Name: _____

Water Wonderland

Part 1:

Beginning Thoughts

1. Is water important to us? _____

   _____

2. What are three ways that you use water directly?

   _____

   _____

   _____

3. What are three ways that you use water indirectly?

   _____

   _____

   _____

4. What are the states that water can be in and what are they called?

State of Water	Name

5. Give examples of solid, liquid, and gas water in the atmosphere.

   Solid: _____

   Liquid: _____

   Gas: _____

6. Where can we find water in the environment? _____

   _____

7. Are water sources a form of matter? (circle one) Yes No

   Why or why not? _____

   _____

8. How does the water enter these locations? _____

   _____

9. How does water leave these locations? _____

   _____

How do Water Sources Interact?

10. What is a model? _____

    _____

11. Draw a model that shows sources of water and how that water moves. Label bodies of water with their appropriate names. Use arrows to show the direction of water movement.

Make a group Model

12. Does the amount of water in the system (Earth) change? (circle one) Yes No

    Why or why not? _____

_____

13. Give one example of a transfer of water (mass) in your system in which the state of matter **did not** change. Make sure to include where the water came from, where the water went to. _____

    _____

    Was matter created or destroyed during this process? (circle one) Yes No

14. Give one example of a transfer of water (mass) in your system in which the state of matter **did** change. Make sure to include where the water came from, where the water went to. _____

    _____

    Was matter created or destroyed during this process? (circle one) Yes No

Part 2:

Why does water flow? (Part A)

15. Watch demonstration 1 and record observations, what happened, and why. _____

    _____

    _____

    _____

16. What does this demo have to do with the water cycle? _____

    _____

17. How could you show this phenomenon in your model? _____

    _____

    _____

    _____

18. Watch demonstration 2 and record observation, what happened, and why. _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

19. What happens to water that does not fall in a body of water? _____

_____

_____

_____

_____

Revise Model

Part 3:

Why does water flow? (Part 2)

20. Record observations from the start of demonstration 3 when the picture was taken. _____

_____

_____

21. Describe what happened since the start of demonstration 3 and why this happened? _____

_____

_____

_____

_____

_____

22. What was different between the start and end of demonstration 3?

_____

23. In the demonstration the lamp was a _____ and the ice was a _____.

24. What two science phenomena were seen in demonstration 3 and what are their reactions?

    _____

    _____

    Reaction:_____

    _____

    _____

    Reaction:_____

25. These phenomena are known as _____, which always have _____ associated with them.

26. What could be like the lamp in your model? _____

27. What could be like the ice in your model? _____

    _____

28. When energy flows from the surroundings to the liquid water, it causes the water to turn to a _____, which is known as _____ . This causes the surroundings to _____. This should be shown in the model with an orange arrow pointed _____ liquid water.

29. When energy flows from the gaseous water to the surroundings, it causes the water vapor to turn to a _____, which is known as _____. This causes the surroundings to _____. This should be shown in the model with an orange arrow pointed _____ water vapor.

30. Are there any other water phase changes that we see in the water cycle and what are their reactions?

    _____

    _____

    Reaction:_____

    _____

    _____

    Reaction:_____

Revise Model

Part 4:

Phase Changes Review

31. Describe one process that happens in the water cycle that requires energy to transfer **into** water. Make sure to include the phase of water before and after the process. _____

    _____

    _____

    Was energy created or destroyed during this process? (circle one) Yes No

32. Describe one process that happens in the water cycle in which energy is transferred **out** of water. Make sure to include the phase of water before and after the process. _____

_____

_____

Was energy created or destroyed during this process? (circle one) Yes No

33. How might desert plants get water if there is no rain? _____

_____

_____

_____

_____

_____

_____

Role of Plants in the Water Cycle

34. Do you think plants play a role in the water cycle? (circle one) Yes No
    If yes, what role do they play? _____
    _____

35. Record observations from the start of demonstration 4 when the picture was taken. _____
    _____

36. Describe what happened since the start of demonstration 4.
    _____

37. How do plants play into the water cycle? _____
    _____
    _____
    _____

38. Do you think energy is associated with this phenomenon? (circle one) Yes No
    If so, what does this energy transfer do to the plant? _____
    _____
    _____
    _____
    _____

Role of Animals in the Water Cycle

39. Do animals play a role in the water cycle? (circle one) Yes No

    If yes, what role do they play? _____

    _____

40. Perform demonstration 5 and explain what happened. _____

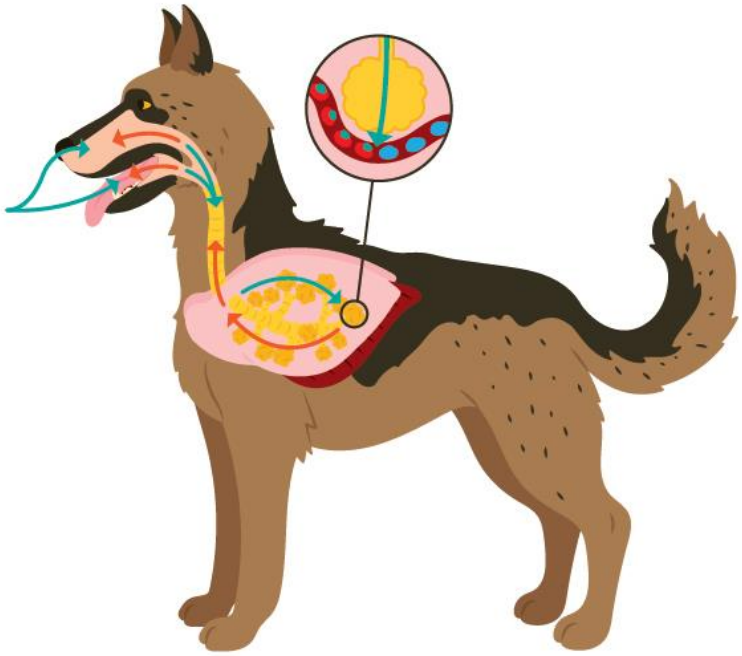
    _____

    _____

41. Do animals release water into the environment? (circle one) Yes No

    If so what is the phenomenon called? _____

Work on Model



Part 5:

Apply our Model of the Water Cycle

42. Using your model, explain how people can pump out groundwater from one well for many years without it going dry. You must use 5 scientific terms (terms on pink stickies) in your explanation. Underline these in your explanation.

    The scientific terms I will use are: _____

    _____

    Explanation: _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

    _____

Verifying our model

43. What is one thing that you learned about water in Santa Barbara? _____

    _____

    _____

    _____

Part 6:

Checking our Predictions

Look back at question 42 to answer questions 44-46.

44. Does the reading support any of your answer? (circle one) Yes No

    If yes, highlight the part of the reading that agrees with your answer and fill out the following sentence frames.

    On page _____ it says _____

    _____

    which agrees with what I wrote. In addition, on page ____ it says_____

    _____

    which agrees with what I wrote.

45. Does the reading disagree with any of your answer? (circle one) Yes No

    If yes, highlight the part of the reading that disagrees with your answer and fill out the following sentence frame.

    On page ____ it says_____

    _____

    _____

    before the reading I thought_____

    _____

46. Go back to the reading and highlight one thing that you did not include in your answer, that you could have, to make it stronger. Summarize what you highlighted. _____

    _____

    _____

Revise Model

Final Water Cycle Model

47. Our group will discuss _____

    I will be presenter _____ and I will talk about the following terms: _____

    _____

    Facts I want to include in my presentation:

    - _____
    - _____
    - _____