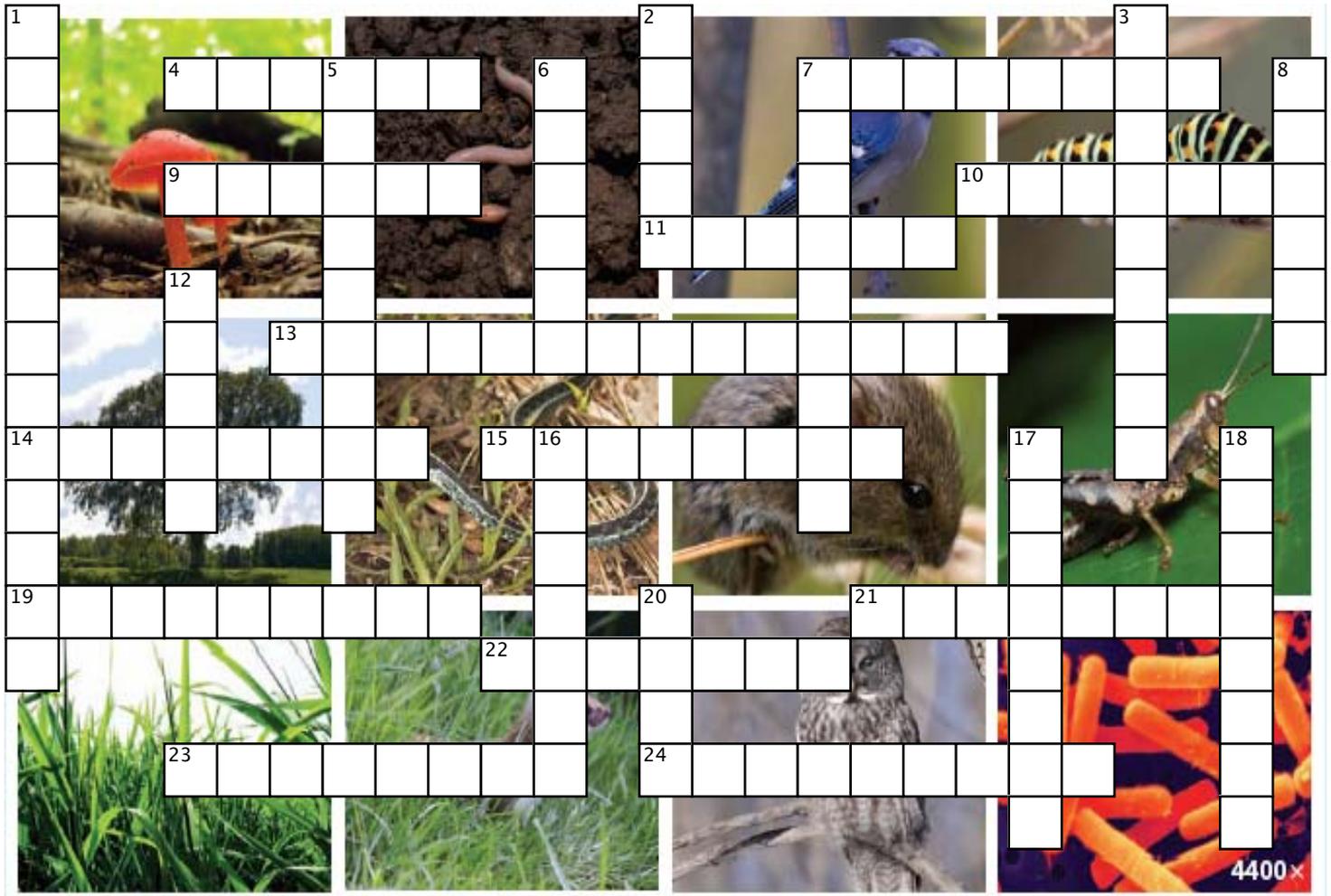


# 1.2 Nutrient Cycles and Energy Flow



## Across

4. A large portion of the matter in a tree is made of the element, \_\_\_\_\_, and all of it came from the atmosphere.
7. Humans obtain the \_\_\_\_\_ they need from eating proteins.
9. In the atmosphere water exists as a gas called water \_\_\_\_\_.
10. The world's \_\_\_\_\_ are biotic reservoirs of carbon.
11. \_\_\_\_\_ usually enters the ecosystem as sunlight and leaves it as heat.
13. The process of producing carbohydrates from carbon dioxide, water and sunlight is called \_\_\_\_\_.
14. Some ground water may flow into large underground lakes, known as \_\_\_\_\_.

## Down

1. \_\_\_\_\_ occurs when plants release water vapour into the atmosphere through their leaves.
2. The process of moving a nutrient back and forth is called a nutrient \_\_\_\_\_.
3. Any place where matter accumulates is called a \_\_\_\_\_.
5. In the water cycle, water is moved throughout the whole \_\_\_\_\_.
6. As water vapour in the atmosphere cools, it condenses to form \_\_\_\_\_.
7. \_\_\_\_\_ are substances that an organism uses to build and repair the cells of its body.
8. Because oil and gas were formed so long ago, they are called \_\_\_\_\_ fuels.
12. When animals digest proteins a byproduct is ammonia, which is \_\_\_\_\_.

## Across

15. Nutrients are made up of \_\_\_\_\_, which are pure substances that cannot be broken down into simpler substances.
19. Nitrogen cannot be used directly by most \_\_\_\_\_.
21. Nitrogen-fixing \_\_\_\_\_ convert nitrogen gas into ammonia.
22. Nitrifying bacteria convert \_\_\_\_\_ into nitrites, and then nitrates, which plants absorb through their roots.
23. Denitrifying bacteria in the soil convert \_\_\_\_\_ back into nitrogen gas, which returns to the atmosphere.
24. Besides bacteria, \_\_\_\_\_ is the only other natural nitrogen-fixing process.

## Down

16. Plants called \_\_\_\_\_ (peas, beans, and alfalfa) have nodules on their roots that house nitrogen-fixing bacteria.
17. All organisms need nitrogen to make \_\_\_\_\_.
18. Converting nitrogen gas into ammonia is called nitrogen \_\_\_\_\_.
20. \_\_\_\_\_ (which is almost pure carbon) and oil deposits were formed from the remains of huge forests that lived hundreds of millions of years ago.