixed	nalysis sing less Error bed too Early d Up Concepts
spines on a animal learn 2015 – Q41 41 A group o appearance appearance Which of t A Observ B Observ C Observ	 cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle f students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have rings on their fingers. 5. Seven students have pointer fingers and ring fingers that are the same length. 	Dual Co Stimulus Thinking Related Item A B C* D	ding s SEs SEs 10 5 75 10	Content Process	Readine 5.02(C) nalysis Error A Gues Carel Stopp Mixed	nalysis sing less Error bed too Early d Up Concepts
spines on a animal learn 2015 – Q41 41 A group o appearance appearance Which of t A Observ B Observ C Observ	 cactus or shape of a beak and learned behaviors such as an ing tricks or a child riding a bicycle f students made the observations listed below about the size, shape, and ce of their hands. 1. Two students have scars on their hands. 2. Five students have pointer fingers that are longer than their ring fingers. 3. Nine students have ring fingers that are longer than their pointer fingers. 4. Six students have pointer fingers and ring fingers that are the same length. the students' observations describe inherited traits? vations 2 and 5 only vations 2, 3, and 5 only observations 	Dual Co Stimulus Thinking Related Item A B C* D	ding s SEs SEs 10 5 75 10	Content Process	Readine 5.02(C) nalysis Error A Gues Carel Stopp Mixed	nalysis sing less Error bed too Early d Up Concepts

2014 – Q3

3 The caterpillars of monarch butterflies eat milkweed leaves. Milkweed leaves contain sap that is toxic to many animals but not to monarch butterfly caterpillars. This sap makes the monarch butterfly caterpillars toxic to predators and protects them from being eaten.



Analysis of Assessed Standards

Dual Cading	Content	Readiness
Dual Coding	Process	5.02(D)
Stimulus		
Thinking		
Related SEs		
	·	

Data Analysis								
Item	State	Local	Error Analysis					
Α	4							
B*	87		Careless Error					
С	7		Stopped too Early					
D	2		Mixed Up Concepts					

Implications for Instruction/Notes

Analysis of Assessed Standards

Data Analysis

Implications for Instruction/Notes

Local

Content

Process

Dual Coding

Stimulus

Thinking Related SEs

Item

F*

G

н

J

State

72

4

12

12

Readiness

Error Analysis

Careless Error Stopped too Early

Mixed Up Concepts

Guessing

Which of these is an inherited trait of monarch butterfly caterpillars?

- A The size of the milkweed leaves that the caterpillars eat
- B The ability of the caterpillars to eat toxic leaves without being harmed
- C The number of milkweed leaves the caterpillars eat each day
- **D** The number of leaves on the milkweed plants that the caterpillars visit each summer

* Correct answer (B)

5.10(B) differentiate between inherited traits of plants and animals such as spines on a cactus or shape of a beak and learned behaviors such as an animal learning tricks or a child riding a bicycle

2014 – Q30

- 30 Which of these is a learned behavior of a dog?
 - F Begging for food
 - G Drinking water
 - H Panting on a hot day
 - J Chewing on a bone

* Correct answer (F)



Analysis of Assessed Standards

2013 - Q13

13 Fox squirrels live in the trees of city parks throughout Texas. Each spring they build nests of twigs and leaves in the tops of the trees. Fox squirrels are often found near park benches, waiting to be fed by visitors.



Fox squirrel

For fox squirrels, which of these is a learned behavior?

- A Building a nest each spring
- B Taking food from people
- C Having a long, bushy tail
- D Having sharp claws

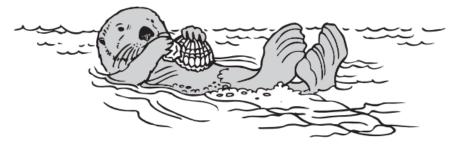
* Correct answer (B)

Dual Codin	Content	Readiness
	Process	5.2(D)
Stimulus		
Thinking		
Related SE	s	
	Data 4	nalysis
Item Sta		
A 2	7	Error Analysis
B* 7	1	Careless Error
C 1	1	Stopped too Early
D 1	1	Mixed Up Concepts
		Instruction/Notes



2013 – Q19

19 A scientist observes sea otters using rocks to break open clamshells.



Which of these investigations would best help the scientist determine whether this skill is a learned or an inherited behavior?

- A Determining what sizes and kinds of rocks are used most often by sea otters
- **B** Determining whether shellfish are an important food source in the diet of sea otters
- **C** Raising young sea otters away from adult otters that use rocks and observing whether the young otters use rocks
- **D** Observing families of sea otters over time to see whether adults that use rocks have offspring that use rocks

* Correct answer (C)

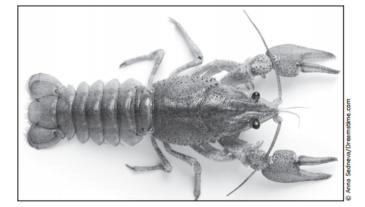
Analysis of Assessed Standards

Dual Coding		Content	Readiness
		Process	5.2(B)
<u></u>			
Stimulu	JS		
Thinkir	ıg		
Related	d SEs		
		Data A	nalysis
ltem	State	Local	Error Analysis
Α	5		
B 8 C* 50			Careless Error
			Stopped too Early
D	37		Mixed Up Concepts
Ir	nplicati	ions for Ir	nstruction/Notes



2013 - Q39

39 Crayfish live in water and often hide under rocks or plants. They come out to look for food and will eat both plants and animals.



Which of these is a trait that a crayfish most likely inherits from its parents?

- A The average distance it travels each day
- B The number of legs it has
- C The amount of food it eats each day
- D The type of plants in its habitat

* Correct answer (B)

 Content
 Readiness

 Dual Coding
 Process

Stimulus	
Thinking	
Related SEs	
	Data Analysis

		Data A	laiysis
Item	State	Local	Error Analysis
Α	5		
B *	81		Careless Error
С	8		Stopped too Early
D	6		Mixed Up Concepts



IQ Analysis Investigating the Question							0(C)	RC: 4	
SE: 5	.10(C)					Units:			
•) describ morphosis	Analysis of Assessed Standards							
2015 – Q24			Dual Co	oding	Content	Supporting			
20.0					•	Process	5.04(A	.)	
		ts examined two samples of pond water with a hand lens over thr ay they compared what they saw with pictures of samples their te				·'			
		Their observations are listed below.	achei	Stimulu	IS				
				Thinkin	g				
		y 1 the students identified mosquito eggs and mosquito larvae water sample and dragonfly nymphs in the other water		Related	SEs				
	sample	e.							
		 On Day 2 the students saw that the mosquito larvae had curled up and stopped moving. 				Local		ysis rror Analysis	
		• On Day 3 the students saw that a dragonfly with wings had developed		F*	61		□Gue	essing	
		ne of the nymphs.		G H	13 17			eless Error oped too Early	
				J	9		Mix	ed Up Concepts	
		ir observations, the students concluded that mosquitoes undergo							
		tamorphosis while dragonflies undergo incomplete metamorphosis se explains why the students' conclusion is correct?	5.	In	nplicat	ions for Ir	nstructi	on/Notes	
F		uito life cycle includes larvae that become pupae, while the dragor ides adults that develop directly from nymphs.	nfly life						
G	The mosquincludes n	uito life cycle includes larvae with wings, while the dragonfly life c ymphs.	ycle						
н		uito life cycle includes eggs that hatch in water, while the dragonfludes nymphs that develop in water.	ly life						
J		uito life cycle includes nymphs that hatch from eggs, while the dra ncludes adults that develop directly from larvae.	agonfly						
* Corre	ect answer	(F)							

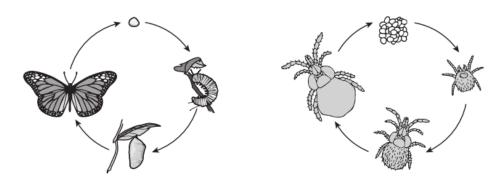


5.10(C) describe the differences between complete and incomplete metamorphosis of insects

Analysis of Associated Standards

2014 - Q13

13 The life cycles of a butterfly and a chigger are shown below.



How is the life cycle of chiggers different from the life cycle of butterflies?

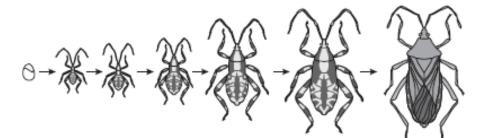
- A Chigger larvae have legs.
- **B** Chiggers have a nymph phase.
- C Chiggers go through metamorphosis.
- **D** Chigger larvae hatch from eggs.

* Correct answer (B)

5.10(C) describe the differences between complete and incomplete metamorphosis of insects

2013 - Q34

34 The stages in the development of an insect are shown below.



Which observation best supports the conclusion that this insect undergoes incomplete metamorphosis?

- F The insect changes color when it becomes an adult.
- G The first stage of the insect's development is as an egg.
- H The insect undergoes more than four stages in its development.
- J The insect has similar body parts throughout its development.

* Correct answer (J)

Analysis of Assessed Standards								
Dual C	odina	Content	Supporting					
Duui o	oung	Process	5.2(D)					
Stimulu	ıs							
Thinkir	ng							
Related	l SEs							
		Data A	nalysis					
Item	State	Local	Error Analysis					
Α	12							
B*	75		Careless Error					
С	9		Stopped too Early					
	4		Mixed Up Concepts					

Implications for Instruction/Notes

п

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Analysis of Assessed Standards							
oual Coding	Content	Supporting					
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timulus							
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	Data Analysis									
Item	State	Local	Error Analysis							
F	9									
G	5		Careless Error							
Н	26		Stopped too Early							
J*	60		Mixed Up Concepts							



IQ Analysis Investigating the Question			SE		RC:
			Units:		
	ŀ	Analysi	s of Asse	ssed St	andards
			Content		
	Dual Coding		Process		
	Orland I				
	Stimulu				
	Thinkin Related				
	Related	523			
			Data A	nalysis	
	Item	State	Local		Analysis Issing Jeless Error Sped too Early ed Up Concepts
	In	nplicat	ions for lı	nstructi	on/Notes
* Correct answer()					

		Analysis of Assessed Standards			
	Dual Coding		Content		
			Process		
	Stimulu	IS			
	Thinking Related SEs				
				Data Analysis	
	Item	State	Local	Error Analysis	
			Guessing	Guessing	
				Careless Error	
				Mixed Up Concepts	
	In	Implications for Instruction/Notes			
* Correct answer()					

