

Student PRE- and POST-sampling Surveys*—Fall 2013

Pre- and post-REP student evaluations, designed to reflect the program's impact, are distributed to each participating teacher and are written for different grade level groups: 4-6, and 7-12. Schools in the program that have numerous grade levels participating are given the appropriate mix so that each student has the ability to take the proper survey. Pre-REP surveys that do not have a matching post-REP survey (and vice-versa) are enumerated separately, but are not included in overall calculations. This ensures that the assessments are balanced and accurate, though it also can mean some schools' data reflect more/less students who actually participated in the program than in the surveys because they missed either the sampling day or the survey distribution. Below is the compiled assessment of the survey for each grade level participating in Fall 2013 monitoring.

KEY:

Increase (PRE → POST)	Decrease (PRE → POST)	No Change (PRE → POST)

^{*}As of Fall 2013, REP PRE- and POST-sampling surveys have been modified and are adapted (with permission) from similar surveys created and distributed by the Friends of the Chicago River.

Fall 2013 Participants:

School	City
Birmingham Covington School	Bloomfield Hills, MI
Chandler Park Academy High School	Harper Woods, MI
Crestwood High School	Dearborn Heights, MI
Intercity Baptist High School	Allen Park, MI
Oakland Schools Technical Campus, SE	Royal Oak, MI
Steppingstone School	Farmington Hills, MI
Troy High School	Troy, MI

Grade:				Total number of students:					
	5				6!	5			
	Participating schools: Birmingham Covington School								
			Number of	times to Rouge Riv	er (field trip)				
	0	1	2	2	4	-	5+	No	
			2	3	4	5	3+	Response	
PRE	40 7		2	2	2	1	10	1	
POST	7 33		3	4	4	1	13	0	
				Interest in science	e				
	Van interested Interested			Moderately	Somewhat	Not	No P	Posnonso	
	Very interested		Interested	interested	interested	interested	NOR	Response	
PRE	26		19	15	3	1		1	
POST	26		16	18	3	1		1	

% change	0%	-16%	20%	0%	0%	0%				
Interest in nature										
	Very interested Interested Moderately Somewhat Not No Res									
	-		interested	interested	interested	No Response				
PRE	26	16	17	3	2	1				
POST	30	20	12	2	1	0				
% change	15%	25%	-29%	-33%	-50%	-100%				
			Interest in school		ı					
	Very interested	Interested	Moderately interested	Somewhat interested	Not interested	No Response				
PRE	15	18	16	8	6	2				
POST	17	16	19	6	5	2				
% change	13%	-11%	19%	-25%	-17%	0%				
		Re	elationship with nat	ture						
	Me A	Nature	B Nature	2	Me	Nature				
PRE	9		40		16					
POST	8		40		17					
% change	% change -11% 0% 6%									
	Q: A	II macroinverte	ebrates are equally	<u> </u>						
		TRUE		FALSE (CORR	ECT)	No Response				
PRE		15		50						
POST		12			52 1					
% change		-20%		4%		100%				
Number of	students correctly i	, ,	macroinvertebrate (snails, clams, etc.)		sects, mamn	nals, crustaceans ,				
PRE			8	}						
POST			1:	2						
% change			50							
	Number of st	udents correct	ly listed a source o	•	Rouge River					
PRE			4:							
POST			50							
% change	N. I. C.		30		D:					
DDE	Number of stud	ients correctly	listed a corrective		kiver pollutio	on				
PRE			4							
POST % change			5 ₄							
% change	ercentage of studen	ats who knows			ouge Piver n	ollution				
Percentage of students who know where to look to learn more about Rouge River pollution PRE 44										
POST	56									
% change			27							
70 Change	Students listi	ng way in whic	ch participating in t		Rouge River					
		participants	participating in t	He her helps the	Percentage	of total				
		1			63%					
			"Agree" Statemen	ts						
Agree Statements										

	I learned something new about the Rouge River								
Number	64								
% of total	98%								
	I plan to talk to friends and/or family about what I learned in the REP								
Number	55								
% of total	85%								
	I learned about things I can do to make the Rouge River healthier								
Number	59								
% of total	91%								
	The REP helped me to understand things I learn in my classroom better								
Number	41								
% of total	63%								
	The REP helped me to think like a scientist								
Number	56								
% of total	86%								
	The REP made me feel that I can make a difference in protecting the environment								
Number	56								
% of total	86%								

	Grad	de:		Total number of students:								
	6			67								
	Participating schools: Birmingham Covington School; Steppingstone School											
Number of times to Rouge River (field trip)												
	0	1	2	3	4	5	5+ No Response					
PRE	0	9	42	6	3	0	6	1				
POST	0	2	8	37	4	5	11	0				
				Interest in science	e							
	Very interested		Interested	Moderately interested	Somewhat interested	Not interested	No F	Response				
PRE	1.0		16		8	3		1				
	16		16	23	•	2	1					
POST	16		14	25	10		0					
% change	0%	6	-13%	9%	25%	-33% -100%						
			T	Interest in natur		T						
	Very inte	erested	Interested	Moderately	Somewhat	Not	No F	Response				
				interested	interested	interested						
PRE	18		22	16	5	5		1				
POST	15	5	21	21	4	3		3				
% change	-17%		-5%	31%	-20%	-40%	2	200%				
				Interest in school	ol							
	Very interested Interested		Interested	Moderately	Somewhat	Not	No F	2000000				
			interested	interested	interested	interested	NO F	Response				
PRE	13	3	21	15	9	6		3				
POST	13	3	17	19	10	5		3				
% change	0%	6	-19%	27%	11%	-17%		0%				

Relationship with nature											
	A Nature	No Response									
PRE	9	43	13	2							
POST	8	40	1	1							
% change	-11%	-7%	38%	-50%							
	Q: All macroinvertebrates are equally tolerant of pollution										
	TRUE FALSE (CORRECT) No Response										
PRE	9		57	1							
POST	2		65	0							
% change	-78%		14%	-100%							
Number o	Number of students correctly identifying ALL macroinvertebrates from list (i.e., insects, mammals, crustaceans, molluscs (snails, clams, etc.), birds, fish)										
PRE		21									
POST		22									
% change	5%										
	Number of students correctly listed a source of pollution to the Rouge River										
PRE	48										
POST	51										
% change		6%									
Number of students correctly listed a corrective action for Rouge River pollution											
PRE		54									
POST		53									
% change		-2%									
225	Number of students who know		more about Rouge Rive	r pollution							
PRE		47									
POST		48									
% change	Charles to the construction and	2%	- DED below the Device D								
	Students listing way in winder of participants	nich participating in th									
	53			ge of total 9%							
		"Agree" Statements		970							
	I learned so	mething new about th									
Number		54									
% of total		81%									
	I plan to talk to friend	s and/or family about v	what I learned in the REF)							
Number		42									
% of total		63%									
	I learned about thin	gs I can do to make the	e Rouge River healthier								
Number		51									
% of total		76%									
	The REP helped me to t		rn in my classroom bette	er							
Number	35										
% of total		52%									
The REP helped me to think like a scientist											

Number	50						
% of total	75%						
The REP made me feel that I can make a difference in protecting the environment							
Number	52						
% of total	78%						

Grade:				Total number of students:								
	7					4						
				ipating schools: Steppi								
				ber of times to Rouge R	iver (field trip							
	0	1	2	3	4	5	5+	No Response				
PRE	0	0	1	1	0	0	2	0				
POST	0	0	0	1	0	1	2	0				
Interest in science												
	Vei	-	Interested	Moderately	Somewhat	Not	No	o Response				
	intere			interested	interested	interested						
PRE	2		1	0	1	0		0				
POST	2		2	0	0	0		0				
% change	0%	6	100%	0%	-100%	0%		0%				
			, ,	Interest in natur		T	<u> </u>					
	Vei	-	Interested	Moderately	Somewhat	Not	N	o Response				
	intere			interested	interested	interested		<u> </u>				
PRE	2		0	2	0	0		0				
POST	2		1	1	0	0		0				
% change	0%	6	100%	-50%	0%	0%		0%				
Interest in school												
	Very		-		-		Interested	Moderately	Somewhat	Not	N	o Response
	intere			interested	interested	interested		<u> </u>				
PRE	1		1	1	1	0		0				
POST	1		2	0	0	1		0				
% change	0%		100%	-100%	-100%	100%		0%				
		Number	of students of	orrectly listed a source	of pollution to	o the Rouge	River					
PRE				4								
POST				3								
% change				-25								
	Percenta	age of st	tudents corre	ctly listing a corrective a	<u> </u>	ution source	listed abo	ove				
PRE				100								
POST				67								
% change				-33								
	Of those listing problem above, number of students who can AGREE with following statements:											
	Strongly Agree Neither Agree nor Disagree Strongly Disagree						gly Disagree					
		•	I am coi	nfident in my ability to i	esearch prob	lem						
PRE	1		3	0		0		0				
POST	0		2	1		0 0						

	I am sure that I could explain to others why this problem is important									
PRE	2	1	1	,	0)			
POST	1	0	0		2	()			
	I know where I could find help and resources to take action on this problem									
PRE	0	1	2		1)			
POST	0	0	1		2	()			
	Relationship with nature									
	Me	A	B Me Nature		Me	C				
PRE		1	3			0				
POST		0	2			2				
% change		-100%	-33%			100%				
Q: When	testing for t	he presence of disso	ved oxygen, doing t result	he test	t more than once w	vill give the mo	st accurate			
		TRUE (CORI				FALSE				
PRE		4				0				
POST		4				0				
% change		0%			0%					
, r change	Q: All macroinvertebrates are equally tolerant of pollution									
	TRUE FALSE (CORRECT)									
PRE	0 4									
POST		0				4				
% change		0%				0%				
Number	of students	correctly identifying mollu	ALL macroinvertebra scs (snails, clams, et			, mammals, cr ı	ustaceans,			
PRE			•	2	<u> </u>					
POST				3						
% change			5	0%						
		Number of students	correctly listing a so	urce o	of nitrates to the Ro	uge				
PRE				2						
POST				2						
% change				0%						
	Nu	mber of students co	rrectly listing an acti	on to I	imit nitrates in the	Rouge				
PRE				2						
POST				2						
% change				0%						
	Students listing way in which participating in the REP helps the Rouge River									
	Number of participants Percentage of total									
	3 75%									
			estion: Extent of Ex	•						
		I learned	something new abo		Rouge River					
	Strongly Agree	Agree	Neither Agree i Disagree	nor	Disagree	Strongly Disagree	No Response			
Number	0	1	3		0	0	0			
% of total	0%	25%	75%		0%	0%	0%			

Number O	I plan to talk to friends and/or family about what I learned in the REP										
Number 0		Strongly	A = = = =	Neither Agree nor	Disagrag	Strongly	No				
		Agree	Agree	Disagree	Disagree	Disagree	Response				
Strongly	Number	0	0	2	<u>2</u>	0	0				
Number O	% of total	0%	0%	50%	50%	0%	0%				
Number O		I experienced a feeling of connectedness with the Rouge River									
Number O		Strongly	Agroo	Neither Agree nor	Disagrae	Strongly	No				
		Agree	Agree	Disagree	Disagree	Disagree	Response				
Number 1	Number	0	1	1	2	0	0				
Number Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree No O O O O O O O O O	% of total	0%	25%	25%	50%	0%	0%				
Number O	I reflected on new ideas about how my actions affect the river										
Number 0 2 2 2 0 0 0 0 0 0		Strongly	Agroo	Neither Agree nor	Disagroo	Strongly	No				
		Agree	Agree	Disagree	Disagree	Disagree	Response				
Strongly Agree Agree Neither Agree nor Disagree Neither Agree nor	Number	0	2	2	0	0	0				
Number O	% of total	0%	50%	50%	0%	0%	0%				
Number O			I learned what a	actions to take to make th	e Rouge healthier						
Number O		Strongly	A = 110 =	Neither Agree nor	Diagram	Strongly	No				
No fitted O% 75% 25% O% O% O% O% O%		Agree	Agree	Disagree	Disagree	Disagree	Response				
Number 1 Number 2 2 0 0 0 0 0 0 0 0	Number	0	3	1	0	0	0				
Number	% of total	0%	75%	25%	0%	0%	0%				
Number 1			I would choose to p	participate in more projec	ts to help the Roug	e					
Number 1		Strongly	Аснов	Neither Agree nor	Diagrag	Strongly	No				
Strongly Agree Agree Neither Agree nor Disagree Strongly Agree Neither Agree nor Disagree Neither Agree nor Neither Agree nor Disagree Neither Agre		Agree	Agree	Disagree	Disagree	Disagree	Response				
Number Agree Neither Agree nor Disagree Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree Number 2 2 0 0 0 0 0 0 0 0	Number	1	2	0	0	1	0				
Number Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree Response	% of total	25%	50%	0	0	25%	0%				
Number 2 2 0 0 0 0 0 0 0 0			REP monitoring r	nade a difference in the h	ealth of the Rouge						
Number 2 2 0 0 0 0 0 0 0 0		Strongly	Аснов	Neither Agree nor	Diagrag	Strongly	No				
Strongly Agree Agree Neither Agree nor Disagree Strongly Agree Agree Neither Agree nor Disagree Now Disagree N		Agree	Agree	Disagree	Disagree	Disagree	Response				
Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree No Response	Number	2	2	0	0	0	0				
Number O	% of total	50%	50%	0%	0%	0%	0%				
Number O			REP monitoring invo	lved people/organization.	s from the commun	nity					
Number O		Strongly	Agroo	Neither Agree nor	Disagrap	Strongly	No				
Number 0 0 0 0 0 0 0 0 0		Agree	Agree	Disagree	Disagree	Disagree	Response				
Strongly Agree Agree Neither Agree nor Disagree Strongly Disagree Number O	Number		0	0	4						
Number Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree Number O	% of total	0%	0%	0%	100%	0%	0%				
Number O O O O O O O O O			The REP helped me		difference in society	у					
Number O		Strongly	Agree	Neither Agree nor	Disagroo	Strongly	No				
% of total0%50%50%0%0%In the REP, I met people/encountered things I normally wouldn't haveStrongly AgreeAgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber100300% of total25%0%0%75%0%0%The REP challenged me to think like a scientistStrongly AgreeAgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber031000		Agree	Agree	Disagree	Disagi ee	Disagree	Response				
Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree Number 1 0 0 3 0 0 0 0 0 0 0	Number	0	0	2	2	0	0				
Strongly AgreeAgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber100300% of total25%0%0%75%0%0%The REP challenged me to think like a scientistStrongly AgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber031000	% of total	0%	0%	50%	50%	0%	0%				
AgreeDisagreeDisagreeDisagreeDisagreeResponseNumber100300% of total25%0%0%75%0%0%The REP challenged me to think like a scientistStrongly AgreeAgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber031000			In the REP, I met peop	ole/encountered things I r	normally wouldn't h	ave					
Number 1 0 0 3 0 0 % of total 25% 0% 0% 75% 0% 0% The REP challenged me to think like a scientist Strongly Agree Agree Neither Agree nor Disagree Disagree Strongly Disagree No Response Number 0 3 1 0 0 0		Strongly	Agree	Neither Agree nor	Disagroo	Strongly	No				
% of total25%0%0%75%0%0%The REP challenged me to think like a scientistStrongly AgreeAgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber031000		Agree	Agree	Disagree	Pisagi ee	Disagree	Response				
The REP challenged me to think like a scientist Strongly Agree Number O Strongly Agree Neither Agree nor Disagree Disagree Disagree Disagree O O O O	Number	1	0	0	3	0	0				
Strongly AgreeAgreeNeither Agree nor DisagreeDisagreeStrongly DisagreeNo ResponseNumber031000	% of total	25%	0%	0%	75%	0%	0%				
AgreeDisagreeDisagreeDisagreeDisagreeResponseNumber031000			The REP c	hallenged me to think like	e a scientist						
Number 0 3 1 0 0 0		Strongly	Agrac	Neither Agree nor	Disagree	Strongly	No				
		Agree	Agree	Disagree	טואמצו פפ	Disagree	Response				
% of total 0% 75% 25% 0% 0% 0%	Number	0	3	1	0	0	0				
	% of total	0%	75%	25%	0%	0%	0%				

The REP was directly related to classroom work									
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response			
Number	0	1	2	1	0	0			
% of total	0%	25%	50%	25%	0%	0%			
		The REP helped	me understand classroor	n material better					
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response			
Number	0	2	0	0	1	1			
% of total	0%	50%	0%	0%	25%	25%			
	I had the op	portunity to participa	te in river-related discussi	ions/activities BEFC	DRE our field tri	מ			
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response			
Number	2	0	1	0	0	1			
% of total	50%	0%	25%	0%	0%	25%			
	I had the op	oportunity to participa	ate in river-related discuss	sions/activities AFT	ER our field trip	1			
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response			
Number	3	1	0	0	0	0			
% of total	75%	25%	0	0	0	0			

	Grade:				Total number				
		Particip	ating schoo	Is: Stepping	stone School				
		<u>.</u>			er (field trip)				
	0	1	2	3	4	5	5+	No Response	
PRE	1	0	0	0	0	0	2	0	
POST	1	0	0	0	0	0	2	0	
			Interes	t in science					
	Very interested	Interested	Mode inter	-	Somewhat interested	Not interested	No Re	No Response	
PRE	2	1	()	0	0		0	
POST	3	0	0		0	0		0	
% change	50%	-100%	09	%	0%	0%	0%		
			Interes	st in nature					
	Very	Interested	Moderately		Somewhat	Not	No Response		
	interested	interesteu	inter	ested	interested	interested	NO NE	sponse	
PRE	0	1	1	L	1	0		0	
POST	0	1	1	<u> </u>	1	0		0	
% change	0%	0%	09	%	0%	0%	()%	
			Intere	st in school					
	Very	Interested	Mode	rately	Somewhat	Not	No Po	sponse	
	interested	interesteu	inter	ested	interested	interested	NO NE	sponse	
PRE	1	2	(0	0		0	
POST	1	2	()	0	0		0	
% change	0%	0%	09	%	0%	0%	()%	

	Number of studen	ts correctly listed	a source of	pollution	n to the Rouge River	
PRE			2	2		
POST			3	3		
% change			50	1%		
Pero	centage of students co	rrectly listing a co		-	ollution source listed ab	oove
PRE			33	%		
POST			67	'%		
% change			34			
Of the	se listing problem abo	ve, number of stu			EE with following stater	
	Strongly Agree	Agree	Neither nor Dis	_	Disagree	Strongly Disagree
	I am	confident in my a			oblem	
PRE	1	0	1	·	0	0
POST	0	1	2		0	0
	I am sure that I	could explain to d	others why	this prob	lem is important	
PRE	0	1	1		0	0
POST	0	1	1		0	1
	I know where I coι	ıld find help and r	esources to	take act	ion on this problem	
PRE	0	1	1	0		
POST	0				1	0
		Relationsh	ip with nat	ure		
	Me Nature	Me	Nature		Me Nature	ē
PRE	0	3			0	
POST	0	3			0	
% change	0%	0%			0%	
Q: When testir	ng for the presence of		doing the t	est more	than once will give the	most accurate
	1	RUE (CORRECT)	esuit		FALSE	
PRE		3			0	<u>- </u>
POST		3			0	
% change		0%			0%	
	Q: All mad	roinvertebrates a	re equally	tolerant c	of pollution	
		TRUE	, ,		FALSE (CORREC	T)
PRE		0			3	
POST		0			3	
% change		0%			0%	
Number of stu	•	ying ALL macroinv			(<i>i.e.,</i> insects , mammals	s, crustaceans,
PRE		(2 2 3)	2			
POST						
% change			-50			
J	Number of stud	lents correctly list			tes to the Rouge	
PRE		•	2		•	
POST			1			

% change			-50%		
	Number of stude	ents correctly listing	an action to limit r	nitrates in the Rouge	
PRE			1		
POST			0		
% change			-100%		
	Students listing v	vay in which partici	pating in the REP h	elps the Rouge River	
	Number of partic	cipants		Percentage of to	tal
	2			67%	
	Follow	-up Question: Exte	nt of Experience w	ith the REP	
	I le	arned something n		e River	1
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	2	0	1	0
% of total	0%	67%	0%	33%	0%
	I plan to talk	to friends and/or fa	mily about what I le	earned in the REP	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	2	0	1	0
% of total	0%	67%	0%	33%	0%
	I experien	ced a feeling of con		e Rouge River	
	Strongly Agree	Agree	Neither Agree	Disagree	Strongly
	Strongly Agree	Agree	nor Disagree	Disagree	Disagree
Number	1	0	2	0	0
% of total	33%	0%	67%	0%	0%
	I reflected	on new ideas abou		ffect the river	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	0	2	1	0
% of total	0%	0%	67%	33%	0%
	I learned	d what actions to ta		ıge healthier	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	0	1	2	0
% of total	0%	0%	33%	67%	0%
	I would cho	oose to participate i		help the Rouge	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	1	1	0	1
% of total	0%	33%	33%	0%	33%
	REP moni	toring made a diffe		of the Rouge	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	1	2	0	0
% of total	0%	33%	67%	0%	0%
	REP monitor	ing involved people,		n the community	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	0	2	1	0
% of total	0%	0%	67%	33%	0%
	The REP he	lped me feel that I	could make a differ	ence in society	

	Strongly Agree	Agree	Neither Agree	Disagree	Strongly
			nor Disagree		Disagree
Number	1	0	0	1	1
% of total	33%	0%	0%	33%	33%
	In the REP, I n	net people/encount	ered things I normal	ly wouldn't have	T
	Strongly Agree	Agree	Neither Agree	Disagree	Strongly
A1 1			nor Disagree	4	Disagree
Number	0	1	1	1	0
% of total	0%	33%	33%	33%	0%
	Th	ne REP challenged n	ne to think like a scie	entist	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	0	2	0	1	0
% of total	0%	67%	0%	33%	0%
	Th	e REP was directly r	related to classroom	work	
		•	Neither Agree		Strongly
	Strongly Agree	Agree	nor Disagree	Disagree	Disagree
Number	0	2	1	0	0
% of total	0%	67%	33%	0%	0%
	The REF	helped me underst	tand classroom mate	erial better	
	Strongly Agree	Agree	Neither Agree	Disagree	Strongly
All	0		nor Disagree	4	Disagree
Number	0	0	2	1	0
% of total	0%	0%	67%	33%	0%
I had	d the opportunity to p	articipate in river-re		ctivities BEFORE our fie	•
	Strongly Agree	Agree	Neither Agree	Disagree	Strongly
	0.0.0.8.77.8.00	7.8.00	nor Disagree	2.500	Disagree
Number	0	2	0	0	1
% of total	0%	67%	0%	0%	33%
I ha	d the opportunity to p	participate in river-i	related discussions/a	activities AFTER our fiel	d trip
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
Number	1	2	0	0	0
% of total	33%	67%	0%	0%	0%
/3 OT LOCAT	33/0	07/0	0 /0	U /0	9 70

	Grade:		Total number of students:							
	10		113							
	Participating schools: Crestwood High School; Intercity Baptist High School									
	Number of times to Rouge River (field trip)									
	0	1	2	3	4	5 5+				
PRE	74	32	5	0	0	0	2			
POST	48	41	21	1	0	0	2			
			Interest in scie	nce						
	Very	Interested	Moderately	Somewhat	Not	No D	ocnonco			
	interested	interestea	interested	interested	interested	NO K	esponse			
PRE	55	40	17	1	0	0				

POST	62	34		15	1	1		0
% change	13%	-15%		-12%	0%	100%		0%
	T		1	Interest in nat		1	<u> </u>	
	Very	Interested		oderately	Somewha		. No F	Response
	interested		ir	nterested	intereste		ed	·
PRE	42	43		23	5	0		0
POST	45 - 20	42		23	2	1		0
% change	7%	-2%		0%	-60%	100%		0%
				Interest in sch			<u> </u>	
	Very interested	Interested		oderately nterested	Somewhat intereste		ed No F	Response
PRE	31	37		28	11	5		1
POST	41	35		25	6	5		1
% change	32%	-5%	5% -11% -45% 0% 0%					
	Numbe	er of student	s correct	ly listed a sourc	•	on to the Ro	uge River	
PRE					102			
POST					109			
% change					7%			
	Percentage of	students coi	rectly lis	ted a corrective		oollution sou	irce listed abov	⁄e
PRE					86%			
POST					89%			
% change	th and lighting o				3%	المالية المالية		
Ut	tnose listing p	robiem abov	e, numb	er of students v		KEE WITH TOII		
	Strongly Ag	ree Ag	ree	Neither Agr Disagre		Disagree	Strongly Disagree	No Response
		Lam	confident	t in my ability to		rohlem	Disagree	Response
PRE	26	1	54	9	Tescarent	1	0	2
POST	50		18	10		0	0	1
Relative %							-	
change	21%	-1	9%	0%		-1%	0%	-1%
		n sure that I	could exp	plain to others v	vhy this pro	blem is impo	rtant	
PRE	30	4	19	19 2		2	0	2
POST	46	ļ	57	5		1	0	0
Relative %	13%	4	! %	-14%		-1%	0%	-2%
change				l elp and resource			nrohlem	
PRE	14		13	35	.5 to take a	6	<u>2</u>	2
POST	31		51	22		2	1	2
Relative %								
change	14%	5	5%	-14%		-4%	-1%	0%
			Re	lationship with	nature			
							•	
	4	\		В			C	
						/		
	(Me)	Nature	Me	Nature Nature		Me	Nature	
						`		
DDE	22	3	1	70			21	
PRE	. ,		i				/ I	
DOCT								
POST % change	9)		84 20%			20	

Q: When te	esting for the preser	nce of dissolved	oxygen, doing the test n result	more than once	e will give the m	ost accurate		
		TRUE (CORRE			FALSE			
PRE		109	<u> , </u>		4			
POST		113		0				
% change		4%			-100%			
	Q: ,	All macroinverte	brates are equally toler	ant of pollution				
		TRUE	 	SE (CORRECT)		Response		
PRE		13		99		1		
POST		11		101		1		
% change		-15%		2%		0%		
Number of	students correctly		nacroinvertebrates fron snails, clams, etc.), birds	•	cts, mammals, o	crustaceans,		
PRE		•	24	•				
POST			81					
% change			238%					
	Number	of students corr	ectly listing a source of i	nitrates to the	Rouge			
PRE			49					
POST			90					
% change			84%					
	Number of	students correct	ly listing an action to lin	nit nitrates in t	he Rouge			
PRE			51					
POST			87					
% change			71%					
		· ,	h participating in the RE	•				
	Number of pa	rticipants		Percei	ntage of total			
	76				67%			
	Fo		on: Extent of Experience					
		I learned some	ething new about the Ro	ouge River	Cl l			
	Strongly Agree	Agree	Neither Agree nor	Disagree	Strongly Disagree	No		
Number	78	35	Disagree 0	0	0	Response 0		
% of total	69%	31%	0%	0%	0%	0%		
70 01 total			nd/or family about wha			070		
	I plan to	taik to jiichas ai	Neither Agree nor	Trearnea in tr	Strongly	No		
	Strongly Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	33	57	20	3	0	0		
% of total	29%	50%	18%	3%	0%	0%		
			g of connectedness with	1				
	ĺ	•	Neither Agree nor		Strongly	No		
	Strongly Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	31	38	27	10	6	1		
% of total	27%	34%	24%	9%	5%	1%		
	I refl	ected on new ide	eas about how my action	ns affect the riv	ver			
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response		
		45		6	0	-		
Number	53	45	9	0	U	0		
Number % of total	53 47%	45 40%	8%	5%	0%	0%		

	Stuanaly Aguas	Аско	Neither Agree nor	Disagras	Strongly	No
	Strongly Agree	Agree	Disagree	Disagree	Disagree	Response
Number	77	30	6	0	0	0
% of total	68%	27%	5%	0%	0%	0%
	I woul	d choose to part	icipate in more projects	to help the Ro	uge	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	54	38	18	3	0	0
% of total	48%	34%	16%	3%	0%	0%
	REP	monitoring mad	e a difference in the hea	Ith of the Roug	ge	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	59	41	12	0	1	0
% of total	52%	36%	11%	0%	1%	0%
	REP mo	nitoring involved	l people/organizations fr	rom the comm	unity	
	Character Assess		Neither Agree nor	5:	Strongly	No
	Strongly Agree	Agree	Disagree	Disagree	Disagree	Response
Number	44	43	23	2	1	0
% of total	39%	38%	20%	2%	1%	0%
	The Ri	EP helped me fee	el that I could make a dif	ference in soci	iety	
	Churchelle Acus		Neither Agree nor	Diagram	Strongly	No
	Strongly Agree	Agree	Disagree	Disagree	Disagree	Response
Number	44	56	10	2	1	0
% of total	39%	50%	9%	2%	1%	0%
	In the RE	P, I met people/	encountered things I nor	mally wouldn'	't have	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	34	48	21	9	1	0
% of total	30%	42%	19%	8%	1%	0%
		The REP chall	enged me to think like a	scientist		
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	53	45	9	5	1	0
% of total	47%	40%	8%	4%	1%	0%
		The REP was a	directly related to classro	om work		
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	57	41	12	2	0	1
% of total	50%	36%	11%	2%	0%	1%
	The	e REP helped me	understand classroom n	naterial bettei	r	
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	62	44	6	1	0	0
% of total	55%	39%	5%	1%	0%	0%
I ho	ad the opportunity	to participate in	n river-related discussion	s/activities BE	FORE our field t	trip
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	54	33	13	10	3	0
% of total	48%	29%	12%	9%	3%	0%

	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response
Number	51	32	14	4	4	8
% of total	45%	28%	12%	4%	4%	7%

	Gra			Total number of students: 55 Park Academy High School; Crestwood High School; Oakland Schools Technical					
Participo			: Chandler Pa		High School; us SE; Troy Hi		gh School; Od	akland Schools	Technical
			1	Number of ti	mes to Rouge	River (field t	rip)		
	0	1	2	;	3	4	5	5+	No Response
PRE	45	8	2)	0	0	0	0
POST	22	30	2	()	0	0	0	1
				I	nterest in sci	ence			
	Ve intere	-	Interested		rately ested	Somewhat interested	Not interested	No Res	ponse
PRE	23	3	16	1	.3	1	1	1	-
POST	23	3	18	1	.1	1	1	1	-
% change	09	%	13%	-1	5%	0%	0%	09	%
					nterest in na	ture			
	Ve intere	-	Interested		rately ested	Somewhat interested	Not interested	No Res	ponse
PRE	1	7	20	1	.6	0	2	C)
POST	2:	1	20	1	.0	3	0	1	-
% change	24	%	0%	-3	8%	100%	-100%	100)%
					nterest in scl	nool			
	Ve	•	Interested		rately	Somewhat	Not	No Res	nonse
	intere	ested			ested	interested	interested	- No Kes	porise
PRE	1!		19		.2	7	1	1	
POST	2:		18		9	4	2	1	
% change	40		-5%		5%	-43%	100%	09	%
		Num	ber of stude	nts correctly	listed a sour	ce of pollution	n to the Roug	e River	
PRE						51			
POST						54			
% change	Davis		- f - t			6%	- II 	an linka da da	
חחר	Perce	ntage	oi students c	orrectly listin	•	•	ollution source	ce listed above	
PRE						76%			
POST % change						91% 15%			
% change	of those	a listine	nrohlam ah	ove numbo			FE with follow	ving statemen	tc.
		ngly			her Agree			Strongly	No
		ree	Agree		Disagree	Disa	gree	Disagree	Response
	6۰٬	<u>, </u>	l ar			o research pr	oblem	2.008.00	
PRE	1	1	33		7	()	0	0

Relative %	4.20/	00/	00/	20/	00/	00/	
change	13%	-8%	-8%	2%	0%	0%	
			could explain to othe	ers why this problem is impor			
PRE	11	30	10	0	0	0	
POST	22	27	4	1	0	0	
Relative % change	19%	-9%	-13%	2%	0%	0%	
				urces to take action on this p			
PRE	7	22	19	3	0	0	
POST	15	25	11	1	1	1	
Relative % change	14%	3%	-17%	-4%	2%	2%	
			Relationship w	vith nature			
	Me	Nature	B Me Nature	Me	C Nature		
PRE	16		32	•	7		
POST	10		35	1	0		
% change	-38%	6	9%	43	3%		
Q: When	testing for the		resu		vill give the		
DDE		TRUE (COR	RECT)	FALSE		No Response	
PRE		52		3		0 1	
POST		53		1	-67%		
% change		2% O: All mass	roinvortobratos aro	ually tolerant of pollution			
		TRUE		FALSE (CORRECT	r)	No Response	
PRE		11		44 0			
POST		4		50			
% change		-64%		50 1 14% 100%			
	of students cor	rectly identify	ing ALL macroinvert	ebrates from list (i.e., insects	s, mammals		
PRE			ionases (snans) slam	10			
POST				32			
% change				220%			
	Nu	mber of stude	ents correctly listing	a source of nitrates to the Ro	ouge		
PRE				23			
POST				40			
% change				74%			
	Numb	per of student	s correctly listing an	action to limit nitrates in the	Rouge		
PRE				24			
POST				41			
% change	Ct. I	ata liati .	. i.e le i e le	71%	Diver		
				ing in the REP helps the Roug			
	Number	of participant	5	Percentag			
		39 Follow ur	Question: Extent a	f Experience with the PER	.70		
		rollow-up	Question: Extent o	f Experience with the REP			

		I learne	d something new abo	out the Rouge River		
	Strongly	A =====	Neither Agree	Diagram	Strongly	No
	Agree	Agree	nor Disagree	Disagree	Disagree	Response
Number	37	16	2	0	0	0
% of total	67%	29%	4%	0%	0%	0%
	Ιp	lan to talk to frie	ends and/or family a	oout what I learned in the I	REP	
	Strongly	A =====	Neither Agree	Diagram	Strongly	No
	Agree	Agree	nor Disagree	Disagree	Disagree	Response
Number	15	27	10	3	0	0
% of total	27%	49%	18%	5%	0%	0%
		I experienced o	feeling of connected	lness with the Rouge River		
	Strongly	Agree	Neither Agree	Disagree	Strongly	No
	Agree	Agree	nor Disagree	Disagree	Disagree	Response
Number	11	26	17	1	0	0
% of total	20%	47%	31%	2%	0%	0%
		I reflected on n	ew ideas about how	my actions affect the river		
	Strongly	Agraa	Neither Agree	Disagrap	Strongly	No
	Agree	Agree	nor Disagree	Disagree	Disagree	Response
Number	23	26	6	0	0	0
% of total	42%	47%	11%	0%	0%	0%
		I learned who	at actions to take to r	nake the Rouge healthier		
	Strongly	Agroo	Neither Agree	Disagree	Strongly	No
	Agree	Agree	nor Disagree	Disagree	Disagree	Response
Number	32	20	2	1	0	0
% of total	58%	36%	4%	2%	0%	0%
		I would choose	to narticinate in more	projects to halp the Boug	0	
		T WOULD CHOOSE I	to participate in more	projects to help the Rouge	5	
	Strongly		Neither Agree		Strongly	No
	Strongly Agree	Agree	, ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	Disagree		No Response
Number			Neither Agree		Strongly	1
Number % of total	Agree	Agree 25 45%	Neither Agree nor Disagree 6 11%	Disagree 2 4%	Strongly Disagree	Response
	Agree 22	Agree 25 45%	Neither Agree nor Disagree 6 11%	Disagree 2	Strongly Disagree	Response 0
	Agree 22	Agree 25 45% REP monitorin	Neither Agree nor Disagree 6 11%	Disagree 2 4% In the health of the Rouge	Strongly Disagree	Response 0
	Agree 22 40%	Agree 25 45%	Neither Agree nor Disagree 6 11% g made a difference	Disagree 2 4%	Strongly Disagree 0 0%	Response 0 0%
	Agree 22 40% Strongly	Agree 25 45% REP monitorin	Neither Agree nor Disagree 6 11% g made a difference Neither Agree	Disagree 2 4% In the health of the Rouge	Strongly Disagree 0 0% Strongly	Response 0 0% No
% of total	Agree 22 40% Strongly Agree	Agree 25 45% REP monitorin Agree	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree	Disagree 2 4% in the health of the Rouge Disagree	Strongly Disagree 0 0% Strongly Disagree	Response 0 0% No Response
% of total	Agree 22 40% Strongly Agree 27 49%	Agree 25 45% REP monitorin Agree 17 31%	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% evolved people/organ	Disagree 2 4% In the health of the Rouge Disagree 0	Strongly Disagree 0 0% Strongly Disagree 0 0%	Response 0 0% No Response 0 0%
% of total	Agree 22 40% Strongly Agree 27 49%	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% evolved people/organ	Disagree 2 4% In the health of the Rouge Disagree 0 0% izations from the commun	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly	Response 0 0% No Response 0
% of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% volved people/organ Neither Agree nor Disagree	Disagree 2 4% In the health of the Rouge Disagree 0 0% izations from the commun	Strongly Disagree 0 0% Strongly Disagree 0 0%	Response 0 0% No Response 0 0%
Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% nvolved people/organ Neither Agree nor Disagree 15	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1	Response 0 0% No Response 0 0% No Response 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
% of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29%	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% evolved people/organ Neither Agree nor Disagree 15 27%	Disagree 2 4% In the health of the Rouge Disagree 0 0% Izations from the commun Disagree 3 5%	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2%	Response 0 0% No Response 0 0% No Response
Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36%	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29%	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% nvolved people/organ Neither Agree nor Disagree 15 27% me feel that I could r	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2%	Response 0 0% No Response 0 0% No Response 0 0%
Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% nvolved people/organ Neither Agree nor Disagree 15 27% me feel that I could in Neither Agree	Disagree 2 4% In the health of the Rouge Disagree 0 0% Izations from the commun Disagree 3 5% make a difference in society	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly	Response 0 0% No Response 0 0% No Response 0 0% No Response 0 0%
Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% nvolved people/organ Neither Agree nor Disagree 15 27% me feel that I could I Neither Agree nor Disagree	Disagree 2 4% In the health of the Rouge Disagree 0 0% Izations from the commun Disagree 3 5% make a difference in society Disagree	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree	Response 0 0% No Response 0 0% No Response 0 0% No Response
Number % of total Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree 14	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree 35	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% Neither Agree nor Disagree 15 27% me feel that I could in Neither Agree nor Disagree 6	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3 5% make a difference in society Disagree	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Response 0 0% No Response 0 0% No Response 0 0% No Response 0 0%
Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree 14 25%	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree 35 64%	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% nvolved people/organ Neither Agree nor Disagree 15 27% me feel that I could not be provided to the people or be p	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3 5% make a difference in society Disagree 0 0%	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree 0 0 0%	Response 0 0% No Response 0 0% No Response 0 0% No Response
Number % of total Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree 14 25%	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree 35 64%	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% Neither Agree nor Disagree 15 27% me feel that I could r Neither Agree nor Disagree 6 11% eople/encountered the	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3 5% make a difference in society Disagree	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree 0 0 0% ave	Response 0 0% No Response 0 0% No Response 0 0% No Response 0 0%
Number % of total Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree 14 25% In Strongly	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree 35 64% the REP, I met po	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% Neither Agree nor Disagree 15 27% me feel that I could nor Disagree nor Disagree 11 Neither Agree nor Disagree 15 27% me feel that I could nor Disagree 16 11% eople/encountered the Neither Agree	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3 5% make a difference in society Disagree 0 0% ings I normally wouldn't h	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree 0 0 Strongly Disagree 1 2% Strongly Disagree 5 Strongly Disagree 0 0%	Response 0 0% No Response 0 0% No Response 0 0% No Response 0 0% No Response No Response 0 No Response
Number % of total Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree 14 25% In Strongly Agree	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree 35 64% the REP, I met po	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% nvolved people/organ Neither Agree nor Disagree 15 27% me feel that I could nor Disagree 6 11% eople/encountered the Neither Agree nor Disagree	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3 5% make a difference in society Disagree 0 0% ings I normally wouldn't h	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree 0 Strongly Disagree 0 Strongly Disagree 0 0%	Response 0 0% No Response 0 0% No Response 0 0% No Response 0 0%
Number % of total Number % of total Number % of total	Agree 22 40% Strongly Agree 27 49% Strongly Agree 20 36% Strongly Agree 14 25% In Strongly	Agree 25 45% REP monitorin Agree 17 31% EP monitoring in Agree 16 29% The REP helped Agree 35 64% the REP, I met po	Neither Agree nor Disagree 6 11% g made a difference Neither Agree nor Disagree 11 20% Neither Agree nor Disagree 15 27% me feel that I could nor Disagree nor Disagree 11 Neither Agree nor Disagree 15 27% me feel that I could nor Disagree 16 11% eople/encountered the Neither Agree	Disagree 2 4% in the health of the Rouge Disagree 0 0% izations from the commun Disagree 3 5% make a difference in society Disagree 0 0% ings I normally wouldn't h	Strongly Disagree 0 0% Strongly Disagree 0 0% ity Strongly Disagree 1 2% Strongly Disagree 0 0 Strongly Disagree 1 2% Strongly Disagree 5 Strongly Disagree 0 0%	Response 0 0% No Response 0 0% No Response 0 0% No Response 0 0% No Response No Response 0 No Response

The REP challenged me to think like a scientist									
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response			
Number	13	28	12	2	0	0			
% of total	24%	51%	22%	4%	0%	0%			
	The REP was directly related to classroom work								
	Strongly	Agree Neither	Neither Agree	Disagree	Strongly	No			
	Agree	Agree	nor Disagree		Disagree	Response			
Number	22	27	4	1	1	0			
% of total	40%	49%	7%	2%	2%	0%			
The REP helped me understand classroom material better									
	Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree	No Response			
Number	18	27	7	2	1	0			
% of total	33%	49%	13%	4%	2%	0%			
	I had the oppo	rtunity to partici	pate in river-related (discussions/activities BEFC	RE our field tri	p			
	Strongly	Agraa	Neither Agree	Disagree	Strongly	No			
	Agree	Agree	nor Disagree		Disagree	Response			
Number	25	23	3	4	0	0			
% of total	45%	42%	5%	7%	0%	0%			
I had the opportunity to participate in river-related discussions/activities AFTER our field trip									
	Strongly	Agree	Neither Agree	Disagree	Strongly	No			
	Agree	ee nor Disagree	Disagice	Disagree	Response				
Number	28	15	3	2	3	4			
% of total	51%	27%	5%	4%	5%	7%			

Grade:				Total number of students:				
12				65				
Participating schools: Chandler Park Academy High School; Crestwood High School; Oakland Schools Techni								
Campus SE; Troy High School								
Number of times to Rouge River (field trip)								
	0	1	2	3	4	5	5+	No Response
PRE	50	10	3	1	0	0	0	1
POST	17	38	6	4	0	0	0	0
Interest in science								
	Very		Interested	Moderately	Somewhat	Not		No Dosponeo
	intere	ested	Interested	interested	interested	interested		No Response
PRE	33	1	19	12	2	0	1	
POST	38	8	12	14	1	0	0	
% change	23	%	-37%	17%	-50%	0%	-100%	
Interest in nature								
	Very			Moderately	Somewhat	Not		No Decrees
	intere	ested	Interested	interested	interested	interested		No Response
PRE	22	2	28	13	2	0	0	
POST	29	9	22	12	1	1	0	

% change	32%	-21%	-8%	-50%	100%	0	%			
	Interest in school									
	Very	Interested	Moderately	Somewhat		No Response				
PRE	interested 14	20	interested 22	interested 6	interested 3	0				
POST	16	23	16	8	2	0				
% change										
70 Change	14% 15% -27% 33% -33% 0% Number of students correctly listed a source of pollution to the Rouge River									
PRE	Italii	Number of students correctly listed a source of pollution to the Rouge River 58								
POST				62						
% change				7%						
75 011011180	Percentage (of students co	rrectly listing a corrective		pollution source	ce listed above	2			
PRE	8-		, 6	86%						
POST				85%						
% change				-1%						
	f those listing	g problem abo	ve, number of students	who can AG	REE with follow	ving statemen	its:			
	Strongly		Neither Agre			Strongly	No			
	Agree	Agree	Disagree	2	Disagree	Disagree	Response			
		I am	confident in my ability	to research p	roblem					
PRE	17	34	5		0	0	2			
POST	25	34	3		0	0	0			
Relative % change	11%	-4%	-4%		0%		-3%			
	1	am sure that I	could explain to others	why this pro	blem is import	ant				
PRE	16	27	11		2	0	2			
POST	27	27	6		2	0	0			
Relative % change	16%	-3%	-9%		0%	0%	-3%			
	I kno	ow where I cou	ıld find help and resour	ces to take a	ction on this pr	oblem				
PRE	9	20	19		8	0	2			
POST	19	29	11		3	0	0			
Relative % change	15%	13%	-15%		-9% 0%		-3%			
			Relationship wit	h nature						
	A Nature		B Nature		Me Nature					
PRE	11		44	10						
POST	7		47		11					
% change	-36%		7%		10%					
Q: When testing for the presence of dissolved oxygen, doing the test more than once will give the most accurate result										
	TRUE (CORRECT) FALSE									
PRE			64			1				
POST	63				2					
% change	-2%				100%					
		Q: All mad	roinvertebrates are eq	ually tolerant	of pollution					

		TRUE		FALSE (CORRECT)						
PRE		8		57						
POST		1		64						
% change	-88% 12%									
Number	of students c	correctly identifying A	LL macroinvertebrates fr	om list (i.e., insects,	mammals, cr	ustaceans,				
molluscs (snails, clams, etc.), birds, fish)										
PRE		22								
POST		37								
% change										
	Number of students correctly listing a source of nitrates to the Rouge									
PRE			23							
POST			40							
% change			74%							
	Nur	mber of students cori	rectly listing an action to	limit nitrates in the	Rouge					
PRE			23							
POST			37							
% change	C+··	donts listing way in w	which participating in the	DED holps the Dougs	Pivor					
		er of participants	mich participating in the	Percentag						
	Nullib	43		66						
			estion: Extent of Experier		70					
		· · · · · · · · · · · · · · · · · · ·	omething new about the							
	Strongly		Neither Agree nor		Strongly	No				
	Agree	Agree	Disagree		Disagree	Response				
Number	43	20	0	0	0	2				
% of total	66%	31%	0%	0%	0%	3%				
		l plan to talk to friend	ls and/or family about wi	nat I learned in the F	REP					
	Strongly	Agree	Neither Agree nor	Disagree	Strongly	No				
	Agree	_	Disagree	Disagree	Disagree	Response				
Number	15	29	17	1	1	2				
% of total	23%	45%	26%	2%	2%	3%				
	Ι .	I experienced a fe	eling of connectedness w	ith the Rouge River	T -	T				
	Strongly	Agree	Neither Agree nor	Disagree	Strongly Disagree	No				
NIl	Agree		Disagree			Response				
Number	10	24	21	7	20/	2				
% of total	15%	37%	32% videas about how my act.	11%	2%	3%				
	Strongly	Treflected on new	Neither Agree nor	Uns ujject the river	Strongly	No				
	Agree	Agree	Disagree	Disagree	Disagree	Response				
Number	21	29	10	3	0	2				
% of total	32%	45%	15%	5%	0%	3%				
I learned what actions to take to make the Rouge healthier										
	Strongly Neither A		Neither Agree nor		Strongly	No				
	Agree	Agree	Disagree	Disagree	Disagree	Response				
Number	32	26	4	1	0	2				
% of total	49%	40%	6%	2%	0%	3%				
I would choose to participate in more projects to help the Rouge										
	Strongly									
	Agree	Agree	Disagree	Disagree	Disagree	Response				

Number	24	29	10	0	0	2		
% of total	37%	45%	15%	0%	0%	3%		
		REP monitoring n	nade a difference in the he	alth of the Rouge				
	Strongly	Agree	Neither Agree nor			No		
	Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	24	24	13	1	1	2		
% of total	37%	37%	20%	2%	2%	3%		
REP monitoring involved people/organizations from the community								
	Strongly	Agree	Neither Agree nor	Disagree	Strongly	No		
	Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	17	15	15	11	5	2		
% of total	26%	23%	23%	17%	8%	3%		
		The REP helped me	e feel that I could make a d	lifference in society				
	Strongly	Agroo	Neither Agree nor	Disagrap	Strongly	No		
	Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	22	20	15	4	2	2		
% of total	34%	31%	23%	6%	3%	3%		
	J	In the REP, I met peop	ple/encountered things I no	ormally wouldn't ho	ave			
	Strongly	Agree	Neither Agree nor	Disagree	Strongly	No		
	Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	16	24	12	7	4	2		
% of total	25%	37%	18%	11%	6%	3%		
		The REP c	hallenged me to think like	a scientist				
	Strongly	Agree	Neither Agree nor	Disagrae	Strongly	No		
	Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	26	24	10	2	1	2		
% of total	40%	37%	15%	3%	2%	3%		
		The REP w	as directly related to classi	room work				
	Strongly	Agree	Neither Agree nor	Disagree	Strongly	No		
	Agree	Agree	Disagree	Disagree	Disagree	Response		
Number	26	24	9	3	0	3		
% of total	40%	37%	14%	5%	0%	5%		
		The REP helped	me understand classroom	material better				
	Strongly	Δστρρ	Neither Agree nor	Disagree	Strongly	No		
	Agree	-	Disagree	2.008.00	Disagree	Response		
Number	26	24	9	4	0	2		
% of total	40%	37%	14%	6%	0%	3%		
I had the opportunity to participate in river-related discussions/activities BEFORE our field trip								
	Strongly	Agree	Neither Agree nor	Disagree	Strongly	No		
	Agree		Disagree		Disagree	Response		
Number	30	24	4	4	1	2		
% of total	46%	37%	6%	6%	2%	3%		
		portunity to participa	ate in river-related discussi	ons/activities AFTE				
	Strongly	Agree	Neither Agree nor	Disagree	Strongly	No		
	Agree	_	Disagree	_	Disagree	Response		
Number	31	26	2	0	1	5		
% of total	48%	40%	3%	0%	2%	8%		