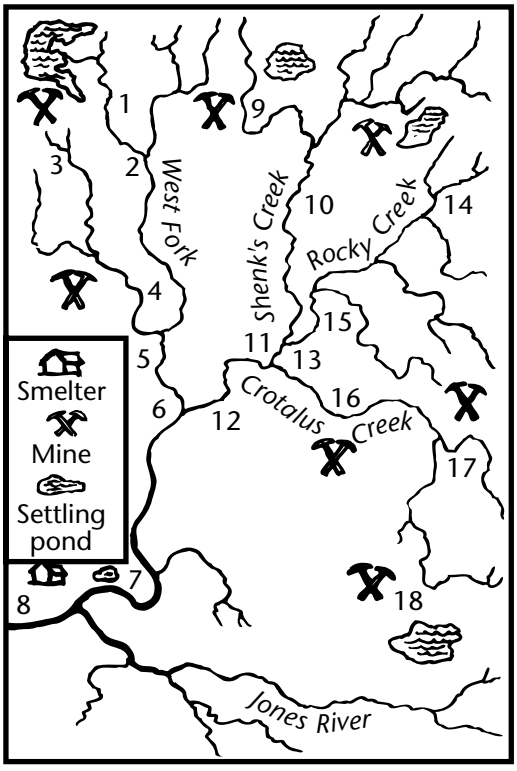
• Water Pollution

Tracking Trace Elements

Site	Trace element concentrations (mg/m^3)			
	Manganese	Copper	Lead	Zinc
1	9	12	38	11
2	11	14	42	13
3	10	13	39	10
4	11	14	41	13
5	13	13	44	13
6	13	13	44	14
7	13	13	44	15
8	9	11	41	14
9	11	11	44	13
10	12	13	46	15
11	11	11	43	11
12	10	10	41	10
13	12	11	35	10
14	7	8	31	8
15	6	7	31	6
16	11	11	42	11
17	16	14	43	16
18	13	11	38	12



Lakes and streams contain trace elements, or certain ions in solution, that are used by organisms for life processes. Recommended trace amounts of four elements are manganese, 50 mg/m^3; copper, 100 mg/m^3 ; lead, 50 mg/m^3. Larger amounts are toxic. The map shows a region where these four elements are mined and processed. To minimize pollution in some areas, all wastewater is contained in settling ponds. Particles that carry much of the chemical waste are allowed to settle in these ponds before the water is pumped back into streams. The numbers on the map represent sites where water samples were collected. The table shows trace element concentrations at those sites.

1. What causes concentrations of trace elements to rise from Site 9 to Site 10? _____

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2. What causes concentrations to decrease from Site 10 to Site 11? _____

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3. Why would concentrations be low at Site 8, compared to the sites that feed into it? _____

_____

4. Do settling ponds seem to be working? Explain. _____

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