Name:_____

Key: Volume of Rain and Volume of Runoff

	Map A 100 years ago		Map B 50 years ago		Map C Present	
Estimate Total Runoff (m^3)						
Land Coverage and % runoff	Volume m^3	runoff m^3	volume m^3	runoff m^3	volume m^3	runoff m^3
Forest 20% runoff	9.45×10^6 ( )		8.1×10^6 ( )		5.55×10^6 ( )	
Grasslands 10% runoff	1.0×10^6 ( )		0.7×10^6 ( )		0.3×10^6 ( )	
Wetlands 5% runoff	0.85×10^6 ( )		0.65×10^6 ( )		0.25×10^6 ( )	
Residential 90% runoff	0.65×10^6 ( )		1.65×10^6 ( )		2.9×10^6 ( )	
Agriculture 30% runoff	0.5×10^6 ( )		1.35×10^6 ( )		3.45×10^6 ( )	
Total Runoff						
Total runoff plus stream discharge (5,550,000 m^3)						

Think about it. Answer in complete sentences.

Name:_____

Key: Volume of Rain and Volume of Runoff

1. Which absorbs more water- concrete or forest/wetlands/grasslands? Explain the reasoning that led you to this answer.

2. Which map represents the watershed that is able to capture and store the most water? Explain the reasoning that led you to this answer.

3. What problems could arise if water runs quickly over surface material, rather than moving slowly or soaking on?

4. How might the water be affected by changes in the watershed?

Name:_____

Key: Volume of Rain and Volume of Runoff

	Map A 100 years ago		Map B 50 years ago		Map C Present	
Estimate Total Runoff (m^3)	students estimate		students estimate		students estimate	
Land Coverage and % runoff	Volume m^3	runoff m^3	volume m^3	runoff m^3	volume m^3	runoff m^3
Forest 20% runoff	9.45×10^6 (9,450,000)	1.89×10^6 (1,890,000)	8.1×10^6 (8,100,000)	1.62×10^6 (1,620,000)	5.55×10^6 (5,550,000)	1.11×10^6 (1,110,000)
Grasslands 10% runoff	1.0×10^6 (1,000,000)	0.1×10^6 (100,000)	0.7×10^6 (700,000)	0.07×10^6 (70,000)	0.3×10^6 (300,000)	0.03×10^6 (30,000)
Wetlands 5% runoff	0.85×10^6 (850,000)	0.0425×10^6 (42,500)	0.65×10^6 (650,000)	0.0325×10^6 (32,500)	0.25×10^6 (250,000)	0.0125×10^6 (12,500)
Residential 90% runoff	0.65×10^6 (650,000)	0.585×10^6 (585,000)	1.65×10^6 (1,650,000)	1.485×10^6 (1,485,000)	2.9×10^6 (2,900,000)	2.61×10^6 (2,610,000)
Agriculture 30% runoff	0.5×10^6 (500,000)	0.15×10^6 (150,000)	1.35×10^6 (1,350,000)	0.405×10^6 (405,000)	3.45×10^6 (3,450,000)	1.035×10^6 (1,035,000)
Total Runoff		2.7675×10^6 (2,767,500)		3.6125×10^6 (3,612,500)		4.7975×10^6 (4,797,500)
Total runoff plus stream discharge (5,550,000 m^3)		8.32×10^6 (8,317,500)		9.16×10^6 (9,162,500)		10.35×10^6 (10,347,500)