Code	Description	Revision History Notes (Include date, mm/dd/yy, for *each* revision history note)
Unique Item Identifier	Number assigned to item	2/27/15-Added Identifying numbers
	For middle school, should be one of the following 4 options:	
	Physical Science, Life Sciences,	
	Earth and Space Sciences,	
Middle School Science Discipline Focus	Engineering Design	
NGSS Performance Expectation Code		
NGSS Disciplinary Core Ideas Code(s)	Should align with Performance Expectation Code	
NGSS Practices		
NGSS Cross-Cutting Concepts		
CCSS - Reading Standards for Literacy in Science		
CCSS - Writing Standards for Literacy in Science		
CCSS - Mathematics Content		
CCSS - Mathematics Practices		
	S-CK=student content knowledge,	
Focus of Item	T-CK=teacher content knowledge,	
	PCK=teacher pedogogical content knowledge	
Item Question		
Response Options 1-6		
	Response option shows: CORRECT or INCORRECT. If INCORRECT, and associated with a misconception, then code:	
	SM-R=student misconception as identified by the item reference material,	
Interpretation of Response Options 1-6	SM-O=student misconception as identified by some other source	
Reference for Item	APA style reference for where item was taken from	
	Yes=NGSS & CCSS coded by UConn Team	
Coded by UConn Team	No=NGSS & CCSS coded by the item reference material	
Flag for Potentially Problematic Item	Yes=Item flagged as potentially problematic by UConn No=Item not flagged as potentially problematic by UConn	
	Include any relevant notes here, including, but not limited to, reference for non-reference item codes, and a note that the item is double coded (more than	
Notes	one PE)	2/25/15-Added Double Coded to notes section

		Middle School Science Discipline Focus (i.e., Physical	NGSS	NGSS														Flag for Potentially	
	linique Item dentifer	Science, Life Sciences, Earth and Space Sciences, Engineering Design)	Performance Expectation Code	Disciplinary Core Ideas Code(s)	NGSS Cross- Cutting Concepts	Focus of Item (S-CK, T-CK, PCK)	Item Quertion	Response Option 1	Interpretation of Response Option 1 (SM-R, SM-O)	Response Option 2	Interpretation of Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for Item	Coded by UCoun Team (Yes, No)	Problematic Item (Yes, No)	Notes
								A. Animals and plants need food as a source of energy and as a source of		B. Animals and plants need feed as a source of energy,		C. Animals and plants need food as a source of material	DICORDECT ON B. Co. Land	D. Azimals and plants need food to keep them alive, but the food is not a source of	INCORRECT: SM-R: Student misconception is that food is what is needed to				
		Life Science	MS-LS2-3	MS-LS-2.B	Energy and Matter	s-ck	Which of the following statements is TRUE about food for animals and plants?	body parts such as muscles in animals and leaves in plants.	CORRECT	for building body parts such as muscles in animals and leaves in plants.	that food is a source of	as muscles in animals and	misconception is that food is a source of building materials, but not a source of energy.	for building body parts such as muscles in animals and leaves in plants.	or grow without reference to any more specific function of feed.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (29)
													INCORRECT: SM-R: Student misconception is that except for a few major changes due						
								A. Conditions have	INCORRECT SM-R. Student misconception is that except for		INCORRECT. SM-R: Student misconception is that since the time life	C. Conditions have remained the same except for a few	to large volcanoes that have erupted or meteorites that have struck	D. Conditions have changed in significant ways everywhere					
		h 40°			Stability and	0.00	Which of the following is TRUE about how environmental conditions have changed	remained about the same everywhere on earth, with only minor changes from	have stayed the same throughout	B. Conditions have remained the same in the oceans but		sudden changes in certain locations due to disasters, such as a meteorite striking	the earth, environmental conditions have stayed the same throughout the history	on earth, with some of these changes happening suddenly and others		2061 Test	L.		
	- 4	tarm science	NS-ESSS-4	M5-E353.C	Crarge	S-CR	nation the time time negation earns?	A. Environmental conditions on earth have			INVOCABILITY OF THE	C. Environmental conditions	INCORRECT SM-R Student misconception is	more gracially.	CORRECT	bunk, s.a.	Tes		
		Buch Science	NO DECT 4	Me sees c	Stability and	e cv	What is TRUE about an immediate and immediate	except for minor changes from year	year, environmental conditions have stayed the same throughout	on earth changed in the past, but they are not changing	conditions have changed in the past, but are no longer	the past, but they are changing now.	not change in the past, but	D. Environmental conditions on earth changed in the past,	CORRECT	AAAS Project 2061 Test	V_		
		and street	1012004	M.FL.SOC	Ciange		While is a book and the commenced broadships for sursery	to year.	us mony or are care	LDX.	ranging		Cranging ave	and may are changing move.					
														D. Changes can happen neither	INCORRECT: SM-R: Student misconception is that there have been no				
	4 1	Earth Science	MS-ESS3-4	MS-ESS3.C	Stability and Change	s-ck	Which of the following is TRUE about how changes can happen to the physical environment of earth?	A. Changes can happen suddenly or gradually.	CORRECT	B. Changes can happen suddenly but not gradually.	INCORRECT	C. Changes can happen gradually but not suddenly.	INCORRECT	gradually nor suddenly because the environment does not change.	changes to the physical environment of the earth since life began.	AAAS Project 2061 Test Bank, n.d.	Yes		
											INCORRECT SM-R								
											Student misconception is that if a population in a food web is disturbed, there								
							#REF1				will be little or no effect on populations below it in the food web (e.g. if a predator								
											prey. Another student misconception is that								
											population of organisms will affect only those populations of organisms								
Marche M											that are directly connected to it in a feeding relationship, not occasions			D. The amount of grass will		AAAS Project			
	5 1	Life Science	MS-LS2-3	MS-LS-2B		s-ck			CORRECT	stay the same.	that are one or more steps removed/away from it.	C. The amount of grass will decrease until it is all gone.	INCORRECT	decrease, but some will remain.	INCORRECT	2061 Test Bank, n.d.	Yes		
								with other cows, the horses compete with other horses, but the cows		B. The cows do not compete with other cows, the horses do not compete with other		C. The cows compete with other cows, the horses		D. The cows do not compete with other cows, the horses do	INCORRECT SM-R.				
			l				Horses and cows are living in the same fenced pasture. The grass is the only source of		INCORRECT SM-R. Student misconception is that different kinds of organisms (species) do	horses, and the cows and horses do not compete with each other for	Student misconception is that animals do not	compete with other horses, and the cows and horses compete with each		not compete with other horses, but the cows and horses compete with each other for	Student misconception is that organisms of the same species do not compete with	AAAS Project 2061 Test			
	61	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	S-CK	doed available to the horses and cows. Which of the following statements is TRUE?	A. The lions compete with other lions, the	not compete for resources	B. The lions do not compete	compete for resources	other for the grass.	CORRECT	the grass.	each other for resources	Bank, n.d.	Yes		
								cheetahs compete with other cheetahs, but the lions and cheetahs do not	INCORRECT SM-R. Student misconception is that different	with other lions, the cheetahs	INCORRECT SM-R. Student misconception is	other lions, the cheetahs compete with other cheetahs, and the lions and cheetahs		with other lions, the cheetahs do not compete with other cheetahs, but the lions and		AAAS Project			
	7 1	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	s-ck	Lons and cheetabs are fiving in the same national park in Africa. They both eat antelope that are in the park. Which of the following statements is TRUE?	compete with each other for the antelope. A. The wolves compete	sonds of organisms (species) do not compete for resources		anat animals do not compete for resources		CORRECT	omer for the amerope.	each other for resources	2061 Test Bank, n.d.	Yes		
								with other wolves, the bears compete with other bears, but the wolves and	INCORRECT SM-R. Student	compete with other wolves, the bears do not compete with other bears, and the	INCORRECT SM-R.	C. The wolves compete with other wolves, the bears compete with other bears,				l			
	8 1	Life Science	MS-LS2-2	MS-LS2-A-4	Cause and Effect	s-ck	Webves and bears are living in the same national park in Canada. They both eat elk that are in the park. Which of the following statements is TRUE?	tears do not compete with each other for the elk.	musconception is that different kinds of organisms (species) do not compete for resources	the etc.	that animals do not	other for the elk.		welves and bears compete with each other for the elk.	reseseces	AAAS Project 2061 Test Bank, n.d.	Yes		
	1							A. The owls compete with other owls, the snakes compete with	DICORDECT ON B Section	fs. The owls do not compete with other owls, the snakes				D. The owls do not compete with other owls, the snakes do	INCORRECT SM-R.		ΙŢ		
	_1.	Life Science	MRJ 61 *	MSJ en	Come - 4 Fm ·	sev	Owls, strakes, and mice live in the same area. The owls and strakes eat the mice for	other snakes, but the owls and snakes do not compete with each other for the mi-	nvs. ORRECT SM-R. Student misconception is that different lends of organisms (species) do not commet: for any	eo not compete with other snakes, and the owls and snakes do not compete with	Student misconception is that animals do not	compete with other snakes, and the owls and snakes compete with each other for the more	CORRECT	not compete with other snakes, but the owls and snakes compete with each other for the more	that organisms of the same species do not compete with	AAAS Project 2061 Test Book	Yo.		
	9	distribut	mrthi-2	nothiA4	ways and effect		to the annering radioticité is 18UE.	A. The sparrows compete with other promotes, the	and accompand for resources.	compete with other sparrows,	represe del resentros	C. The sparrows compete	entrement i	D. The sparrows do not	DACORRECT SM *				
								bluebirds compete with other bluebirds, but the supprove and bluebin-	INCORRECT SM-R. Student misconception is that different	with other bluebirds, and the sparrows and bluebirds do not com-	INCORRECT SM-R. Student miscoworston -	blachirds compete with other blachirds, and the sparrows and bloobinds		the bluebinds do not compete with other bluebinds, but the seasons——	Student misconception is that organisms of the same species do not common with	AAAS Poni			
	10	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	s-ck	Sparrows and blackinds are living in the same park. They both use the same kind of nesting sites. Which of the following statements is TRUE?	do not compete with each other for the nesting sites.	londs of organisms (species) do not compete for resources	with each other for the nesting sites.	that animals do not compete for resources	compete with each other for the nesting sites.	CORRECT	blacking compete with each other for the nesting sites.	each other for resources	2061 Test Bank, n.d.	Yes		
1																			
1																			
1																			
State Stat								A. The number of deer increased because			INCORRECT SM-R.	C. The number of deer							
								without predators, the deer lived longer and had more offspring that also		B. The number of deer increased because populations are always	Student misconception is that populations exist in states of either constant	increased because with fewer mountain lions, coyotes, and hobcats, the deer had more	misconception is organisms higher in a food web eat everything that is lower in the	D. There is not enough information to tell why the		AAAS Project 2061 Test			Double Coded with MCSR
		Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	S-CK	#REP1	irred meger.				food to cat.	food web		INCORRECT SM-R.		Yes	Yes	118
	12 1	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	s-ck	Which of the following statements about competition between animals is TRUE?	but they do not compete for water when it is limited.	INCORRECT SM-R. Student misconception is that animals do not compete for water	limited, but they do not compete for shelter when it is limited.	Student misconception is that animals do not compete for shelter	C. Animals compete for food, water, and shelter when they are limited.	CORRECT	D. Animals do not compete for any resources, even when it is limited.	that animals do not compete for nesources resources	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded with MCSR 119
Part											INCORRECT SM-R.		INCORRECT SM-R. Student misconception is that animals do not compete for resources						
	13 1	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	S-CK	Which of the following statements is TRUE about competition between organisms with the same needs when resources are limited?	eganisms that compete for resources.	not compete for resources resources	organisms that compete for	compete for resources resources	C. Neither plants nor animals compete for resources.	misconception is that plants do not compete for resources.	D. Both plants and animals compete for resources.	CORRECT	2061 Test	Yes	Yes	Double Code (14)
									INCORRECT SM-R. Student		INCORRECT SM-R. Student misconception is								
Marchan Marc	14 1	Life Science	MS-LS2-1	MS-LS2-A	Cause and Effect	S-CK	Which of the following statements is TRUE about competition between organisms with the same needs when resources are limited?	A. Animals are the only organisms that compete for resources.	musconception is that plants do not compete for resources resources	Plants are the only organisms that compete for resources.	that animals do not compete for resources resources	C. Neither plants nor animals compete for resources.	resources. Second student misconception is that plants do not compete for resources.		CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Code (13)
State Stat								A. Plants compete for water when it is limited, but they do not compete		B. Plants compete for water and space when they are limited, but they do not	Student misconception is	C. Plants compete for water,		D. Plants do not compete for	Student misconception is	AAAS Project			
	15	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	s-ck	Which of the following statements about competition between plants is TRUE?	for space when it is limited.		compete for light when it is limited.	for light INCORRECT SM.R	space, and light when they are limited.		any resource, even when it is limited.	that plants do not compete for resources	2061 Test Bunk, n.d.	Yes		
											Student misconception is that competition between organisms always involves	C. Competition may involve two binds fighting over a	INCORRECT SM-R. Student misconception is that competition between	D. Competition may involve					
Mark								involve two lices fighting over prey but not two const gating are	aggressive interaction. Exploitative competition (e.g., acting to the research	B. Competition may involve two birds fighting over a nesting site had not re-		fighting over prey, or one bird placing its eggs in the next of another ber	direct, aggressive interaction. Exploitative connection to a	nesting site, two lions fighting over prey, one bird obscing its own in the con-		AAAS P			
1 1 1 1 1 1 1 1 1 1	16	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect	s-ck	Which of the following statements about competition between animals is TRUE?		other organisms) is not competition	placing its eggs in the nest of another.	organisms) is not competition	cows eating grass in the same field.	the resource before other organisms) is not competition		CORRECT	2061 Test Bunk, n.d.	Yes		This item Advers
								A. When the number of		B. When the number of births		C. When the number of births		D. Beautainer of seisenbase	Student misconception is that populations exist in	AAAS Project			squarely into any of the NGSS PE's we are using for
1	17	Life Science	MS-LS2-1	MS-LS2.A	Cause and Effect	s-ck	When would the size of a population of animals increase?		INCORRECT		CORRECT		INCORRECT	always increasing	INCORRECT SM-R.		Yes		
1	181	Life Science	MS-LS2-1	MS-LS2 A	Cause and Fillor	s-ck	When would the size of a population of animals decarren?	A. When the number of births is less than the number of death-	CORRECT	B. When the number of births is greater than the number of deaths.	INCORRECT	C. When the number of births is the same as the number of deaths.	INCORRECT	D. Populations of animals are always increasing.	that populations exist in states of either constant growth or decline	AAAS Project 2061 Test Bank, n.d	Yes	Yes	NGSS PE's we are using for this project. This was the best fit.
No. Control								A. The size of		B. The size of reconstrior		C. The size of populations of squirrels always stays about the same because the mark-		D. The size of populations of squirrels can increase when there is an increase in the first					
State Part	19 1	Life Science	MS-LS2-1	MS-LS2.A	Cause and Effect	s-ck		can increase to be infinitely large.	INCORRECT		INCORRECT		INCORRECT		CORRECT	2061 Test Bank, n.d.	Yes		
1								A. The size of				nobens always stays about the same because the number of deaths is		D. The size of populations of sobins can increase when there is an increase in the food					
1	201	Life Science	MS-LS2-1	MS-LS2-A	Cause and Effect	s-ck	Which of the following statements is TRUE about increases in the size of populations of robins?	populations of robins can increase to be infinitely	INCORRECT	B. The size of populations of robins always increases at about the same rate.	INCORRECT	always about the same as the number of new robins	INCORRECT	available and a decrease in the number of predators.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
2 10 10 10 10 10 10 10								A. Both the number of predators and the availability of a		B. The number of neodulors		C. The multibility of		D. Neither the number or medators por the wall-half					
An in the source of the control of	2111	Life Science	MS-LS2-1	MS-LS2.A	Cause and Effect & Stability and Change	s-ck	Which of the following can limit the growth of a population of organisms?	of organisms.	CORRECT	population of organisms, but the availability of resources cannot.	INCORRECT	growth of a population of organisms, but the number of predators cannot.	INCORRECT	of resources can limit the growth of a population of organisms.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Code (22)
Section Sect							A 1 menon on ordinarion.	A. Both the number of reedstors and the				C. The availability of		D. Neither the number or					
Section Sect	22 1	Life Science	MS-LS2-2	MS-LS2.A.4	Cause and Effect & Stability and Change	s-ck	Which of the following can limit the growth of a population of organisms?		CORRECT	population of organisms, but the availability of tesources cannot.	INCORRECT	growth of a population of organisms, but the number of predators cannot.	INCORRECT	of resources can limit the growth of a population of	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Code (21)
A Company Co								A. Both the number of predators and diseases can limit the growth of a		can limit the growth of a population of organisms, but		C. Diseases can limit the growth of a population of organisms, but the number of		D. Neither the number or predators nor diseases can limit the growth of a					
2 16 Notices 10 15 No. 15 No	23 (Life Science	MS-LS2-2		Change	S-CK	Which of the following can limit the growth of a population of organisms?	A. Both the number of produtors and discours	CORRECT		INCORRECT	produtors cannot. C. Diseases can limit the	INCORRECT	population of organisms. D. Neither the number or mediators per disease.	INCORRECT	AAAS Project	Yes	Yes	Double Code (24)
Process	24	Life Science	MS-LS2-1		Change	s-ck	Which of the following can limit the growth of a population of organisms?	can limit the growth of a population of organisms.	CORRECT	diseases cannot.	INCORRECT	organisms, but the number of predators cannot.	INCORRECT	limit the growth of a population of organisms.	INCORRECT	2061 Test Bunk, n.d.	Yes	Yes	Double Code (23)
A District of the Control of the Con	- 1			MS-LS2-A P	Cause and Effect & Stability and			A. Both diseases and the availability of resources can limit the growth of *		growth of a population of organisms, but the availability of resources		resources can limit the		D. Neither diseases nor the availability of resources can limit the growth of a		AAAS Project 2061 Test			
AND COUNTY TORK The State of the County of the first regions of the first regions of the county of the first regions of			MS-LS2-2	MS-LS2.C		S-CK	Which of the following can limit the growth of a population of organisms?		CORRECT	B. Diseases can limit the growth of a possistion of	INCORRECT	C. The availability of necessors can live the	INCORRECT		INCORRECT		Yes	Yes	Double Code (26)
See	25 (Line Science		MS-LS2.A &	Cause and Effect & Stability and Change	s-ck	Which of the following can limit the growth of a population of organisms?	availability of resources can limit the growth of a population of organism	CORRECT	organisms, but the availability of resources cannot.	INCORRECT	growth of a population of organisms, but diseases cannot.	INCORRECT	availability of resources can limit the growth of a population of organisms.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Code (25)
The Missione Sheets St. 10 Mission (Missione) and sheet first informing and their part of the strain	25 1	Life Science	MS-LS2-1							B. Minerals that a relast rela-	INCORRECT SM-R.	C. Water that a releast taker in	INCORRECT SM-R. Student		INCORRECT SM-R.	AAAS Project			
See Section 1 September 2 Sept	25 1	Life Science	MS-LS2-1			S-CK	Which of the following is food for a plant?	makes	CORRECT	in from the soil	plants.	through its roots	food for plants.	takes in through its leaves	for plants	Bank, n.d.	Yes		
See Section 1 September 2 Sept	25 J 26 J 27 J	Life Science Earth Science	MS-ESS2-1		Energy and Matter		l .	1	1		INCORRECT SM-R. Student misconcention is		INCORRECT SM-R. Stud-		that Plants cannot store molecules from food in their body structures and also fine				
A Contact of plants and plants an	25 I 26 I 27 I	Life Science Earth Science	MS-LS2-1 MS-ESS2-1		Energy and Matter						that Plants cannot store	I	misconception is that Animals	I					
2 florid Science Sci	26 1	Life Science Earth Science		MS-ESS2.A		s-ck	Which organisms store some of the molecules from feed in their bodies to use later as a source of chemical energy and building materials?		CORRECT	B. Animals but not plants	molecules from food in their body structures	C. Plants but not animals	food in their bodies	D. Neither animals nor plants	molecules from food in their bodies	2061 Test Bank, n.d.	Yes		
2 find Score NS-SSS2 SSSS2 SSSSS2 SSSS2 SSSS2 SSSS2 SSSSS2 SSSS2 SSSS2 SSSS2 SSSS2	25 I	Life Science Earth Science		MS-ESS2.A		S-CK	Which organisms store some of the molecules from fored in their hodies to me later as a source of chemical energy and building materials?		CORRECT	Animals but not plants Animals and plants need feed as a source of energy but		C. Plants but not animals C. Animals and plants need food as a source of material		D. Neither animals nor plants D. Animals and plants need food to keep them alive, but the food is not a source of	molecules from food in their bodies INCORRECT SM-R.	AAAS Project 2061 Test Bank, n.d.	Yes		
Section Sect	26 J	Life Science Early Science Early Science		MS-ESS2.A MS-ESS2.A		s-ck		plants A. Animals and plants need food as a source of energy and as a source of material for building body parts such as		B. Animals but not plants B. Animals and plants need food as a source of energy but not as a source of material for building body parts such as muscles in				source of material for building	molecules from food in their bodies INCORRECT SM-R. Student misconception is that food in what is needed to keep animals and plants alive	AAAS Project	Yes		
Accordance to the profit form topic on the profit men age are the profit form topic on the profi	25 26 27	Life Science Life Science Earth Science Larth Science		MS-ESS2.A MS-ESS2.A		s-ck s-ck		plants A. Arismals and plants meed food as a source of energy and as a source of energy and as a source of material for building boy parts such as enuscles in animals and leaves in plants.	CORRECT	B. Animals but not plants B. Animals and plants need food as a source of energy but not as a source of material for building body parts such as muscles in animals and leaves in plants.	INCORRECT SM-R. Student misconception is that Food is a source of energy but not a source of building materials INCORRECT SM-R.			source of material for building	molecules from food in their bodies INCORRECT SM-R. Student misconception is that food in what is needed to keep animals and plants alive	AAAS Project 2061 Test Bank, n.d.	Yes Yes	Yes	Double Coded (1)
ANAX Popul Alternature is based. The solution of the demonstrate ANAX Popul	25 26 26 27 27 29 29 30 30 30 30 30 30 30 3	Life Science Life Science Earth Science Earth Science Earth Science Earth Science	MS-ESS2-1 MS-ESS2-1	MS-ESS2.A MS-ESS2.A MS-ESS2.A	Energy and Matter Energy and Matter	S-CK S-CK	Which of the following statements is TRUE about food for animals and plants? Which of the following statements is TRUE about the cabout densite that is used by	plants A. Artirals and plants need food as a source of energy and as a source of energy and as a source of national for building body parts such as enucoles in animals and leaves in plants. A. It is combined with	CORRECT ENCORRECT SM-R. Student misconception in that Plants use	bedding body parts such as muscles in animals and leaves in plants. B. It is absorbed through the	INCORRECT SM-R. Student misconception is that Food is a source of energy but not a source of building materials INCORRECT SM-R. Student misconception is that Carbon dissade is absorbed through the roots.	but not as a source of energy.	ENCORRECT SM-R. Student misconception is that food is a source of building materials, but not a source of energy.	source of material for building body parts such as muscles in animals and leaves in plants.	monitorials from flood in their bedies NCORRECT SM-R. Student misconception is that food is what is needed to keep asimals and plants alree or grow without reference to any more specific function of food.	AAAS Project 2061 Test Bank, n.d.	Yes Yes	Yes	Deuble Coded (1)
ACCURRECT SIGN R. Statute A thermometer basined This solatons of the Suppli minds of the thermometer AAAAR Proprie AAAAAR Propri	25 3 26 27 27 27 29 29 29 30 30 30 30 30 30 30 30 30 30 30 30 30	Con Science Lish Science Earth Science Earth Science Earth Science Earth Science	MS-ESS2-1 MS-ESS2-1	MS-ESS2.A MS-ESS2.A MS-ESS2.A	Energy and Matter Energy and Matter	SCK SCK	Which of the following examents in TRUE about food for animals and plants? Which of the following examents in TRUE about food about animals and plants? Which of the following examents in TRUE about the carbon divoide that is used by select. A standard has two different legach in experient. See point the legach for one par area. A standard has two different legach in experient. See point the legach for one par area.	plants A. Artirals and plants need food as a source of energy and as a source of energy and as a source of national for building body parts such as enucoles in animals and leaves in plants. A. It is combined with	CORRECT ENCORRECT SM-R. Student misconception in that Plants use	bedding body parts such as muscles in animals and leaves in plants. B. It is absorbed through the	DNCORRECT SM-R. Student misconception is that Food in a source of energy but not a source of energy but not a source of building materials DNCORRECT SM-R. Student misconception is that Curben dioxide is absorbed through the roots of plants. DNCORRECT SM-R.	but not as a source of energy.	INCORRECT SM-R. Student misconception in that food is a source of building metrials, but not a source of energy. CORRECT INCORRECT SM-R. Student	source of material for building body parts such as muscles in animals and leaves in plants.	Notice and the control of the contro	AAAS Project 2061 Test Bank, n.d. AAAS Project 2061 Test Bank, n.d.	Yes Yes	Yes	Double Coded (1)
2) Dyspined Kinner 18-15 1 18-15 19, Dyspined Kinner 18-15 19, Dyspine	25 0 26 0 27 0 29 0 30 0	Cut Science Lité Science Papiel Science	MS-ESS2-1 MS-ESS2-1	MS-ESS2.A MS-ESS2.A MS-ESS2.A	Energy and Matter Energy and Matter	SCK SCK SCK	Which of the following examents in TRUE about food for animals and plants? Which of the following examents in TRUE about food about animals and plants? Which of the following examents in TRUE about the carbon divoide that is used by select. A standard has two different legach in experient. See point the legach for one par area. A standard has two different legach in experient. See point the legach for one par area.	plants A. Azismals and plants mod food as a source of energy and as source of energy and as a source body parts such as executed as a second as executed as a second as A. It is combined with exygen to make sugar modecules.	CORRECT ONCREECT SM-R. Student misconception in that Plants use oneygen during photony otheris. CORRECT:	building body parts such as mancles in animals and leaves in plants. B. It is absorbed through the rects of plants.	DNCORRECT SM-R. Student misconception is that Food in a source of energy but not a source of energy but not a source of building materials DNCORRECT SM-R. Student misconception is that Curben dioxide is absorbed through the roots of plants. DNCORRECT SM-R.	Date and a service of energy. C. It comes from the air.	INCORRECT SM-R. Student misconception in that food is a source of building metrials, but not a source of energy. CORRECT INCORRECT SM-R. Student	source of material for building body parts such as muscles in animals and leaves in plants.	Notice and the control of the contro	AAAS Project 2061 Test Bank, n.d. AAAS Project 2061 Test Bank, n.d.	Yes Yes Yes	Yes	Double Coded (1)
	25 26 26 27 27 27 27 27 29 30 31 31 31 31 31 31 31	Cards Science Earth Science Earth Science Earth Science Earth Science Farth Science	MS-ESS2-1 MS-ESS2-1	MS-ESS2.A MS-ESS2.A MS-ESS2.A	Energy and Matter Energy and Matter	SCK SCK	Which of the fillening attenues is 'HETI short find for attention and plants'. Which of the fillening attenues is 'HETI short find for attention that is used by Which of the fillening attenues in 'HETI short the carbon denotes that us used by Which of the fillening attenues is require. We great the legal time use as an Southern South or require. Which is the fillening to require the great the fillening time and an other state of the fillening time and the carbon denotes the carb	plants A. Azismals and plants mod food as a source of energy and as source of energy and as a source body parts such as executed as a second as executed as a second as A. It is combined with exygen to make sugar modecules.	CORRECT ONCREECT SM-R. Student misconception in that Plants use oneygen during photony otheris. CORRECT:	building body parts such as mancles in animals and leaves in plants. B. It is absorbed through the rects of plants.	DNCORRECT SM-R. Student misconception is that Food in a source of energy but not a source of energy but not a source of building materials DNCORRECT SM-R. Student misconception is that Curben dioxide is absorbed through the roots of plants. DNCORRECT SM-R.	Date and a service of energy. C. It comes from the air.	INCORRECT SM-R. Student misconception in that food is a source of building metrials, but not a source of energy. CORRECT INCORRECT SM-R. Student	source of material for building should be building to the source of the same and th	Notice and the control of the contro	AAAS Project 2061 Test Bank, n.d. AAAS Project 2061 Test Bank, n.d. AAAS Project 2061 Test Bank, n.d.	Yes Yes Yes	Yes	Double Coded (1)

	Middle School Science Discipline Facus (i.e. Physical	NGSS	NGSS													Flag for Patentially
Unique Item Identifer	Science, Life Sciences, Earth and Space Sciences, Engineering Design)	Performance Expectation Code	Disciplinary Core Ideas Code(s)	NGSS Cross- Cutting Concepts	Focus of Item (S-CK, T-CK, PCK)	Item Quertion	Response Option 1	Interpretation of Response Option 1 (SM-R, SM-O)	Response Option 2	Interpretation of Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for UCoun Team Item (Yex, No)	Problematic Item (Yes, No) Notes
																Awaiting answer key Questions 35-42 are subspacitions of 33/34
						Like all materials, the wood of a large eak tree is made of atoms. There were some atoms in the original acom that the eak tree grew frem. Where do you think the additional atoms carne from?	A. ALL of the additional		B. SOME of the additional						Anderson, A. (2013). Carbon Time	Open-ended 1/2 is also a subquestion of 33-42
33	Physical Science	MS-PS1-5	MS-PSLB	Energy and Matter	T-CK & S-CK	atoms in the original acom that the oak tree grew from. Where do you think the additional atoms came from?	A. ALL of the additional atoms were originally outside the tree		B. SOME of the additional atoms were made by the tree made as it grew.						Carbon Time Assessment. Yes	Yes Double Coded (34)) Awaiting answer key
																Questions 35-42 are subspacetions of 33/34
١						Like all materials, the wood of a large oak tree is made of atoms. There were some atoms in the original acom that the oak tree grew from. Where do you think the additional atoms carne from?	A. ALL of the additional atoms were originally outside the tree		B. SOME of the additional atoms were made by the tree made as it grew.						Anderson, A. (2013). Carbon Time Assessment. Yes	Open-ended 1/2 is also a subspacetion of 33-42
34	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	additional atoms came from?	outside the tree		tnade as it grew.						Assessment. Yes	Ves Double Coded (33) Awaiting answer key Questions 35-42 are subquestions of 33/34
															Anderson, A.	subquestions of 33/34 Open-ended 1/2 is also a subquestion of 33-42
35	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	How much of the dry mass from the accen that grew into the oak tree comes from the ABR?	A. All or most		B. Some		C. None				(2013). Carbon Time Assessment. Yes	Yes Double Coded (36)
																Awaiting answer key Questions 35-38 are subspacitions of 34
															Anderson, A. (2013). Carbon Time	Open-ended 1/2 is also a subquestion of 34-38
36	Physical Science	MS-PS1-5	MS-PS1.B	Energy and Matter	T-CK & S-CK	How much of the dry mass from the accent that grew into the oak tree comes from the Allt?	A. All or most		B. Some		C. None				Carbon Time Assessment. Yes	Yes Double Coded (35) Assairing answer key
																Questions 35-38 are subspacetions of 34
31	Physical Science	MS-PS1-5	MS-PS1.B	Energy and Matter	T-CK & S-CK	How much of the dry mass from the accen that grew into the oak tree comes from SUNLIGHT?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment. Yes	Open-ended 1/2 is also a subquestion of 34-38 Yes Double Coded (38)
																"Awaiting answer key Questions 35-42 are subspacetions of 33/34
						How much of the dry mass from the accent hat grew into the oak tree comes from									Anderson, A. (2013). Carbon Time	Open-ended 1/2 is also a subspansion of 33-42
38	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	SUNLIGHT?	A. All or most		B. Some		C. None				Assessment. Yes	Yes Double Coded (37) *Awaiting answer key
															Anderson, A.	Quontions 35-42 are subquentions of 33/34 Open-ended 1/2 is also a subquention of 33-42
36	Physical Science	MS-PS1-5	MS-PS1.B	Energy and Matter	T-CK & S-CK	How much of the dry mass from the accent hat grew into the oak tree comes from WATER?	A. All or most		B. Some		C. None				(2013). Carbon Time Assessment. Yes	Subspacesion of 33-42 Yes Double Coded (40) Assairing answer key
																Questions 35-42 are subspansions of 33/34
1	Sant Saine	MS-ESS2-1	MS-ESS2 A	Energy and Matter	TOV	How much of the dry mass from the acom that grow into the oak tree comes from WATER?	A. All or most				C N				Anderson, A. (2013). Carbon Time	Open-ended 1/2 is also a subquestion of 33-42
46	putral SCHROI	nti-E352-1	#13-E3SZ.A	a sengy and Matter	C.R. dl S-CK	TOM MAY	o. All of most		u6000		p 10000				OSSESSMENT. Yes	Yes Double Coded (39) Assailing answer key Questions 35-42 are
															Anderson, A. (2013). Carbon Time	Questions 35-42 are subquestions of 33/34 Open-ended 1/2 is also a subquestion of 33-42
41	Physical Science	MS-PS1-5	MS-PS1.B	Energy and Matter	T-CK & S-CK	How much of the dry mass from the acom that grew into the oak tree comes from SOIL NUTRIENTS?	A. All or most		B. Some		C. None				Carbon Time Assessment. Yes	Yes Double Coded (42) Awaiting answer key
																Questions 35-42 are subquestions of 33/34
43	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	How much of the dry mass from the acom that grew into the oak tree comes from SOIL NUTRIENTS?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment. Yes	Open-ended 1/2 is also a subquestion of 33-42 Ves Double Coded (41)
																Awaiting answer key Questions 45-52 are subquestions of 43/44
						A termin plant month enemy to live and areas. There was some enemy in the original	a. ALL of the tomato plant's additional energy came originally from sources outside the plant		b. SOME of the tomato plant's additional energy was made by the tomato plant as it						Anderson, A. (2013). Carbon Time	Open-ended 3/4 is also a subspacetion of 43-52
- 44	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	A tornato plant needs energy to live and grow. There was some energy in the eniginal seed that the tornato plant grow from. Which of the following statements is true?	sources outside the plant		grew.						Assessment. Yes	Double Coded (43) Awaiting answer key
															Anderson, A.	Questions 45-52 are subquestions of 43/44 Open-ended 3/4 is also a subquestion of 43-52
45	Physical Science	MS-PS1-5	MS-PSLB	Energy and Matter	T-CK & S-CK	How much of the tomato plant's energy come from the AIR?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment. Yes	Subspacetion of 43-52 Yes Double Coded (46) Assairing answer key
																Questions 45-52 are subquestions of 43/44
					T-CK & S-CK										Anderson, A. (2013). Carbon Time	Open-ended 3/4 is also a subspacition of 43-52
46	Earn Science	MS-ESS2-1	MS-ESSZA	Energy and Matter	I-CK & S-CK	How much of the tomato plant's energy come from the AIR?	A. All or most		ii. Some		C. None				Assessment. Tes	Yes Double Coded (45) Assuring answer key Questions 45-52 are subspaceions of 43/44
															Anderson, A. (2013). Carbon Time	subquestions of 43/44 Open-ended 3/4 is also a subquestion of 43-52
43	Physical Science	MS-PS1-5	MS-PSLB	Energy and Matter	T-CK & S-CK	How much of the tomato plant's energy come from the SUNLIGHT?	A. All or most		B. Some		C. None				Carbon Time Assessment. Yes	Yes Double Coded (48) Awaiting answer key
															Anderson, A.	Questions 45-52 are subspacetions of 43/44 Open-ended 3/4 is also a
48	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	How much of the tomato plant's energy come from the SUNLIGHT?	A. All or most		B. Some		C. None				(2013). Carbon Time Assessment. Yes	Open-ended 3/4 is also a subquestion of 43-52 Yes Double Coded (47)
																Assaiding answer key
																Questions 45-52 are subquestions of 43/44
					mour · · ·										Anderson, A. (2013). Carbon Time	Open-ended 3/4 is also a subquestion of 43-52
46	rnysical Science	MS-PS1-5	MS-PS1.B	Energy and Matter	r-CK-& S-CK	How much of the tomato plant's energy come from the WATER?	A. All or most		n. Some		C. None				Assessment. Yes	Yex Double Coded (50)
																Awaiting answer key Questions 45-52 are subspacetions of 43/44
															Anderson, A. (2013).	subquestions of 43/44 Open-ended 3/4ss also a subquestion of 43-52
56	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	How much of the tomato plant's energy come from the WATER?	A. All or most		B. Some		C. None				(2013). Carbon Time Assessment. Yes	Yes Double Coded (49) Assairing answer key
															Andrews 1	Questions 45-52 are subquestions of 43/44
51	Physical Science	MS-PS1-5	MS-PS1.B	Energy and Matter	T-CK & S-CK	How much of the tomato plant's energy come from the SOIL NUTRIENTS?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment. Yes	Open-ended 3/4 is also a subquestion of 43-52 Yes Double Coded (52)
																Assairing answer key Questions 45-52 are subspections of 43/44
															Anderson, A. (2013). Carbon Time	Open-ended 3.4 is also a subquestion of 43-52
53	Earth Science	MS-ESS2-1	MS-ESS2.A	Energy and Matter	T-CK & S-CK	How much of the tomato plant's energy come from the SOIL NUTRIENTS? Here is a simple food chain with one plant, one	A. All or most		B. Some		C. None				Assessment. Yes	Yes Double Coded (51)
						Here is a simple food chain with one plant, one animal, and some decomposens: Grass (in caten by) — Rabbit (Dies and is decomposed by) — Decomposing bacteria										Assailing answer key
						The molecules in the rabbit came from the grass without changing.										This is more specific (molecular and atom level) than the content of the LHS Carriculum
															Anderson, A. (2013). Carbon Time	than the content of the LHS Carriculum Open-ended 5 is a subspacetion of \$3-58
53	Life Science	MS-LS2-3	MS-LS2.B	Energy and Matter	T-CK & S-CK		TRUE		FALSE						Assessment. Yes	Yes
						Here is a simple food chain with one plant, one arimal, and some decomposent: Grass (is eaten by) -> Rabbit (Dies and is decomposed by) -> Decomposing hasteria										
						decomposed by) -> Decomposing bacteria The atoms in the rabbit came from the grass without changing.										Anaiting answer key This is more specific (molecular and atom level) than the content of the LHS
															Anderson, A. (2013). Carbon Time	Cumcuun
54	Life Science	MS-LS2-3	MS-LS2.B	Energy and Matter			TRUE		FALSE						Carbon Time Assessment. Yes	Open-ended 5 is a subquestion of 53-58 Yes
						Here is a simple food chain with one plant, one animal, and some decomposers:										
						Grass (is eaten by)> Rabbit (Dies and is decomposed by)> Decomposing bacteria The energy in the rabbit came from the grass without changing.										
															Anderson, A.	Assaiting answer key
55	Life Science	MS-LS2-3	MS-LS2.B	Energy and Matter	T-CK & S-CK		TRUE		FALSE						Anderson, A. (2013). Carbon Time Assessment. Yes	Open-ended 5 is a subspacetion of 53-58 Yes

Middle School Science Discipline Focus (i.e., Physical	NGSS N	NGSS		E					himming of						Flag for Potentially	
Intique Science, Life Sciences, Earth Item and Space Sciences, dentifer Engineering Design)	NGSS No Performance Disci Expectation Core Code Co	ciplinary are Ideas Code(s) C	NGSS Cross- cutting Concepts	(S-CK, T-CK, PCK)		Response Option 1	Interpretation of Response Option 1 (SM-R, SM-O)	Response Option 2	Interpretation of Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for U	Coded by Problemat Coun Team Item (Yes, No) No)	Notes
					Here is a simple food chain with one plant, one animal, and some decomposers:											
					Grass (is eaten by) → Rabbit (Dies and is decomposed by) → Decomposing bacteria The bacteria recycle molecules from the dead rabbit back to the grass.											Awaiting answer key This is more specific
																This is more specific (molecular and atom level) than the content of the LHS Curriculum
56 Life Science	MS-LS2-3 MS-L	LS2.B E	nengy and Matter	T-CK & S-CK		TRUE		FALSE						Anderson, A. (2013). Carbon Time Assessment.	es Yes	Open-ended 5 is a subquestion of 53-58
					Here is a simple food chain with one plant, one animal, and some decomposers:											
					animat, and some decomposen: Grass (is caten by) → Rabbit (Dos and is decomposed by) → Decomposing bacteria											Awaiting answer key
					The bacteria recycle atoms from the dead rabbit back to the grass.											This is more specific (molecular and atom level) than the content of the LHS Carriculum
														Anderson, A. (2013).		Carriculum Open-ended 5 is a subquestion of 53-58
57 Life Science	MS-LS2-3 MS-L	LS2,B E	nergy and Matter	T-CK & S-CK		TRUE		FALSE						(2013). Carbon Time Assessment.	es Yes	subquestion of 53-58
					Here is a simple feed chain with one plant, one animal, and some decomposers:											
					Grass (is eaten by) → Rabbit (Dies and is decomposed by) → Decomposing bacteria											
					The bacteria recycle energy from the dead rabbit back to the grass.											Awaiting answer key
	MS-LS2-3 MS-L	LS2.B E	nengy and Matter			TRUE		FALSE						Anderson, A. (2013). Carbon Time		Open-ended 5 is a subquestion of 53-58
59 Science	MS-132-3 MS-13	4.52.8	neigy and Manter	PERROLE		IRCE		FALSE						Assessment. 1	o 10	
60 Life Science	MS-LS2-3 MS-L:	LS2.B C	ause and effect	s-ck	WREST	A. Mice	INCORRECT	B. Owls	INCORRECT	C. Trees	INCORRECT	D. Caterpillars	CORRECT	AAAS Project 2061 Test Bank, n.d.	es .	
											INCORRECT SM-R. Student misconception is that if a					
											population in a food web is disturbed, there will be little or no effect on populations that are not					
											seed are not within the linear sequence in the food web. Another student misconception is that varview					
											the size of a population of organisms will affect only those populations of					
						A. The number of caterpillars would increase		B. The number of potential-		C. The number of exterior	NOOREET SMAR. Student inscreenception in that if a population in a food web is disturbed, there will be firstle or no effect on populations that are not within the linear miscenception in that varying, the size of a population of congrainm will affect only those populations of congrainm will are directing relationship, not organism that are one or more steps removed/invay from it.	D. There is not enough information to tell what would happen to the number of		AAAS Project 2061 Test Bank, s.d. Y		
61 Life Science	MS-LS2-3 MS-LS	LS2.B C	ause and effect	s-ck	#REF1	increase	CORRECT	B. The number of caterpillars would decrease.	INCORRECT	C. The number of cateripllars would stay the same.	temoved/away from it.	caterpilars.	INCORRECT	Bank, s.d.	es Yes	Double Coded MCSR 86
									INCORRECT SM-R. Student misconception is that if the size of one population in a food web is							
42 (14 %-1	MS-LS2-3 MS-LS	LS2.B C		e cv	#REP	A. The amount of grass and the number of mice, robins, caterpillars, and trees could increase.	INCORRECT	B. The amount of grass and the number of mice, robins, caterpillars, and trees could	that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	C. The number of robins could increase and the number of caterpillars could	CORRECT	D. The number of robins could decrease, and the number of caterpillars could increase.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	- V-	Double Coded MCSR 87
to the science	MUNICIPAL SHOPL		and and times	J. K	PANT	DESCRIPTION DE LES CONTRACTOR DE LA CONT	ENCORRECT	access.	the annual in the same way.	outrease.	CORRECT	Campinas Cons acress.	INCOMME.			DAMPE COMM MCSK 87
63 Life Science	MS-LS2-3 MS-L	LS2.B C	ause and effect	s-ck	#REF1	A. The number of robins would decrease.	CORRECT	B. The amount of grass would decrease.	INCORRECT	C. The number of caterpillars would decrease.	INCORRECT	D. Only the number of mice would decrease.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	ios .	
						A. The number of insects is likely to decrease					INCORRECT SM-R. Student misconception is that varying the size of a population of					
						A. The number of insects is likely to decrease because with fewer large fish to eat the tadpoles, there would be more tadpoles eating more water plants and fewer water plants available for the insects.		B. The number of small fish is likely to decrease because with fewer large fish for the large birds to eat, the large birds would have to eat more small fish.		C. The number of large birds in bleely to stay the same	ENCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The number of large fish is all that is likely to change because only large fish were taken out of the pond.	INCORRECT SM-R Studen misconception is that changes in a population in a			
64 Life Science	MS-LS2-3 MS-LS	LS2.B C	ause and effect	s-ck	#REF1	water plants and fewer water plants available for the insects.	CORRECT	large birds to eat, the large birds would have to eat more small fish.	INCORRECT	because large fish and large birds are not connected by an arrow in the diagram.	relationship, not organisms that are one or more steps removed/away from it.	all that is likely to change because only large fish were taken out of the pond.	food web do not affect the populations of any other organism in the food web	AAAS Project 2061 Test Bank, n.d.	ics .	
		T														
											INCORRECT SM-R. Student					
						A. The number of insects is likely to decrease because with fewer large fish to cat the tadpoles, there would be more tadpoles eating more water plants and fewer water plants available for the insects.		B The number of			DNCORRECT SN-B-R Student miscocception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.		Diconfector			
						there would be more tadpoles eating more water plants and fewer		B. The number of insects is likely to decrease because with fewer large fish for the large birds to eat, the large birds would have to eat more insects.		C. The number of insects is not likely to change because large fish are not connected by an arrow in the diagram.	organisms that are directly connected to it in a feeding relationship, not organisms	D. The number of insects is not likely to change because	INCORRECT SM-R Studen misconception is that changes in a population in a food web do not affect the populations of any other organism in the food web.	AAAS Project		
65 Life Science	MS-LS2-3 MS-LS	LS2.B C	ause and effect	s-ck	#REP!	water plants available for the insects.	CORRECT	birds would have to eat more insects.	INCORRECT	large fish are not connected by an arrow in the diagram.	that are one or more steps removed/away from it.	D. The number of insects is not likely to change because people took only large fish out of the pond.	populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d. Y	ies .	
						. 7		B Theoretic Co.		C. The number of small fish			INCORRECT SM-R Studen			
						A. The number of tadpoles is likely to increase because there are fewer large fish to cut the		B. The number of large birds is likely to stay the same because large fish and large birds are not connected by an arrow in the diagram.		C. The number of small fish is likely to decrease because with fewer large fish to the large binds to eat, the large binds weald have to eat more small fish.		D. Only the number of large fish is likely to change because only large fish were taken out of the pond.	changes in a population in a food web do not affect the populations of any other	AAAS Project 2061 Test Bank, n.d. Y		
66 Life Science	MS-LS2-3 MS-LS	LS2.B C	ause and effect	S-CK	#REP!	tadpoles.	CORRECT	arrow in the diagram.	INCORRECT	small fish.	INCORRECT	of the pond.	organism in the food web.	Bank, n.d.	ios .	
											ENCORRECT SM-R. Student miscoecoption in that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a fooding relationship, not organisms that are one or mose steps premoved/away from it.					
						A. The number of large		B Theoretic Co.		C. The number of large birds	organisms will affect only those populations of organisms that are directly	D. The number of large birds is not likely to change because they are higher in the diagram than the large fish, which means that the large birds will not be affected by changes below them in the diagram.				
67 Life Science	MS-LS2-3 MS-L	4.82.B C	ause and effect	s-ck	#REFT	A. The number of large birds is likely to increase because there will be more small fish for the large birds to eat.	CORRECT	B. The number of large binds is likely to decrease because there will be fewer large fish for the large binds to cut	INCORRECT	because large birds and large fish are not connected by an arrow in the diagram	relationship, not organisms that are one or more steps removed/away from it	means that the large birds will not be affected by changes below them in the discourse	INCORRECT	AAAS Project 2061 Test Bank, n.d.	ias I	
- processor	, and a passing	JC		and the same	PALE:	and the second s		gre sweet 10 GH	and the same of th			the second on two diagrams.	a consiste t			

Middle School Science Discipline Focus (Lo., Physica Unique Science, Life Sciences, Earth	al NGSS	NGSS Disciplinary	NGSS Cross- Cutting Concepts	Focus of Item					Interpretation of						Coded by	Flag for Potentially Problematic	
Item and Space Sciences, Identifer Engineering Design)	Expectation Code	Core Ideas Code(s)	NGSS Cross- Cutting Concepts	(S-CK, T-CK, PCK)	ltem Question	Response Option 1	Interpretation of Response Option I (SM-R, SM-O)	Response Option 2	Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for Item	UCoun Team (Yes, No)	Item (Yes, No)	Notes
											DNCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations or organisms that are directly connected to it in a feeding relationship, not organisms that are one or more stern						
						A. Only the frog population could be affected.	INCORRECT SM-R. Student misconceptions is that changes in a population in a food web do not affect the populations of any other organism in the food web.	B. Only the populations of		C. Only the populations of boetles, hawks, bears, and owls could be affected.	those populations of organisms that are directly connected to it in a feeding relationship, not organisms	D. The populations of all of		AAAS Project			
68 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	S-CK	#REF!	affected.	other organism in the food web.	peans, receives, and rears could be affected.	INCORRECT	owls could be affected.	that are one or more steps removed/away from it.	the organisms shown in the diagram could be affected.	CORRECT	2061 Test Bank, n.d.	Yes		
							INCORRECT SM-R. Student resscenceptions is that changes in a population in a feod web do not affect the populations of any other organism in the food web.			C. Only the population of Ps		D. The populations of all of		AAAS Project			
69 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	WREFT	Only the population of Ps could be affected.	not affect the populations of any other organism in the food web.	B. Only the population of Ls, Ns. and Ss could be affected.	INCORRECT	C. Only the population of Ps Qs, Ss and Rs could be affected.	INCORRECT	D. The populations of all of the organisms shown in the diagram could be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
											BUTTON DOLLAR						
									INCORRECT SM-R. Student misconception is that the top predator in a		DNCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations or organisms that are directly connected to it in a feeding relationship, not organisms that are one or more stern						
					appr	A. Only the populations of large fish, seals and killer whales would be		B. The populations of all of the organisms except the killer whales would be	Student misconception is that the top predator in a food web will never be significantly affected by changes in the populations of organisms below it in the food web.	C. Only the populations of shrimp, large fish, and small fish would be affected.	organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The populations of all of the organisms would be affected.		AAAS Project 2061 Test Bank, n.d.			
/0 Late Science	MS-LS2-3	MS-LS2.B	p, ause and effect	S-CK	#REP!	arriccled.	INCORRECT	arrected.	me food web.	ron would be affected.	removed/away from it.	parrected.	CORRECT	plank, n.d.	Yes		
											INCORRECT SM-R. Student misconception is that varying						
									ENCORRECT SM-R. Student misconception is that the top predator in a food web will never be significantly affected by		the content is shown as a second of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding						
71 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	#REF1	A. Only the populations of Os, Qs and Ss would be affected.	INCORRECT	B. The populations of all of the organisms except the Ss would be affected.	significantly affected by changes in the populations of organisms below it in the food web.	C. Only the popultions of Mi Os, and Ns would be affected.	connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The populations of all of the organisms would be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
											INCORRECT SM-R. Student		INCORRECT SM-R. Student misconception is that if a population in a food				
72 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	#REP!	A. The number of Ls will increase and the number of Ns will decrease.	CORRECT	B. The number of Ls will decrease and the number of Ns will increase.	INCORRECT	C. The number of Ls will increase, and the number of Ns will stay the same.	misconception is that a change in the size of a prey population has no effect on its predator population.	D. The number of Ls will stay the same and the number of Ne will decrease.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes		
						A. The amount of grass		B Thomas			DICORDICT CALD CALL	0.75	Student misconception is				
73 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	S-CK	#REP!	A. The amount of grass will increase, and the number of frogs will decrease.	CORRECT	B. The amount of grass will decrease, and the number of frogs will increase.	INCORRECT	C. The amount of grass will increase and the number of frogs will stay the same.	population has no effect on its produtor population.	D. The amount of grass will stay the same and the number of frogs will decrease.		AAAS Project 2061 Test Bank, n.d.	Yes		
													INCORRECT SM-R. Student misconception is that if a population in a food web is disturbed, there will be listle or no effect on populations below it in the food web. Another student				
													be little or no effect on populations below it in the food web. Another student misconception is that varying the size of a population of organisms will				
						A. The number of Ns will decrease because the number of individuals in all of the populations of	INCORRECT SM-R. Student misconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of Ns will decrease because there will		C. The number of Ns will stay the same because there will be no effect on the number of individuals in the	INCORRECT SM-R. Student misconception is that if a population in a flood web is disturbed, there will be little or no effect on populations	D. The number of Ns will stay	pepulation of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps organisms from it				
74 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	S-CK	WREP	organisms in this diagram will decrease when the number of Os decreases.	is altered, all other populations in the web will be altered in the same way.	be more Ms to eat the Ls, so fewer Ls will be available for the Ns to eat.	CORRECT		disturbed, there will be little or no effect on populations below it in the food web.	D. The number of Ns will stay the same because the Os and Ns are not connected by an arrow in the diagram.		AAAS Project 2061 Test Bank, n.d.	Yes		
													INCORRECT SM-R. Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web. Another student				
													populations below it in the food web. Another student misconception is that				
						A. The number of mice will decrease because the number of individuals in	ENCORRECT SM-R. Student resisconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of mice will decrease because there will be more grasshoppers to eat		C. The number of mice will stay the same because there will be no effect on the number of individuals in the populations of organisms before the frogs in the distrant.	INCORRECT SM-R. Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations	D. The number of mice will	feed web. Another student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding connected to it in a feeding that are one or more steps that are one or more steps communications of feeding				
75 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	S-CK	WREST	all of the populations of organisms in this diagram will decrease.	is altered, all other populations in the web will be altered in the same way.	the grass, so there will be less grass available for the mice to eat.	CORRECT	populations of organisms below the frogs in the diagram.	disturbed, there will be little or no effect on populations below it in the food web.	D. The number of mice will stay the same because fregs and mice are not connected by an arrow in the diagram.	relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.	Yes		
						A. The number of Ms		B. The number of Ms will			INCORRECT SM-R. Student misconception is that a	D. The number of Ms will stay the same because a change in	INCORRECT SM-R. Student misconception is that changes in a population				
76 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	WREP	A. The number of Ms will increase because there are fewer Ls to eat them.	INCORRECT	decrease because there are not enough Ls for them to eat.	CORRECT	C. The number of Ms will stay the same because the Ls are killed not the Ms.	crange in the size of a prey population has no effect on its predator population.	D. The number of Ms will stay the same because a change in the population of Ls will not affect any other population of organisms.	Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes		
											INCORRECT SM-R. Student	D. The number of robins will	INCORRECT SM-R. Student misconception is				
77 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	#REP!	A. The number of robins will increase because there are fewer worms to eat them.	INCORRECT	B. The number of robins will decrease because there are not enough weems for them to eat.	CORRECT	C. The number of robins will stay the same because the worms are killed, not the robins.	misconception is that a change in the size of a prey population has no effect on its predator population.	D. The number of sobias will stay the same because a change in the population of worms will not affect any other population of organisms.	that changes in a population in a food web do not affect the populations of any other organism in the food web. INCORRECT SM-R.	AAAS Project 2061 Test Bank, n.d.	Yes		
													Student misconception is				
						A. The number of Ns will decrease because there will be fewer Ls to eat the Ms, so there will be more Ms to eat the Ns.		B. The number of Ns will decrease because there will be fewer Ls for the Ms to eat, so there will be fewer Ms available for the Ns to eat.		C. The number of Ns will no change because the Ls are	DICORRECT SM-R. Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the food web.	D. The number of Ns will not change because Ns are not connected to Ls in the diagram.	nna varying the size of a peopulation of organisms will affect only those peopulations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bunk, n.d.			
78 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	S-CK	#REP!	Ms to eat the Ns.	INCORRECT	available for the Ns to eat.	CORRECT	change because the Ls are killed, not the Ns.	food web.	dugram.	removed/away from it. INCORRECT SM-R. Student misconception is that varying the size of a	Bank, n.d.	Yes		
						A. The number of foxes will decrease because there will be fewer worms to eat the robins and so more robins to eat		B. The number of fones will decrease because there will be fewer worms for the robins to cut and so fewer robins will be available for		C. The number of foxes will not change because the worms are folled, not the	INCORRECT SM-R. Student misconception is that changes in a population in a food web	D. The number of fours will not change because it is not connected to worms in the discrem	Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps communications from it				
79 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	#REF1	worms to eat the robins and so more robins to eat the foxes.	INCORRECT	rebins to eat and so fewer rebins will be available for the foxes to eat.	CORRECT	we change recause the worms are killed, not the foxes.		not change because it is not connected to worms in the diagram.	relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.	Yes		
											INCOURTECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not consisting						
80 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	#REF1	A. The number of Ns will decrease because there are more Ms to eat them.	INCORRECT	B. The number of Ns will decrease because there will be fewer Ms for them to eat.	CORRECT	C. The number of Ns will no change because Ns are not connected to Ls in the diagram.	that are one or more steps removed away from it.	D. More information is needed to tell what will happen to the number of Ns.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	_	
											INCORRECT SM-R. Student miscenception is that varying the size of a population of organisms will affect only those populations of organisms that are directly						
						A. The number of foxes will decrease because there are more robins to eat them.		B. The number of fours will decrease because there will be fewer robins for them to		C. The number of foxes will not change because they are	those populations of organisms that are directly connected to it in a feeding relationship, not organisms	D. More information is new-look		AAAS Proies			
81 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	s-ck	#REFI	there are more robins to eat them.	INCORRECT	be fewer robins for them to eat.	CORRECT	not change because they are not connected to weems in the diagram.	cognitions that are directly coenected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. More information is needed to tell what will happen to the number of fexes.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
													INCORRECT SM-R. Student misconception is that if a population in a food				
													INCORECT SM-R. Student traiscocypion is that if a population in a food web is disturbed, there will be little or no effect on populations below in in the food web. Another student uniconception in that varying the size of a population of populations and population of organizers that are discretely described in the size of a population of organizers had are discretely described by the population of populat				
						A. The number of crickets would decrease because fewer rabbits could result in a decrease	ENCORRECT SM-R. The student misconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of crickets	INCORRECT SM-R. Student misconception is	C. The number of crickets could increase because with fewer rabbits for the hawks t	,	D. The number of crickets would not be affected by the	varying the size of a population of organisms will affect only those populations of organisms that are directly				
82 Life Science	MS-LS2-3	MS-LS2.B	Cause and effect	S-CK	#REP!	in the number of indivisuals in all of the populations of organisms in this diagram.	the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of crickets could decrease because with fewer rabbits for the hawks to eat, the hawks would eat crickets instead.	INCORRECT SM-R. Student misconception is that organisms higher in a food web eat everything that is lower in the food web.	eat, the bawks would eat more frogs, so there would b fewer frogs to eat the crickets.	CORRECT	D. The number of crickets would not be affected by the number of rabbits because crickets are not connected by an arrow to tabbits in the diagram.	connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.	Yes		
na LINE SCHROE	JMS-132-3	p+15-1.52.B	p. sase and effect	pri. K	I PARENT	on any engine.	erased in the same way.	persons manual.	was.	posker.	P.ORREL I	peogram.	produced away from it.	pers, s.d.	p.er		

Middle School Science Discipline Focus (i.e., Physic Unique Science, Life Sciences, Eart	al NGSS NGSS h Performance Disciplin Expectation Core Ide Code Code(s	S sury	Focus of Item						Interpretation of Response Option 2 (SM- R, SM-O)				Interpretation of Response Option 4 (SM-R, SM-O)		Flag Potent Coded by Probles	for infly natic	
Item and Space Sciences, Identifer Engineering Design)	Expectation Core Ide	(s) Cutting Concepts	(S-CK, T-CK, PCK)	Item Quest	tion	Response Option 1	Interpretation of Response Option 1 (SM-R, SM-O)	Response Option 2	Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Векропне Оргаса 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for 1. Item	Coan Team Item ((Yes, No) No	Yes, Notes	•
						A. The number of deer increased because without medition, the			INCORRECT SM-R.	C The number of deer	INCORRECT SM-R. Student	D. There is not enough					
83 Life Science	MS-LS2-3 MS-LS2-8	B Cause and effect	s-ck	#REF1		A. The number of deer increased because without predators, the deer lived longer and had more offspeing that also lived longer.	CORRECT	The number of deer increased because populations are always increasing.	Student misconception is that populations exist in states of either constant growth or decline.	C. The number of deer increased because with fewer mountain lices and wolves, the deer had more food to eat.	resconception is that organisms higher in a food web cat everything that is lower in the food web.	D. There is not enough information in the question and diagram to tell why the deer population increased.	INCORRECT INCORRECT SM-R.	AAAS Project 2061 Test Bank, n.d. Y	in .		-
						A. The number of Ms will increase because there will be fewer Ns to eat them.		B. The number of Ms will decrease because there will		C. The number of Ms will stay the same because changes in the number of Ns will not affect them.		D. More information is needed to determine what will happen to the number of Ms.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on nonelations below it in the	AAAS Project 2061 Test Bank, n.d. Y			
84 Life Science	MS-LS2-3 MS-LS2-B	B Cause and effect	S-CK	#REPL		eat them.	CORRECT	be fewer Ns for the Ms to eat.	INCORRECT	will not affect them.		to the number of Ms.	food web.	Bunk, n.d. Y	ios .		
85 Life Science	M8-LS2-2 MS-LS2-3	A.4 Cause and effect	s-ck	WREFT		A. Mice	INCORRECT	B. Owls	INCORRECT	C. Trees	INCORRECT	D. Caterpillars	CORRECT	AAAS Project 2061 Test Bank, n.d. Y	ios yes	Double Coded (60) Could be LS2-1 also	
																Awaiting answer key Questions 45-52 are subquestions of 43/44	
43 Physical Science	MS-PS1-5 MS-PS1.B	B Energy and Matter	T-CK & S-CK	A tornato plant needs energy to live and grow. T seed that the tornato plant grew from. Which of	There was some energy in the original the following statements is true?	a. ALL of the tomato plant's additional energy came originally from sources outside the plant		b. SOME of the tomato plant's a additional energy was made by the tomato plant as it grew.						Anderson, A. (2013). Carbon Time Assessment. Y	ies .	Open-ended 3/4 is also a subspansion of 43-52 Double Coded (44)	-
											INCORRECT SM-R. Student misconception is that if a reproduction in a fixed such is						
											disturbed, there will be little or no effect on populations that are not within the linear sequence in the food web. Another student						
											NCORRECT SMR. Student misconception in that if a property of the property of the database, there were the bride out of the property of the out of the property of the support on the food web. Another student inscenception in that varying the size of a population of organization will affect only those populations of organization will affect only those populations of organization will are directly connected to it in a feeding article-only, not copynisms	D. There is not enough					
86 Life Science	MS-LS2-2 MS-LS2.#	A.4 Cause and effect	s-ck	WREFT		A. The number of caterpillars would increase	CORRECT	B. The number of caterpillars would decrease.	INCORRECT	C. The number of cateripliars would stay the same.	relationship, not organisms that are one or more steps removed away from it.	information to tell what would happen to the number of catenpillars.	INCORRECT	AAAS Project 2061 Test Bank, n.d. Y	es Yes	Double Coded (61) Could be LS2-1 also	+
						A. The amount of grass and the number of mice, robins, caterpillars, and		B. The amount of grass and the number of mice, robins, caterpillars, and trees could	INCORRECT SM-R. Student misconception is that if the size of one population in a food web is	C. The number of robins could increase and the number of caterpillars could decrease.						Double Coded (62)	
87 Life Science	MS-LS2-2 MS-LS2.4	A.4 Cause and effect	s-ck	#REF1		and the number of mice, robins, caterpillars, and trees could increase.	INCORRECT	tate number of mice, reests, caterpillars, and trees could decrease.	ancree, an oner populations in the web will be altered in the same way.	count increase and the number of caterpillars could decrease.	CORRECT	D. The number of sobins could decrease, and the number of catenpillars could increase.	INCORRECT	AAAS Project 2061 Test Bank, n.d. Y	ies yes	Could be LS2-1 also	+
																Deable Coded (63)	
88 Life Science	MS-LS2-2 MS-LS2-J	A.4 Cause and effect	s-ck	#REFI		A. The number of robins would decrease.	CORRECT	B. The amount of grass would decrease.	INCORRECT	C. The number of caterpillars would decrease.	INCORRECT	D. Only the number of mice would decrease.	INCORRECT	AAAS Project 2061 Test Bank, n.d. Y	es Yes	Could be LS2-1 also	-
						A. The number of insects is likely to decrease because with fewer large fish to eat the tadpoles, there would be more tadpoles eating more water plants and fewer water plants available for the insects.		B. The number of small fish is likely to decrease because		C. The number of large birds	INCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.		INCORRECT SM-R Student misconception is that				
89 Life Science	MS-LS2-2 MS-LS2-J	A.4 Cause and effect	s-ck	#REF!		tadpoles eating more water plants and fewer water plants available for the insects.	CORRECT	B. The number of small fish is likely to decrease because with fower large fish for the large beids to eat, the large beids would have to eat more small fish.	INCORRECT	in likely to stay the same because large fish and large birds are not connected by an arrow in the diagram.	connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The number of large fish is all that is likely to change because only large fish were taken out of the pond.	changes in a population in a food web do not affect the populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d. Y	ies Yes	Double Coded (64) Could be LS2-1 also	_
											INCORRECT SM-R. Student						
						A. The number of insects is likely to decrease because with fewer large fish to eat the tudpoles, there would be more tadpoles eating more water plants and fewer water plants available for the insects.		The number of insects is likely to decrease because with fewer large fish for the large birds to cat, the large birds would have to eat more insects.		C Thomas of the	misconception is that varying the size of a population of organisms will affect only those populations of	D Thomasha e	INCORRECT SM-R Student misconception is that				
90 Life Science	MS-LS2-2 MS-LS2.#	A.4 Cause and effect	s-ck	WEFT		tadpoles eating more water plants and fower water plants available for the insects.	CORRECT	-on newed targe with for the large binds to cut, the large binds would have to cut more insects.	INCORRECT	C. The number of insects is not likely to change because large fish are not connected by an arrow in the diagram.	relationship, not organisms that are one or more steps removed away from it.	D. The number of insects is not likely to change because people took only large fish out of the pond.	changes in a population in a food web do not affect the populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d. Y	es Yes	Double Coded (65) Could be LS2-1 also	+
						A. The number of		B. The number of large birds in block to the state of		C. The number of small fish is likely to decrease because with force land.		D. Oalvillele	INCORRECT SM-R Student misconception is that				
91 Life Science	MS-LS2-2 MS-LS2.0	A.4 Cause and effect	s-ck	WREFT		A. The number of tadpoles is likely to increase because there are fewer large fish to eat the tadpoles.	CORRECT	B. The number of large birds is likely to stay the same because large fish and large birds are not connected by an arrow in the diagram.	INCORRECT	C. The number of small fish is likely to decrease because with fewer large fish fo the large birds to eat, the large birds would have to eat more small fish.	INCORRECT	D. Only the number of large fish is likely to change because only large fish were taken out of the pond.	feed web do not affect the populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d. Y	es Yes	Double Coded (66) Could be LS2-1 also	-
											INCORRECT SM-R. Student						
						A. The number of large		B. The number of		C. The number of large birds	misconception is that varying	D. The number of large birds is not likely to change because they are higher in the diagram then the law-rich.					
92 Life Science	MS-LS2-2 MS-LS2-/	A.4 Cause and effect	S-CK	WREFT		A. The number of large birds is likely to increase because there will be more small fish for the large birds to eat.	CORRECT	B. The number of large binds is likely to decrease because there will be fewer large fish for the large binds to eat	INCORRECT	C. The number of large birds in likely to stay the same because large birds and large fish are not connected by an arrow in the diagram.	relationship, not organisms that are one or more steps removed/away from it.	D. The number of large birds in not bleely to change because they are higher in the dingram than the large fish, which means that the large birds will not be afflected by changes below them in the diagram.	INCORRECT	AAAS Project 2061 Test Bank, n.d. Y	es Yes	Double Coded (67) Could be LS2-1 also	+
											INCORRECT SM-R. Student misconception in that year						
							INCORRECT SM-R. Student misconceptions is that changes				DICORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps						
93 Life Science	MS-LS2-2 MS-LS2.4	A.4 Cause and effect	s-ck	#REF1		A. Only the frog population could be affected.	INCORRECT SM-R. Student misconceptions is that changes in a population in a food web do not affect the populations of any other organism in the food web.	 the populations of plants, beetles, and bears could be affected. 	INCORRECT	C. Only the populations of beetles, hawks, bears, and owls could be affected.	relationship, not organisms that are one or more steps removed/away from it.	D. The populations of all of the organisms shown in the diagram could be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d. Y	es Yes	Double Coded (68) Could be LS2-1 also	

Middle School Science Discipline Focus (i.e., Physical Unique Science, Life Sciences, Earth from and Strace Science	NGSS Performance Expectation	NGSS Disciplinary Core Ideas	NGSS Cross- Cutting Concepts	Focus of Item			Interceptation of Response		Interpretation of		Interpretation of Represe		Interpretation of Reaponue	Reference for	Coded by UCoun Team (Yex, No)	Flag for Potentially Problematic Item (Ver	
dentifer Engineering Design)	Code	Code(s)	Catting Concepts	PCK)	Rem Question	Response Option 1	Option I (SM-R, SM-O)	Response Option 2	R, SM-O)	Response Option 3	Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Item	(Yes, No)	No)	Nates
							INCORRECT SM-R. Student misconceptions is that changes										
94 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REF1	A. Only the population of Ps could be affected.	resconceptions is that charges in a population in a feed web do not affect the populations of any other organism in the feed web.	B. Only the population of Ls, Ns. and Ss could be affected.	INCORRECT	C. Only the population of Ps Qs, Ss and Rs could be affected.	INCORRECT	D. The populations of all of the organisms shown in the diagram could be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (69) Could be LS2-1 also
									INCORRECT SM-R. Student misconception is		INCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only						
						A. Only the populations of large fish, scals and killer whales would be		B. The populations of all of the organisms except the killer whales would be	Student misconception is that the top produtor in a food web will never be significantly affected by changes in the populations of organisms below it in	C. Only the populations of shrimp, large fish, and small fish would be affected.	organisms that are directly	D. The populations of all of the organisms would be affected.		AAAS Project 2061 Test Bank, n.d.			Double Coded (70)
95 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	S-CK	#REFT	affected.	INCORRECT	affected.	or organisms resow it in the food web.	fish would be affected.	trait are one or more steps removed away from it.	affected.	CORRECT	Bank, n.d.	Yes	Yes	Could be I.S2-1 also
									INCORRECT SM-R. Student misconception is that the too regulator in a		INCORRECT SM-R. Student misconception is that varying the size of a population of organism will affect only those progulations of						
96 Life Science	MS-LS2-2	MS-LS2-A-4	Cause and effect	s-ck	#REFT	A. Only the populations of Os, Qs and Ss would be affected.	INCORRECT	B. The populations of all of the organisms except the Ss would be affected.	Student misconception is that the top predator in a food web will never be significantly affected by changes in the populations of organisms below it in the food web.	C. Only the popultions of Mi Os, and Ns would be affected.	organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The populations of all of the organisms would be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (71) Could be LS2-1 also
											INCORRECT SM-R. Student		INCORRECT SM-R.				
97 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REFT	A. The number of Ls will increase and the number of Ns will decrease.	CORRECT	B. The number of Ls will decrease and the number of Ns will increase.	INCORRECT	C. The number of Ls will increase, and the number of Ns will stay the same.		D. The number of Ls will stay the same and the number of Ns will decrease.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web. INCORRECT SM-R.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (72) Could be LS2-1 also
98 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	WREFT	A. The amount of grass will increase, and the number of frogs will decrease.	CORRECT	B. The amount of grass will decrease, and the number of frogs will increase.	INCORRECT	C. The amount of grass will increase and the number of frogs will stay the same.	DICORRECT SM-R. Student misconception is that a change in the size of a prey population has no effect on its predator population.	D. The amount of grass will stay the same and the number of frogs will decrease.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (73) Could be LS2-1 also
- Control of the Cont	- contact		and street	r mah	PROMETY			gr All-Marks	constitut t	ngs and name and same.	- populario		INCORRECT SM-R.				
													Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web. Another student misconception is that varying the size of a population of organizans will				
						A. The number of Ns will decrease because the number of individuals in all of the populations of counterns in the fine	ENCORRECT SM-R. Student rescenception is that if the size of one population in a foot with in altered, all other populations in the web will be altered in the name way.	B. The number of Ns will decrease because there will be more Ms to out the I v		C. The number of Ns will stay the same because there will be no effect on the number of individuals in the	INCORRECT SM-R. Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web.	D. The number of Ns will stay the same because the On red	varying the size of a pepulation of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project			Double Coded (74)
99 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	WREST	will decrease when the number of Os decreases.	in the web will be altered in the same way.	fewer Ls will be available for the Ns to eat.	CORRECT	number of indresduals in the populations of organisms below the Os in the diagram.	or no effect on populations below it in the food web.		INCORRECT SM-R.	2061 Test Bank, n.d.	Yes	Yes	Double Coded (34) Could be LS2-1 also
													Student misconception is that if a population in a food web is disturbed, there will				
						A. The number of mice	INCORRECT SM-R. Student misconception in that of the	B. The number of mice will decrease because these will		C. The number of mice will stay the same because there will be no effect on the number of individuals in the	INCORRECT SM-R. Student misconception is that if a		he little or no effect on populations below it in the feed web. Another stadent misconception is that varying the size of a population of organizms will affect only those populations of organizms that are directly connected to it in a feeding relationship, not organizms that are one or more steps removed/away from it.				
100 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REFT	number of individuals in all of the populations of organisms in this diagram will decrease.	INCORRECT SM-R. Student trasconception is that if the size of one population in a food web is alkered, all other populations in the web will be altered in the same way.	be more grasshoppers to eat the more grass, so there will be less grass available for the mice to eat.	CORRECT	will be no effect on the number of individuals in the populations of organisms below the frogs in the diagram.	misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web.	D. The number of mice will stay the same because frogs and mice are not connected by an arrow in the diagram.	connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (75) Could be LS2-1 also
						A. The number of Ms will increase because there are fewer Ls to eat		B. The number of Ms will decrease because there are not enough Ls for them to		C. The number of Ms will	INCORRECT SM-R. Student misconception is that a change in the wayf			AAAS I			Double Coded (76)
101 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REFT	there are fewer Ls to eat them.	INCORRECT	not enough Ls for them to eat.	CORRECT	C. The number of Ms will stay the same because the Ls are killed not the Ms.	change in the size of a prey population has no effect on its predator population.	affect any other population of organisms.	in a food web do not affect the populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (76) Could be LS2-1 also
						A. The number of robins will increase because there are fewer worms to eat them		B. The number of robins will decrease because there are not enough worms for them		C. The number of robins will stay the same because the worms are folled, not the wohins	INCORRECT SM-R. Student misconception is that a change in the size of a prey	D. The number of sobins will stay the same because a change in the population of worms will not affect any other population of organisms.	INCORRECT SM-R. Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the food web.	AAAS Project			Double Coded (77)
102 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	S-CK	WREST	eat them.	INCORRECT	not enough weems for them to eat.	CORRECT	werms are folled, not the sobius.	population has no effect on its predator population.	other population of organisms.		AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Could be LS2-1 also
						A. The number of Ns will decrease because there will be fewer Ls to eat the Ms, so there will be more		B. The number of Ns will decrease because there will be fewer Ls for the Ms to eat, so there will be fewer Ms		C. The number of Ns will no change because the Ls are killed, not the Ns.	BNCORRECT SM-R. Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the food useb.	D. The number of Ns will not change because Ns are not	INCORRECT SMR. Student misconception is that varying the size of a population of organizers will affect only those populations of organizers that are directly connected to it in a feeding relationship, not organizers that are one or more short that are one or more short NAME of the ST. NAME OF THE S	AAAS Project 2061 Test Bank, s.d.			Double Coded (78)
103 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REFT	Ms to eat the Ns.	INCORRECT	available for the Ns to eat.	CORRECT	killed, not the Ns.			Student misconception is that varying the vice of a	Bank, s.d.	Yes	Yes	Could be LS2-1 also
						A. The number of foxes will decrease because there will be at the robins worms to eat the robins		B. The number of fones will decrease because there will be fewer worms for the robins to eat and so fewer robins will be available for		C. The number of foxes will not change because the	DICORRECT SM-R. Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the	D. The number of fones will not change because it is not	population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more store.	AAAS Project			Double Coded (79)
104 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	WEFT	and so more robins to eat the foxes.	INCORRECT	robins will be available for the foxes to eat.	CORRECT	weems are killed, not the foxes.	INCORRECT SM-R. Student misconception is that varying the size of a population of committee will affect only	not change because it is not connected to worms in the diagram.	relationship, not organisms that are one or more steps removed/away from it.	2061 Test Bank, n.d.	Yes	Yes	Could be LS2-1 also
						A. The number of Ns will decrease because there		B. The number of Ns will decrease because there will		C. The number of Ns will no change because Ns are not connected to Ls in the	those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps	D. More information is needed to tell what will happen to the		AAAS Project 2061 Test			Double Coded (80)
108 Life Science	MS-LS2-2	MS-LS2-A-4	Cause and effect	s-ck	#REFT	are more Ms to eat them.	INCORRECT	be fewer Ms for them to eat.	CORRECT	dugram.	DECORRECT SM-R. Student misconception is that varying the size of a normalizion of	number of Ns.	INCORRECT	Bank, n.d.	Yes	Yes	Could be LS2-1 also
						A. The number of foxes will decrease because there are more robins to		B. The number of foxes will decrease because there will be fewer robins for them to		C. The number of foxes will not change because they are not connected to worms in	those populations of organisms that are directly	D. More information is needed to tell what will happen to the number of foxes.		AAAS Project 2061 Test Bank, n.d.			Double Coded (81)
166 Life Science	MS-LS2-2	MS-LS2-A-4	Cause and effect	s-ck	#REFT	there are more robus to eat them.	INCORRECT	COL.	CORRECT	not connected to worms in the diagram.	that are one or more steps removed/away from it.	number of fexes.	INCORRECT	Bank, n.d.	Yes	Yes	Could be LS2-1 also
													INCORRECT SM-R.				
													Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web. Another student				
						A. The number of crickets would decrease because fewer rabbits could result in a decrease	INCORRECT SM-R. The student misconcention is the if	B. The number of crickets	ENCORRECT SM-R. Student misconception is	C. The number of crickets could increase because with fewer rabbits for the hawks t		D. The number of crickets would not be affected by the	populations below it in the food web. Another student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly				
107 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REF1	because fewer rabbits could result in a decrease in the number of indivisedals in all of the populations of organisms in this diagram.	INCORRECT SM-R. The student misconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of crickets could decrease because with fewer nabbits for the hawks to eat, the hawks would eat crickets instead.	Student misconception is that organisms higher in a food web eat everything that is lower in the food web.	could increase because with fewer rabbits for the hawks t eat, the hawks would eat more frogs, so there would b fewer frogs to eat the crickets.	CORRECT	D. The number of crickets would not be affected by the number of rabbits because crickets are not connected by an arrow to rabbits in the diagram.	population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (82) Could be LS2-1 also
						A. The number of deer increased because without predators, the deer lived longer and had more offspring that also lived longer.			INCORRECT SM-R. Student misconception is	C. The number of deer	INCORRECT SM-R. Student misconception is that	D. There is not enough					
108 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	s-ck	#REF1	neer lived longer and had more offspring that also lived longer.	CORRECT	B. The number of deer increased because populations are always increasing.	Student misconception is that populations exist in states of either constant growth or decline.	c. The number of seer increased because with fewer mountain lices and wolves, the deer had more food to ca	inc. Others. I See a Statem inscenception in that organisms higher in a food web eat everything that is lower in the food web.	D. There is not enough information in the question and diagram to tell why the deer population increased.	INCORRECT SM-R.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Double Coded (83) Could be LS2-1 also
						A. The number of Ms will increase because there will be fewer Ns to		B. The number of Ms will decrease because the con-		C. The number of Ms will stay the same because changes in the number of Ns		D. More information is needed to determine what will happen to the number of Ms.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on accoulations below is	AAAS Project 2061 Tors			Double Coded (84)
109 Life Science	MS-LS2-2	MS-LS2.A.4	Cause and effect	S-CK	#REF1	there will be fewer Ns to eat them.	CORRECT	B. The number of Ms will decrease because there will be fewer Ns for the Ms to eat.	INCORRECT	stay the same because changes in the number of Ns will not affect them.		to the number of Ms.	food web.	AAAS Project 2061 Test Bank, n.d.	Yes	Yes	Could be LS2-1 also

Unique Item Identifer	Middle School Science Discipline Focus (i.e., Physical Science, Life Sciences, Earth and Space Sciences, Engineering Design)	NGSS Performance Expectation Code	NGSS Disciplinary Core Ideas Code(s)	NGSS Cross- Cutting Concepts	Focus of Item (S-CK, T-CK, s PCK)	from Question	Response Option I	Interpretation of Response Option 1 (SM-R, SM-O)	Response Option 2	Interpretation of Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for 1	Flag for Potentia Coded by Problem UCoun Team (Yes, No) No)	or dily atic ex, Notes
110	Earth Science	MS-ESS3-4	MS-ESS3.C	Cause and effect	T-CK & S-CK	#REF1	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment. Anderson, A. (2013). Carbon Time Assessment. Anderson, A. (2013). Carbon Time Assessment. Anderson, A. (2013). Carbon Time Cassessment. Anderson, A. (2013).	Yes Yes	OR 11 and 12 are subspansions of MCSR 110, 111, 112, 113, 114, 115, 116, 117
111	Earth Science	MS-ESS3-4	MS-ESS3.C	Cause and effect	T-CK & S-CK	How much of the annual cycle is caused by plant growth?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment. Anderson, A. (2013).	Yes Yes	106, 117 OR 11 and 12 are subspacetions of MCSR 110, 111, 112, 113, 114, 115, 116, 117 OR 11 and 12 are subspacetions of MCSR 110
112						How much of the annual cycle is caused by nuclear power plants?	A. All or most		B. Some		C. None				Carbon Time Assessment. Anderson, A. (2013).	Yes Yes	OR 11 and 12 are subspaceions of MCSR 110, 111, 112, 113, 114, 115, 116, 117 OR 11 and 12 are subspaceions of MCSR 110, 111, 112, 113, 114, 115, 116, 117
						How much of the annual cycle is caused by changes in wind and weather? Why do you think carbon disoside concentration in the atmosphere is higher than it was 47 years ago. Circle to best closice to answer each quotion. How much of the continual rise is caused by harman burning coal and gaseline?	A. All or most		B. Some		C. None				Anderson, A. (2013).		116, 117 OR 11 and 12 are subspansions of MCSR 110, 111, 112, 113, 114, 115, 116, 117
				Cause and effect	1244.524	How much of the continual rise is caused by plant growth?	A. All or most		B. Some B. Some		C. None				Anderson, A. (2013). Carbon Time	Yes Yes	116, 117 OR 11 and 12 are subquestions of MCSR 110, 111, 112, 113, 114, 115, 116, 117
						How much of the continual rise is caused by machar power plants?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment.	Yes Yes	OR 11 and 12 are subquestions of MCSR 110, 111, 112, 113, 114, 115,
117	Earth Science	MS-ESS3-4	MS-ESS3.C	Cause and effect	TCK & SCK	How much of the continual rise is caused by changes in wind and weather?	A. All or most		B. Some		C. None				Anderson, A. (2013). Carbon Time Assessment.	Yes Yes	116, 117 OR 11 and 12 are subsparetions of MCSR 110, 111, 112, 113, 114, 115, 116, 117
118	Life Science	MS-LS2-3	MS-LS2.B	Cause and Effect	s-ck	#8231	A. The number of deer increased because without predainors, the deer lived longer and had neree offspreing that also lived longer. A. Animala compute for food when it is larnied, but they do not compute for water when it is limited.	CORRECT	B. The number of deer encursual because populations as always reputations as always recreasing. G. Asirwale correpts for food and water when they are limited, but they do not compute for helder when it is limited.	INCORRECT SM-R. Student misconception is that populations exist in states of cither constant growth or decline	C. The number of deer increased because with fewer mountain from, coyotes, and bobcats, the deer had more food to eat.	Dicorrect SM-R Sudent miscoecuption is organisms higher in a food web eat overything that is lower in the food web	D. There is not enough information to tell why the deer population increased.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes Yes	Double Coded with MCSR
119	Life Science	MS-LS2-1	MS-LS2.A	Cause and Effect	s-ck	Which of the following statements about competition between animals is TRUE?	A. Aramals compete for food when it is limited, but they do not compete for water when it is limited.	INCORRECT SM-R. Student misconception is that animals de not compete for water	n. Animals compete for food and water when they are limited, but they do not compete for shelter when it is limited.	INCORRECT SM-R. Student misconception is that animals do not compete for shelter	C. Animals compete for food, water, and shelter when they are limited.	CORRECT	D. Animals do not compete for any resources, even when it is limited.	INCORRECT INCORRECT SM-R. Student misconception is that animals do not compete for resources resources	AAAS Project 2061 Test Bank, s.d.	Yes Yes	Double Coded with MCSR 12
												DICORRECT SM-R. Student misconception in that if a population in a flood web is disturbed, there will be time that are not within the linear sequence in the flood web. Another student inscinceception in that varying engineers will affect only organisms that are directly companies that are directly connected to it in a facility and the sequence of the control of the connected to it in a facility and the control of the control of the removed of the control of the control inscince of the control of the control of the missing the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the					
							A. The number of caterrillars would		B. The number of caterpillars		C. The number of cateriollars	organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms	D. There is not enough information to tell what would happen to the number of		AAAS Project 2061 Test Bank, n.d.		
120	Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REP!	areputers would increase	CORRECT	B. The number of caterpillars would decrease.	INCORRECT	C. The number of cateripllars would stay the same.	that are one or more steps removed/away: from it.	nappen to the number of caterpélars.	INCORRECT	Bank, n.d.	Yes Yes	Double Coded MCSR 86 and 61
										INCORRECT SM-R. Student misconception is the stiff the size of one.							
121	Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REFT	A. The amount of grass and the number of mice, robins, caterpillars, and trees could increase.	INCORRECT	 The amount of grass and the number of mice, robins, caterpillars, and trees could decrease. 	Student misconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	C. The number of robins could increase and the number of caterpillars could decrease.	CORRECT	D. The number of robins could decrease, and the number of caterpillars could increase.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes Yes	Double Coded MCSR 87 and 62
							A. The number of robins rould decrease.		B. The amount of grass		C. The number of caterpillars		D. Oaly the number of mice		AAAS Project 2061 Tost Bank, n.d.		
122	Life Science	MS-LS2-1	MS-LS2.A	Cuase and effect	SCK	4827		CORRECT	would dicrease.	INCORRECT	weens secretare.	DICORRECT	weeld decrease.	INCORRECT	Bank, n.d.	Yes	
123	Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REST	A. The number of insects is Bloely to decrease because with fewer large fish to eat the tadpoles, there would be more tadpoles eating more water plants and fewer water plants and fewer to the insects.	CORRECT	B. The number of small fish is likely to decrease because with fewer large fish for the large birds to cat, the large birds would have to cat more small fish.	INCORRECT	C. The number of large birds in likely to stay the same because large fish and large birds are not connected by an arrow in the diagram.	Decorrect SM-R. Student reiscoecception in that varying the size of a population of organisms will affect only those populations of cognisment that are directly connected to it in a fooding relationship, not organisms that are one or mose stops removed/away from it.	D. The number of large fish is all that is likely to change because only large fish were taken out of the pond.	INCORRECT SM-R Student misconception is that changes in a population in a feed web do not affect the populations of any other organism in the feed web.	AAAS Project 2061 Test Bank, a.d.	Yes	
							A. The number of insects is block to decrease.					DNCORRECT SM-R. Student nesconception in that varying					
							A. The number of insects is likely to decrease because with fewer large fish to eat the tadpoles, there would be more tadpoles eating more water plants and fewer water plants are waitable for the insects.		B. The number of insects is likely to decrease because with fewer large fish for the large binds to eat, the large birds would have to eat more		C. The number of insects is not likely to change because large fish are not connected	ENCORRECT SM-R. Student miscenception is that varying the size of a pepulation of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/invary from it.	D. The number of insects is not likely to change because people took only large fish out of the pond.	INCORRECT SM-R Studen misconception is that changes in a population in a food web do not affect the populations of any other	AAAS Project 2061 Test		
134	Life Science	MS-LS2-1	MS-LS2-A	Crane and effect	SCK	6537	water plants available for the innects. A. The number of talpoles in likely to increase because there are	CORRECT	Be The number of large binds in likely to say the same times. B. The number of large binds in likely to say the same became large fish and large binds are one of the same say the same same say the same same say the same say the same same same same same same same sam	DOCORRECT	large that we not connected by an amove in the daggran. C. The number of small fish is likely to decrease because the property of the control of the control of the large below to calc. Here the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contro		of the pond.	populations of any other segments in the fixed with a segment in the fixed with a segment of the	2001 Toot Bank, n.d. * AAAS Project 2001 Toot Bank, n.d. *	Yes	
128	Life Science	MS-LS2-1	MS-LS2 A	Cuase and effect	SCK	4637		CORRECT	arrow is the diagram.	INCORRECT					Bank, n.d.	Yes	
126	Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	#REFI	A. The number of large birds is blody to increase because there will be more small fish for the large birds to eat.	CORRECT	B. The number of large binds is likely to decrease because there will be fewer large fish for the large binds to cut	INCORRECT	C. The number of large birds in Blody to stay the same because large birds and large fish are not connected by an arrow in the diagram.	BNCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The number of large brids is not likely to change because they are higher in the diagram than the large fish, which means that the large birds will not be affected by changes below them in the diagram.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes	

Middle School Science Discipline Focus (i.e., Physici Unique Science, Life Sciences, Earth	al NGSS h Performance	NGSS Disciplinary	NGSS Cross- Cutting Concepts	Focus of Item					Interpretation of						Coded by	Flag for Potentially Problematic	
Item and Space Sciences, Identifer Engineering Design)	Expectation Code	Core Ideas Code(s)	NGSS Cross- Cutting Concepts	(S-CK, T-CK, PCK)	ltem Question	Response Option 1	Interpretation of Response Option I (SM-R, SM-O)	Response Option 2	Interpretation of Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for Item	UCoun Team (Yes, No)	Item (Yes, No)	Notes
											DNCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations or organisms that are directly connected to it in a feeding relationship, not organisms that are one or more stern						
						A. Only the frog population could be affected.	INCORRECT SM-R. Student reasconceptions is that changes in a population in a food web do not affect the populations of any other organism in the food web.	B. Only the populations of		C. Only the populations of boetles, hawks, bears, and owls could be affected.	those populations of organisms that are directly connected to it in a feeding relationship, not organisms	D. The populations of all of		AAAS Project			
127 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	#REF!	affected.	other organism in the food web.	peans, receives, and rears could be affected.	INCORRECT	owls could be affected.	that are one or more steps removed/away from it.	the organisms shown in the diagram could be affected.	CORRECT	2061 Test Bank, n.d.	Yes		
							INCORRECT SM-R. Student misconceptions is that changes in a recognition in a food web do			C. Only the population of Ps		D. The populations of all of		AAAS Project			
128 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	WREP	Only the population of Ps could be affected.	misconceptions is that changes in a population in a food web do not affect the populations of any other organism in the food web.	B. Only the population of Ls, Ns. and Ss could be affected.	INCORRECT	C. Only the population of Ps Qs, Ss and Rs could be affected.	INCORRECT	D. The populations of all of the organisms shown in the diagram could be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
									INCORRECT SM-R. Student misconception is that the top modules in a		DNCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations or organisms that are directly connected to it in a feeding relationship, not organisms that are one or more stern						
						A. Only the populations of large fish, scals and killer whales would be		B. The populations of all of the organisms except the killer whales would be	Student misconception is that the top predator in a food web will never be significantly affected by changes in the populations of organisms below it in the food web.	C. Only the populations of shrimp, large fish, and small fish would be affected.	those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps	D. The populations of all of the organisms would be affected.		AAAS Project 2061 Test			
129 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REP!	affected.	INCORRECT	affected.	the food web.	fish would be affected.	that are one or more steps temoved/away from it.	affected.	CORRECT	2061 Test Bank, n.d.	Yes		
											INCORRECT SM-R. Student						
									INCORRECT SM-R. Student misconception is that the top predator in a food web will never be significantly affected by		the content is shown as a second of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding						
130 Life Science	MS-L S2-1	MS-LS2.A	Cause and effect	s-ck	apon	A. Only the populations of Os, Qs and Ss would be affected.	INCORRECT	B. The populations of all of the organisms except the Ss would be affected.	food web will never be significantly affected by changes in the populations of organisms below it in the food web.	C. Only the popultions of Mi Os, and Ns would be affected.	organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	D. The populations of all of the organisms would be affected.	CORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
- Common districts	posterior I	A	and effect	. coh	PAGE 1	- marchite		and the second	man eller								
111 Life Scient	MS-LS2-1	MS-LS2.A	Carrier and office	SCK	gpco	A. The number of Ls will increase and the number of Ns will decrease.	CORRECT	B. The number of Ls will decrease and the number of Ns will increase.	INCORRECT	C. The number of Ls will increase, and the number of Ns will stay the same.	INCORRECT SM-R. Student misconception is that a change in the size of a prey population has no effect on its resolutor nound	D. The number of Ls will stay the same and the number of Ne will decrease.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes		
A PART OF THE PROPERTY OF THE PARTY OF THE P	provide l	- Ionati A	January and criect		PAGET		The state of the s	- All stateds	A CONTRACTOR OF THE PARTY OF TH	was may all SIEDS.	DICORDICT CALD CALL	WALLESON.	Incorrect SM-R. Student misconception is that if a population in a food	-ara, 6.0.			
132 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	#REP!	A. The amount of grass will increase, and the number of frogs will decrease.	CORRECT	B. The amount of grass will decrease, and the number of frogs will increase.	INCORRECT	C. The amount of grass will increase and the number of frogs will stay the same.	misconception is that a change in the size of a prey population has no effect on its predator population.	D. The amount of grass will stay the same and the number of frogs will decrease.	Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes		
													DATE OF THE PARTY				
													Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web. Another student				
						A. The number of Ns will decrease because the	INCORRECT SM-R. Student			C. The number of Ns will	INCORRECT SM-R. Student		varying the size of a				
133 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect		#REF1	number of individuals in all of the populations of organisms in this diagram will decrease when the	INCORRECT SM-R. Student traisconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of Ns will decrease because there will be more Ms to eat the Ls, so fewer Ls will be available for	CORRECT	C. The number of Ns will stay the same because there will be no effect on the number of individuals in the populations of organisms below the Os in the diagram.	misconception is that if a population in a food web is disturbed, there will be little or no effect on populations	D. The number of Ns will stay the same because the Os and Ns are not connected by an arrow in the diagram.	population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.			
177 Life Science	MD*1.32*1	mouses	Case are tines		PANT:	manual or on accounts.	nan vay.	and its or ear.	CORRECT	outer the Cri in the suggestion	CALLER II III LIA POLA WELL		DISCORDING CALLS				
													Student misconception is that if a population in a food web is disturbed, there will be little or no effect on populations below it in the food web. Another student				
						A. The number of mice	INCORRECT SM-R. Student	B. The number of mice will		C. The number of mice will stay the same because there	INCORRECT SM-R. Student		misconception is that varying the size of a population of organisms will affect only those populations				
						will decrease because the number of individuals in all of the populations of organisms in this diagram	BNCORRECT SM-R. Student resisconception is that if the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	decrease because there will be more grasshoppers to eat the grass, so there will be less grass available for the mice to		C. The number of mice will stay the same because there will be no effect on the number of individuals in the populations of organisms before the frogs in the distrant.	misconception is that if a population in a food web is disturbed, there will be little	D. The number of mice will stay the same because frogs and mice are not connected by	feed web. Another student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps armound/since from it	AAAS Project 2061 Test Bank, n.d.			
134 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	WEFF	will decrease.	same way.	CZ.	CORRECT	dagram.	below it in the food web.		INCORRECT SMAR	efenk, n.d.	res		
						A. The number of Ms will increase because there are fewer Ls to eat		B. The number of Ms will decrease because there are not enough Ls for them to		C. The number of Ms will stay the same because the Ls are killed not the Ms.	INCORRECT SM-R. Student misconception is that a change in the size of a prey population has no effect on its	D. The number of Ms will stay the same because a change in the population of Ls will not affect any other population of organisms.	Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the food web.	AAAS Project 2061 Test Bank, n.d.			
135 Life Science	MS-LS2-1	MS-LS2.A	p. ause and effect	S-CK	#REF!	tnem.	INCORRECT	CZ.	CORRECT	pare kelled not the Ms.	predator population.	porganisms.	pergantum in the food web.	přenk, n.d.	res		
						A. The number of robins will increase because there are fewer worms to		B. The number of robins will decrease because there are not emough worms for them		C. The number of robins will stay the same because the	INCORRECT SM-R. Student misconception is that a change in the size of a no~	D. The number of robins will stay the same because a change in the population of worms will not affect any other population of organisms.	INCORRECT SM-R. Student misconception is that changes in a population in a food web do not affect	AAAS Proises			
136 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REF1	there are fewer worms to eat them.	INCORRECT	not enough weems for them to eat.	CORRECT	stay the same because the worms are killed, not the robins.	population has no effect on its preclator population.	worms will not affect any other population of organisms.	the populations of any other organism in the food web. INCORRECT SM-R. Student misconception is	2061 Test Bank, n.d.	Yes		
						A. The number of Ns will		B. The number of Ns will			INCORRECT SM-R. Student misconception is that changes		Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly				
137 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REF1	A. The number of Ns will decrease because there will be fewer Ls to eat the Ms, so there will be more Ms to eat the Ns.	INCORRECT	B. The number of Ns will decrease because there will be fewer Ls for the Ms to eat, so there will be fewer Ms available for the Ns to eat.	CORRECT	C. The number of Ns will no change because the Ls are killed, not the Ns.	DICORRECT SM-R. Student misconception is that changes in a population in a food web do not affect the populations of any other organism in the food web.	D. The number of Ns will not change because Ns are not connected to Ls in the diagram.	nane varying the sare of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps emoved/away from it. INCOM BFCT SMAR	AAAS Project 2061 Test Bank, n.d.	Yes		
											INCORRECT SM-R. Student		INCORRECT SM-R. Student misconception is that varying the size of a population of organisms will				
						A. The number of foxes will decrease because there will be fewer worms to eat the robins and so more robins to eat		B. The number of fones will decrease because there will be fewer worms for the robins to eat and so fewer robins will be available for		C. The number of foxes will not change because the worms are killed, not the	asyCORRECT SM-R. Student misconception is that changes in a population in a food web do not affect the populations of my other or produce and applications.	D. The number of foxes will not change because it is not connected to worms in the discress.	Student insecreception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding relationship, not organisms that are one or more steps armound/insecretion; it	AAAS Project 2061 Test Bank, n.d.			
138 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	#REF1	the forces.	INCORRECT	robins will be available for the foxes to eat.	CORRECT	forces.		connected to worms in the diagram.	that are one or more steps removed/away from it.	Bunk, n.d.	Yes		
										C. The number of Ns will no	INCOURTECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly connected to it in a feeding						
139 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	WREFT	A. The number of Ns will decrease because there are more Ms to eat them.	INCORRECT	B. The number of Ns will decrease because there will be fewer Ms for them to eat.	CORRECT	C. The number of Ns will no change because Ns are not connected to Ls in the diagram.	that are one or more steps removed/away from it.	D. More information is needed to tell what will happen to the number of Ns.	INCORRECT	AAAS Project 2061 Test Bank, n.d.	Yes		
											INCORRECT SM-R. Student misconception is that varying the size of a population of organisms will affect only those populations of organisms that are directly						
						A. The number of foxes will decrease because there are more robins to eat them.		B. The number of fones will decrease because there will be fewer robins for them to		C. The number of foxes will not change because they are		D. More information is needed to tell what will happen to the number of foxes.		AAAS Project 2061 Test Bank, n.d.			
140 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	#REP!	eat them.	INCORRECT	eat.	CORRECT	not change because they are not connected to worms in the diagram.	temoved away from it.	and wait wal happen to the number of foxes.	INCORRECT	Bank, n.d.	Yes		
													INCORRECT SM-R. Student misconception is that if a population in a food web is disturbed, there will				
													be little or no effect on populations below it in the food web. Another student misconception is that				
						A. The number of crickets would decrease because fewer rabbits could result in a decrease	ENCORRECT SM-R. The student trisiconception is that if the size of one population in a food web is alkered, all other populations in the web will be altered in the same way.	B. The number of crickets	INCORRECT SM-R. Student misconception is	C. The number of crickets could increase because with fewer rabbits for the hawks t	,	D. The number of crickets would not be affected by the	INCORECT SM-R. Student reincorception is that if a population in a food web is disturbed, there will be little or no effect on populations below in in the food web. Another student insconception is that varying the size of a population should be sufficiently in the control of				
141 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	S-CK	#REF1	in the number of indivisuals in all of the populations of organisms in this diagram.	the size of one population in a food web is altered, all other populations in the web will be altered in the same way.	B. The number of crickets could decrease because with fewer rabbits for the hawks to eat, the hawks would eat crickets instead.	INCORRECT SM-R. Student misconception is that organisms higher in a food web eat everything that is lower in the food web.	eat, the bawks would eat more frogs, so there would b fewer frogs to eat the crickets.	CORRECT	D. The number of crickets would not be affected by the number of rabbits because crickets are not connected by an arrow to tabbits in the diagram.	connected to it in a feeding relationship, not organisms that are one or more steps removed/away from it.	AAAS Project 2061 Test Bank, n.d.	Yes		

Unique Item Identifi	Middle School Science Discipline Focus (i.e., Physical Science, Life Sciences, Earth and Space Sciences, ir Engineering Design)	NGSS Performance Expectation Code	NGSS Disciplinary Core Ideas Code(s)	NGSS Cross- Cutting Concepts	Focus of Item (S-CK, T-CK, PCK)	item Question	Response Option 1	Interpretation of Response Option 1 (SM-R, SM-O)	Response Option 2	Interpretation of Response Option 2 (SM- R, SM-O)	Response Option 3	Interpretation of Response Option 3 (SM-R, SM-O)	Response Option 4	Interpretation of Response Option 4 (SM-R, SM-O)	Reference for	Flag: Potent Coded by Probles UCoun Team Item ((Yes, No) No	for ially matic Yes,) Notes
							A. The number of deer										
	42 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	s-ck	#REF?	A. The number of deer increased because without predators, the deer lived longer and had more offspring that also lived longer.	CORRECT	B. The number of deer increased because populations are always increasing.	ENCORRECT SM-R. Student misconception is that populations exist in states of either constant growth or decline.	C. The number of deer increased because with fewer mountain lices and wolves, the deer had more food to eat.	INCORRECT SM-R. Student misconception is that organisms higher in a food web cut everything that is lower in the food web.	D. There is not enough information in the question and diagram to tell why the deer population increased.		AAAS Project 2061 Test Bank, n.d.	Yes	
							A. The number of Ms will increase because there will be fewer Ns to eat them.		B. The number of Ms will		C. The number of Ms will stay the same because changes in the number of Ns will not affect them.		D. More information is needed to determine what will happen to the number of Ms.	INCORRECT SM-R. Student misconception is that if a population in a food web is disturbed, there will be little or no effect on	AAAS Project		
	43 Life Science	MS-LS2-1	MS-LS2.A	Cause and effect	sck	#REF?	there will be lewer Ns to eat them.	CORRECT	B. The number of Ms will decrease because there will be fewer Ns for the Ms to eat.	INCORRECT	changes in the number of Ns will not affect them.		to determine what will happen to the number of Ms.	populations below it in the food web.	AAAS Project 2061 Test Bank, n.d.	Yes	

Middle School Science																										
Discipline																										
Focus (i.e., Physical																										
Science, Life																										
Sciences.																										
Earth and					CCSS -	CCSS -						Interpretatio			Flag for											
Space	NGSS	NGSS			Reading	Writing						n of Response			Potentially											
	Performance			NGSS Cross-	Standards for		CCSS -	CCSS -	Focus of Item			Option 1		Option 2		Option 3		Option 4		Option 5		Option 6		Coded by	Problematic	
Engineering	Expectation	Core Ideas	NGSS	Cutting	Literacy in	Literacy in	Mathematics	Mathematics	(S-CK, T-CK,	Item	Response	(SM-R, SM-	Reference for	or UConn Team	Item (Yes,											
Design)	Code	Code(s)	Practices	Concepts	Science	Science	Content	Practices	PCK)	Ouestion	Option 1	0)	Option 2	0)	Ontion 3	0)	Option 4	0)	Option 5	0)	Option 6	0)	Item	(Yes, No)	No)	Notes

Middle Monte Some Despite Physical Science Life Science Life Barth and MONS ASSA Science Reputation of Monte Life Lands and Life Life Life Life Life Life Life Life	CCSS - CC	biospecialis hospecialis laterpetidis laterpetidis heterpetidis heterpetidis series e delicales e deli	retatio File goume Coded by Pesh SM- Reference for Ucon Stean Into Item (Dec. No)	ag for entially slemnic m (Vos. No) Notes
Physical 1 Notineer MS-PS1-3 MS-PS1 B	Encep and Matter S-4	CCS. & CCS. Tree date to and these pion result of general?	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	Awaining answer key Subspannion for MCSR 33- 42 Double Coded OR-2 Awaining answer key
2 Eath Science MS 6552-1 MS 6552A	Gavey and Meter	CX.A.S.CX. New date the set two pior reason at great?	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	Subquartion for MCSR 33- 42 Double Coded OR-1 Assuiting answer key
3 Physical Science MS-PSI-S MS-PSI-B	Energy and Maler S.C.	OSA1 CO. Two date the formula planting of the energy?	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	Subquention for MCSR 43- 52 Double Coded OR-4 Assairing answer key
4 Earth Science MS-ESS2-1 MS-ESS2-A	Dangy and Existence Existe	CK.A.S.CX. Next date the forming place graf its energy?	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	Subquestion for MCSR 43- 52 Double Coded OR-3 Awaling answer key
5 Life Science MS-L22-3 MS-L32-8		CX.8.5.C2, Note the malessians, assess and energy most firmings the final close? Note the year both the displacement of grant of an all to be the g	Anderson, A. (2013). Carbon Time Assenment. Anderson, A. (2013). Carbon Time Assenment. Yes Yes	Subquestion for MCSR 23-58 This is more specific (molecular and atom level) than the content of the LHS Curriculum
6 Life Science MS-LSD-3 MS-LSD-8	Energy and Moder T-C	He was to so the recipion of an extra term of an extra te	Carbon Finne Assessment. Yes	Awaiting answer key OR 8 is a subquestion of OR 7 This is more
7 Physical Science MS PS1-5 MS PS1 B	Europy and TC	Man of Note field for receive and 20 g The address of the date of the sales weighted the same amount, so greating ritte get had of these weights from load at field from walls.* Copy on the date duted for central Topics your reasoning.	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	This is more specific prolecular and atom levely than the content of the LHS Controllers Awaiting answer key CR 8 is a subguestion of OR?
8 Physical Science NS PS1-5 MS PS1-2	Energy and TC	What qualifies about the mone greating terrain oursement after collecting the set of existence? Experimentalists	Anderson, A. (2013). Carbon Time Assessment. Yes Anderson A	This is more specific (molecular and atom level) than the content of the LHS Curriculum Austing answer key
9 Life Science NS-LS2-3 MS-LS2-8	Energy and F.C.	CA 1 PC. Vind common and data model you used to represe and other way depleadings of their bear and format and their way of their bear and format and their way of their bear and format and format and their sections and format and f	Anderson, A. (2013). Carbon Sime Assessment. Yes Yes	OR 9 and OR 10 are subquestions of OR 6 Availing answer key
10 Life Science MS-LS2-3 MS-LS2-8	Europy and Other TC	SCA 1950. While concluding would you like them to draw?	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	OR 9 and OR 10 are subquestions of OR 6 Awaiting answer key
11 Eath Science MS-ESS3-4 MS-ESS3-C		SUASOL STATES AND TWO dates attrasplants carbon decide conventible go dates early surface and grade any victor.	Anderson, A. (2013). Carbon Time Assessment. Yes Yes Anderson, A. (2013). Carbon Time	OR 11 and 12 are supported by the control of the co
78 E49 Service No 6005-4 MS 6005-C	Guard Effect T.C	SOLAS COL. Section 1. The one first pursuases hold you cheer cause more action closels by prob the section of the collection of the collec	Carlos Time Associated Yes Yes	154, 115, 116, 117, 116, 116, 117, 116, 116, 116
12 Life Science MS-ESG3-1 MS-ESG2 A	Energy and Mater T.C.	DIA170X #EET	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	OR 13, 14, 15, 15 are subquestions of OR 12
	Energy and Matter T-C	CAL FOCK Wild directablish in Treasuring and Temporary and Compage and Compag	(2013). Carbon Time Assessment. Yes Yes Anderson, A. (2013).	OR 13, 14, 15, 16 are subquestions of OR 12 OR 13, 14, 15, 16 are subquestions of OR 12
		The an option plan relating to Comp 3. *** Disk 1900** The an option plan relating to Comp 3. *** The analysis with the backer's graphing planes applies have you would carrier the property and DISK 1900** **The analysis of the backer's graphing planes applies have you would carrier the property and	Anderson, A. (2015). Anderson, A. (2015). Anderson, A. (2013). Carbon Time Anderson, A. (2013). Carbon Time Anosoment Anderson, A. (2015). Anderson, A. (2015). The Anosoment Anosoment Anosoment Anosoment Yes Yes Anosoment Yes Yes Anosoment Yes Yes Yes Yes Anosoment Yes Yes Yes Yes Yes	OR 13, 14, 15, 16 are
16 Lih Somes 166 6533-1 166 6332.A	Strange of T.C.	SEAL EFFOCK Water Properties and Syncoperate	Andersen A (2013) Annearent Ver Yer	OR 13, 14, 15, 15, end of the second of the
17 Physical Science MS PS1-5 MS PS1.0	Compy and School	DIATROX MEDIT	Anderson, A. (2013). Carbon Time Assessment. Yes Yes	THIS IS JUST A GRAPHIC TO BE ABLE TO ANSWER OR 18 AND 19 NOT AN ACTUAL QUESTION

18 PI	Thysical Science	MS-PS1-5	MS-PS1.D	Energy and Matter		,	F-CK & T-PCK	MELTI						Anderson, A. (2013). Carbon Time Assessment.	Yes	Yes	OR 18 and 19 are subquestions of OR 17
														Anderson, A. (2013). Carbon Time			OR 18 and 19

APA Style Reference for Source	Source Notes
	This source also contains: -References for each individual misconception
	-Percentages of students who chose the misconception or correct answer for
	Grades 6-8, Grades 9-12, Males, Females, English as a primary language, English not as a primary language, and the overall percentage.
AAAS Project 2061 Test Bank, n.d.	