

REVIEW SHEET for April-May Test

A. Notes Handouts (several)

B. Map Activity: USA Drainage Basins

C. Map Activity: Montana Rivers

D. Map Activity: Helena Watersheds

E. Video: Snowball Earth (worksheet)

F. Water Hardness Lab

1. What is the name for “top” of the groundwater? A
2. In parts of the Helena Valley, the groundwater is slowly becoming contaminated with _____ from septic systems. A
3. What is the source of water for the city of Helena? A
4. What are the three ways that we deal with sewage in the Helena area? A
5. What causes water to be “hard”? F
6. What is the name for a higher area (imaginary line) that separates two watersheds? B,C, D
7. How are excess nitrates and phosphates harmful to fish? B
8. What do the words “permeable” and “impermeable” mean? A
9. What is the permeable rock material that the Helena Valley Aquifer is made of? A
10. How is an artesian well different from a regular one? A
11. What is a confluence and where is the confluence of the Missouri and Mississippi Rivers located? B
12. What is the controversial source of nitrates in the Helena Valley? A
13. What does it mean when we say that the water is “hard”? F
14. Where (near what town) are the headwaters of the Missouri River? C
15. What larger river is the Clark Fork River a tributary of? C
16. List three Montana cities on the east side of the continental divide and three on the west side. C
17. Can you identify Canyon Ferry on a map of Montana and shade in its watershed? C
18. Which river’s drainage basin is Butte located in? B
19. Which USA river has the largest drainage basin? B
20. Which river is famous for its many dams, cheap electricity, and controversy about salmon? B and video
21. What is the source of water for the city of East Helena and the East Gate subdivisions? A
22. What is “thermal pollution” and why is it bad for fish? B
23. When rocks containing sulfur are broken up, the sulfur combines with _____ and _____ to cause acid mine drainage. A
24. What toxic substance is contained in the acidic water or Butte’s Berkeley Pit? A
25. Which of the Helena area watersheds covers the largest area? D
26. What are the purposes of Chessman Reservoir and the Red Mountain Flume? A
27. How do the mine tailings found at old mine sites contribute to acid mine drainage? D
28. How did ice formed during the last ice age change the Missouri River? A
29. How did Glacial Lake Missoula form and how did it cause catastrophic flooding in Washington? A

30. How did Flathead Lake form? A
31. According to the Snowball Earth Theory, how did the dropstones end up on the seafloor? E
32. According to the Snowball Earth Theory, why did this extreme global ice age end? E
33. Why are there more glaciers in southern Alaska than there are in northern Alaska? A
34. Over the past one million years, how often has Earth experienced an ice age? A
35. The Earth started to get colder about 50 million years ago. Then about 3 million years ago the Earth became cold enough to start having ice ages. What do some scientists think is the cause of the cooling trend that started 50 mya? A
36. What is the best evidence about the timing of ice ages over the past 60 million years? A
37. In what part of the world are continents currently located in a position that would help an ice age get started? A
38. It is believed that changes in the Earth-Sun relationship contribute to the onset of an ice age? What are these cycles called? A
39. Canada and part of the USA were covered by ice during the last ice age. When did this ice age end? A
40. List three kinds of evidence that helps scientists determine how far south the ice advanced during the last ice age. A
41. How are mountain valleys, carved by glaciers, different from those carved by rivers? A
42. At the end of the last ice age, pieces of the continental glacier were left behind. These blocks of ice took years to melt, preventing the places where they sat from filling in with gravels. Today, many of those depressions are lakes. What do we call these kinds of lakes? A
43. What caused the formation of Glacial Lake Missoula? A
44. List in order all the creeks, streams, rivers the water will go through on its way to the Gulf of Mexico (starting with the East Fork of McClellan Creek) after it comes out of the spring near Casey Peak. D, C, B
45. What are the three end products at a wastewater treatment plant? A
46. Make sure that you understand everything about the Map Activity called "Montana Rivers". There will be several tasks and questions related to this.
47. What keeps the water cycle (hydrologic cycle) going? A
48. What is a watershed? A
49. What are moraines and erratics? A
50. What is an aquifer? A

Be sure to study all of the notes handouts, including **Groundwater, Groundwater Issues, Hydrologic Cycle, Helena Water, Glaciers and Ice Ages, Ice Ages, How the Ice Age Impacted Montana**. Be sure to look over the map activities as well: **USA Drainage Basins, Montana Rivers, and Helena Area Watersheds**.

Honors students: There will be a extra questions to test your understanding of the following: The Carbon Cycle, causes of ice ages, acid mine drainage, and evidence of glaciers on and around Snake Butte.