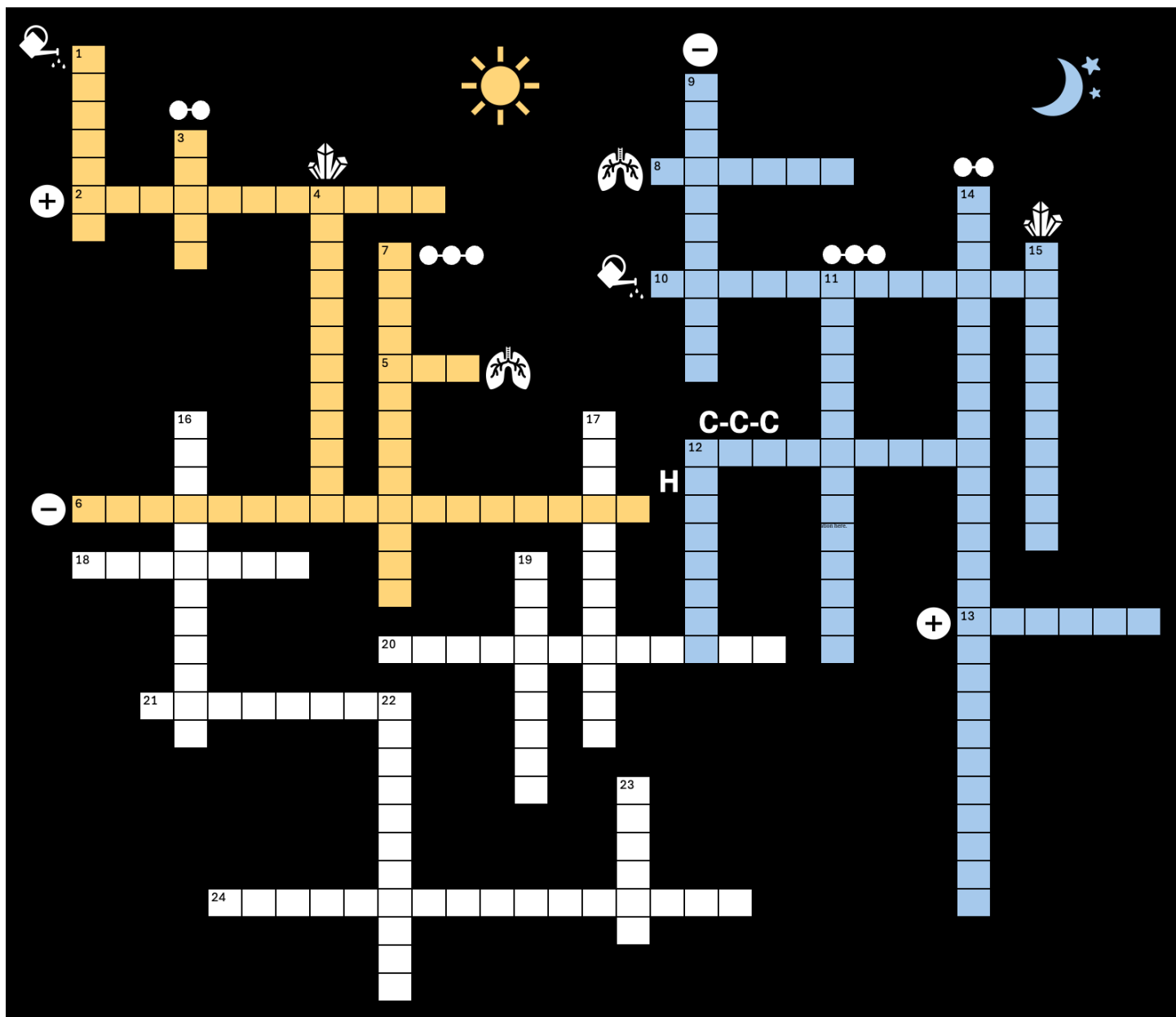


BAYER PUZZLEHUNT PUZZLE #4 - With Our Powers Combined

*In a realm of green, where the sunlight shines,
A journey begins to fuel nature's designs.
From tiny bacteria to plants standing tall,
In fungi and animals, it nourishes all.*

*To craft a sweet molecule, a process unfolds,
With chains of carbon and water's strong holds.
Here starts the quest, with two equations to lead,
Count the elements of light and dark to proceed.*

*Each clue brings us closer, connecting the threads,
Stoichiometry reveals what the riddle embeds.
If you solve each prompt with their symbols in mind,
A single word answer is the treasure you'll find.*



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Across

2. I'm a pigment that helps life thrive in the green,
With a structure like blood, I'm part of the scene.
Fe helps hemoglobin carry oxygen true,
While Mg in me captures light for the crew.
5. I'm an energy molecule that keeps you on the go,
With three little phosphates, I put on a show.
When I release my power, life's processes thrive,
I am the fuel that makes you feel alive.
6. In the shadows I dwell, with spots on my skin,
Though I'm not a plant, I let sunlight in.
With algae in my eggs, I harness the light,
Protected by water, my future is bright.
8. In fields so lush, I stretch towards the sky,
With fluffy white bolls, I catch every eye.
Through a C3 pathway, I capture the light,
Weaving fibers that are both soft and bright.
10. I'm a clever survival tactic that borrows to thrive,
Stealing chloroplasts from algae to stay alive.
A process that harnesses the sun's brilliant light,
Enabling my host to photosynthesize just right.
12. With a crown on my head and a sweet, juicy core,
In tropical lands, I'm loved more and more.
I fix carbon at night, a clever way to run,
For a spiky delight that shines in the sun.
13. I'm a vine that wraps around, no roots to be found,
I rely on my hosts, where my tendrils are wound.
With coils that cling and a bright golden hue,
I'm a clever parasite that lacks chlorophyll, too.
18. I'm a six-carbon chain, in a ring I do dwell,
With C, O, and H, I weave my sweet spell.
I'm a source of great energy, in every living thing,
A cornerstone from which all growth does spring.
20. In leafy layers, my cells tightly wrap,
A piece of the C4 photosynthesis map.
Carbon fixation flourishes in my space,
While I serve as a shield with my special embrace.
21. *(with 22 down)*
In the depths of your cells, I work day and night,
Turning glucose to energy, making everything right.
With oxygen's help, I release what you need,
A centralized process that fuels every deed.
24. In maize I thrive as a method so grand,
Creating a four-carbon compound, perfectly planned.
With PEP carboxylase, I avoid photorespiration,
Fueling growth through efficient adaptation.

Down

1. I'm a captor of carbon in the plant's busy core,
A catalyst of life to build and restore.
With every reaction, I weave a fine thread,
Connecting the atmosphere to food that is fed.
3. *(with 22 down)*
In the warmth of the sun, I stray from the path,
Choosing oxygen over carbon, invoking its wrath.
An expensive error in the leaf's vibrant sway,
I disrupt the process, leading growth astray.
4. In the web of life, we seek out our fare,
Dependent on others, we find food with care.
From animals to fungi, we feed on organic matter,
As vital consumers that help ecosystems scatter.
7. I'm golden and small, in the ocean I dwell,
In vacuoles I live, where I flourish so well.
With cnidarians, I dance in the light,
Creating bright reefs, a beautiful sight.
9. In fruits and flowers, I contain a bright hue,
With colors so vivid, I'm a painter, it's true.
While chloroplasts capture light for the green,
I carry reds, oranges, and yellows to the scene.
11. In the sunlight I buzz, with bright yellow bands,
Harnessing rays to strengthen my plans.
With energy for digging and warmth to embrace,
Electric potential helps me thrive in my space.
12. In the ocean's depths, where the currents play,
Ancient filter feeders of this unique phylum sway.
With cyanobacteria, they capture light with ease,
Together they flourish, nurturing life in the seas.
14. In deserts so dry, where the sun scorches high,
I'm a specialized process to thrive and not die.
At night I gather air, keeping it stored tight,
Then use it by day to escape the heat's bite.
15. I'm a hidden alliance beneath the forest floor,
Where fungi embrace roots, creating a door.
As sunlight is captured, the plant gains its vigor,
In a symbiotic trade, I swap nutrients for sugar.
16. I'm a protein that senses light, both near and far,
Guiding plants in the dark to reach for the stars.
With far-red light as my cue, I spark growth anew,
Essential for life in the green world you view.
17. In the ocean's embrace, I'm a curious sight,
With stolen green treasures, I bask in the light.
I munch on algae, turning sun into power,
A colorful mollusk that thrives as I scour.
19. In the chloroplasts, I'm a flat, green disk,
Where sunlight is captured, and energy's brisk.
With pigments and proteins, I spark the reaction,
Turning light into food, I'm key to the action.
22. *See 3 down and 21 across*
23. In colors so vivid, I blanket the stone,
A fusion of life where two call it home.
Fungi provide shelter, while algae bring light,
Together we thrive, a marvel to sight.