

Introduction

Dear Reader,

Welcome to your Natural Sciences Word Search adventure!

These puzzles are designed to entertain, challenge, and spark your curiosity about the amazing world of science. From microscopic wonders to cosmic mysteries, each puzzle offers a fun way to explore nature and key discoveries that shape our understanding of the world.

If you enjoy the experience, I would be so grateful for your review, as it helps others uncover and enjoy the book as well.

Happy puzzling through time!

Warmly,
Iris Ray

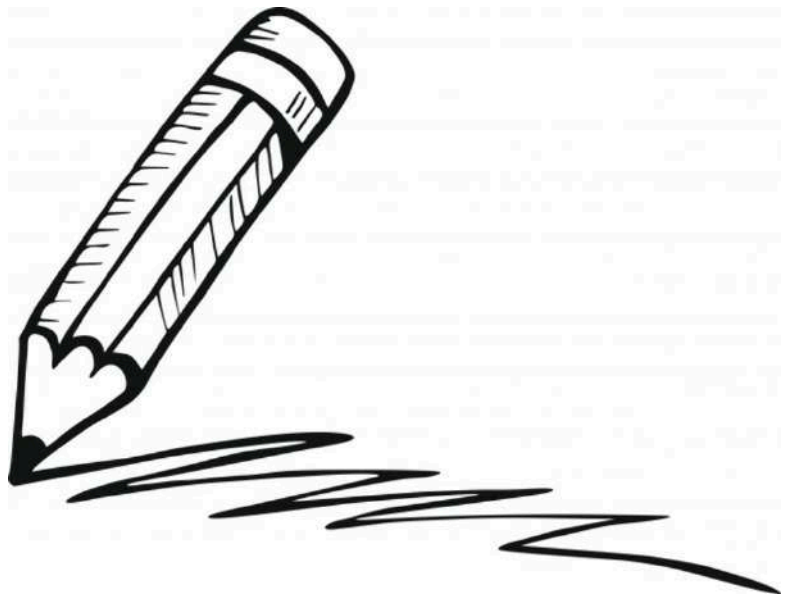


Table of Contents

How to Play _____ 3

Word Search Puzzles _____ 4

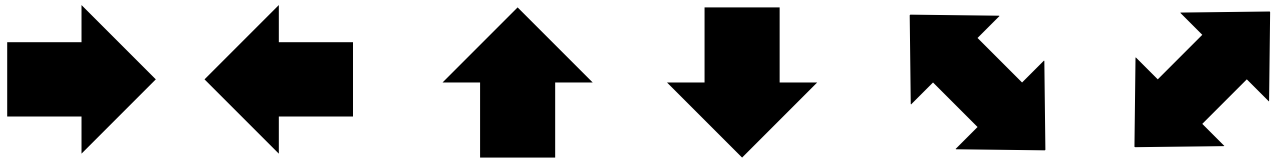
Solutions _____ 84



How To Play

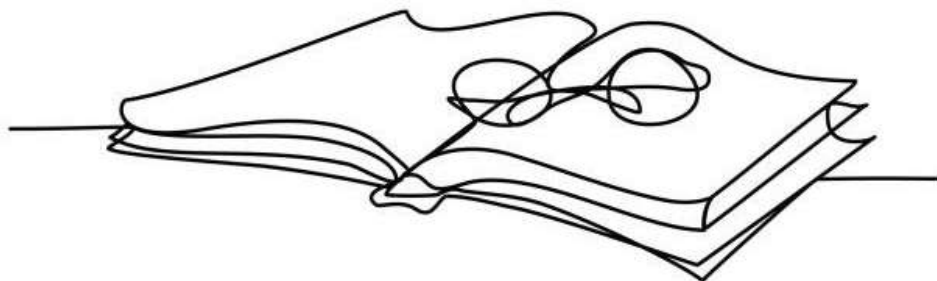
The objective of a word search puzzle is to locate and highlight the words hidden within the grid.

Word may appear in various directions: horizontally, vertically, diagonally, forward, and backward!



Scan the grid and mark each word as you find it. Continue until all the listed words have been identified.

Take your time and enjoy, alternatively you can challenge yourself to solve it as quickly as possible!



Puzzle#1 - Famous Scientists

Marie Curie was the first person to win two Nobel Prizes in different sciences - in physics and chemistry!



INNOVATION

FARADAY

GOODALL

FLEMING

HOOKE

GALILEO

CRICK

WATSON

TESLA

BREAKTHROUGH

RESEARCH

FRANKLIN

HYPOTHESIS

DISCOVERY

THEORY

KEPLER

EXPERIMENT

HAWKING

MENDEL

CAVENDISH

Puzzle#2 - Periodic Table

The only letter not appearing in the periodic table is "J"

I	R	R	M	G	U	Y	I	S	M	I	E	E	M	A	M	C	M	E	D
N	N	R	E	P	T	L	O	F	I	L	Y	P	E	T	I	E	L	G	E
A	E	A	T	D	U	N	S	I	S	Y	M	B	O	L	N	F	V	N	S
N	S	A	A	L	A	O	I	A	E	A	O	E	D	D	E	C	O	O	S
O	T	C	L	P	E	B	R	E	E	W	G	T	E	S	A	N	R	R	G
I	A	P	L	E	N	L	D	G	Y	E	E	L	A	M	M	L	E	T	O
T	M	O	O	R	O	E	S	N	T	N	E	T	L	E	L	E	M	C	M
A	E	S	I	I	L	G	W	E	I	E	M	D	T	T	H	L	E	E	V
C	O	L	D	O	I	A	E	I	V	G	A	A	G	A	T	A	D	L	L
I	V	A	E	D	R	S	A	T	I	O	L	T	O	L	N	I	I	E	T
F	N	T	A	I	O	D	S	I	T	L	M	O	L	A	N	E	L	M	O
I	E	E	A	C	Y	N	E	L	C	A	R	M	L	I	M	A	A	E	I
S	E	M	T	L	T	N	M	M	A	H	E	I	T	C	N	E	T	N	O
S	O	N	O	A	O	T	A	A	E	C	M	C	L	T	N	O	N	T	R
A	W	O	T	W	N	N	A	S	R	E	A	R	H	S	R	I	T	A	B
L	D	N	U	O	P	M	O	C	T	L	N	A	O	Y	E	N	M	R	I
C	O	E	C	O	I	M	U	A	C	I	N	O	I	O	B	T	B	P	T
L	V	I	C	E	D	L	P	H	V	I	I	T	A	T	M	L	A	G	A
A	E	L	S	O	P	T	O	O	D	E	T	L	M	O	U	U	M	A	L
M	E	A	T	R	E	A	O	E	L	O	A	L	T	C	N	L	N	D	S

NOBLE GAS

NONMETAL

ATOMIC

ORBITALS

ACTINIDE

METALLOID

HALOGEN

REACTIVITY

GROUP

COMPOUND

MENDELEEV

NONMETALS

ELECTRON

LANTHANIDE

PERIODIC LAW

NUMBER

SYMBOL

CLASSIFICATION

ELEMENT

METAL

Puzzle#3 - DNA

The DNA from a single cell could stretch nearly 7 feet!



- | | | | |
|-------------|----------|------------|-------------|
| BASE PAIR | ADENINE | NUCLEOTIDE | GUANINE |
| CODON | RNA | THYMINE | CODE |
| CYTOSINE | ALLELE | PROTEIN | PHENOTYPE |
| REPLICATION | DOMINANT | RECESSIVE | TRANSLATION |
| GENE | HELICASE | POLYMERASE | CLONING |

Puzzle#4 - Climate

Earth's hottest year on record was 2023



- | | | | |
|----------------|----------|-------------|------------|
| HUMIDITY | ALBEDO | JET STREAM | AEROSOLS |
| ZONES | WILDFIRE | TEMPERATURE | SEA LEVEL |
| FORECAST | MONSOON | DROUGHT | POLAR |
| CARBON DIOXIDE | HEATWAVE | CYCLONE | TROPICS |
| PRECIPITATION | ICE AGE | WEATHER | PERMAFROST |

Puzzle#5 - Black Hole

The largest known black hole, TON 618, weighs 66 billion Suns



- | | | | |
|-----------|------------|-------------|-------------|
| HORIZON | COLLAPSE | EVENT | VACUUM |
| COSMIC | MASS | RELATIVITY | REDSHIFT |
| WORMHOLE | DILATION | CORE | MERGER |
| QUASAR | DISTORTION | FORMATION | INVISIBLE |
| CURVATURE | INFINITE | DARK MATTER | SINGULARITY |

Puzzle#6 - Light

Sunlight takes 8 minutes to reach Earth, meaning we see the Sun
in the past



COLOR	AMPLITUDE	BRIGHTNESS	SPECTRUM
REFLECTION	PRISM	OPAQUE	SHADOW
SPEED	TRANSLUCENT	LASER	DIFFRACTION
ANGLE	POLARIZATION	LUMINOSITY	RAY
OPTICS	ABSORPTION	LENS	SCATTERING

Puzzle#7 - Atom

Atoms are mostly empty space - if the nucleus were the size of a peanut,
the atom would be as big as a stadium



NEUTRON

CHARGE

QUANTUM

PARTICLE

ION

PROTON

NUCLEAR

ORBITAL

BONDING

BOND

IONIC

HALF LIFE

UNSTABLE

SUBATOMIC

COVALENT

SHELL

VALENCE

MATTER

MODEL

BOHR MODEL

Puzzle#8 - Virus

Viruses aren't fully alive - they need a host cell to reproduce



ZERO PATIENT

IMMUNE

ZIKA

CAPSID

PANDEMIC

OUTBREAK

INFECTIOUS

RABIES

STRAIN

VIRAL LOAD

EBOLA

CORONAVIRUS

TRANSMISSION

INCUBATION

HIV

ANTIBODY

CONTAGIOUS

GENOME

ZOONOTIC

VACCINE

Puzzle#9 - Acids and Bases

Pure water is neutral at pH 7, right in the middle of the 0–14 pH scale



INDICATOR	IONIZATION	CARBONATE	NEUTRAL
HYDROXIDE	ALKALI	CORROSIVE	SALT
BUFFER	BASE	LITMUS	ELECTROLYTE
TITRATION	NEUTRALIZATION	REACTION	SOLUTION
AMMONIA	ALKALINITY	WEAK	DISSOLVE

Puzzle#10 - Gravity

A feather and a hammer fall at the same rate on the Moon because there's no air resistance



- | | | | |
|-------------|-----------|-----------|--------------|
| FORCE | INERTIA | WEIGHT | CATAPULT |
| COMPRESSION | STRESS | MAGNETISM | DISTANCE |
| ATTRACTION | ORBIT | MASSLESS | FREEFALL |
| EQUILIBRIUM | DENSITY | PARABOLA | ACCELERATION |
| BLACK HOLE | LOADFORCE | SCALAR | VECTOR |

Puzzle#11 - Fermentation

One teaspoon of yeast holds about 20 billion live yeast cells!



ACETOBACTER	ALCOHOL	BIOCHEMICAL	BREWING
CHEESE	CULTURE	ETHANOL	GLUCOSE
GLYCOLYSIS	KEFIR	KIMCHI	LACTIC ACID
MICROORGANISM	PICKLING	PROBIOTIC	SAUERKRAUT
SOURDOUGH	SUBSTRATE	WINEMAKING	YEAST

Puzzle#12 - Carbon Footprint

The average person's carbon footprint is about 16 tons of CO2 per



EFFICIENCY	SUSTAINABILITY	REDUCE	BIOFUEL
RECYCLE	SOLAR POWER	RECYCLING	TRANSPORT
FOSSIL FUELS	BIODEGRADABLE	INDUSTRY	WARMING
CARBON TAX	REUSE	OFFSET	FOOTPRINT
NET ZERO	WIND ENERGY	GREEN	PLASTIC

Puzzle#13 - Food Chain

Only about 10% of energy is passed from one level of a food chain to the next - the rest is lost as heat



- | | | | |
|-----------|-------------|--------------|-----------|
| BIOMASS | DECOMPOSER | HERBIVORE | ECOSYSTEM |
| CONSUMER | ZOOPLANKTON | PREDATOR | FUNGI |
| PRODUCER | TRANSFER | DEPENDENCE | WEB |
| NUTRIENTS | PLANKTON | BIODIVERSITY | NICHE |
| SCAVENGER | HABITAT | COMMUNITY | FAUNA |

Puzzle#14 - Kepler's Laws

Kepler discovered his laws of planetary motion in the 1600s - using only data and math



PERIOD	FOCUS	EPICYCLE	YEAR
PLANETARY	ELLIPSE	GRAVITY	OBSERVATION
HELIOCENTRIC	ECCENTRICITY	PLANET	SOLAR SYSTEM
AREA	CELESTIAL	ASTRONOMY	VELOCITY
REVOLUTION	TIME	RETROGRADE	NEWTON

Puzzle#15 - Magnetism

The strongest man-made magnet can generate 45 teslas
of magnetic field



STEEL	COMPASS	ELECTRONS	DOMAIN
HORSESHOE	LODESTONE	FIELD LINES	MRI
REPEL	POLARITY	MOTOR	INDUCTION
BAR MAGNET	COIL	SOLENOID	MAGNETITE
NORTH POLE	ATTRACT	IRON	EDDY CURRENTS

Puzzle#16 - Light-Year

One light-year is 6 trillion miles - and Andromeda is 2.5 million light-years away!



COSMOS	CLUSTER	EXPANSION	DEEP SPACE
SCALE	HUBBLE	ASTEROID	STAR
GALAXY	RADIATION	UNIVERSE	EXOPLANET
MILKY WAY	NEBULA	PARSEC	INTERGALACTIC
ANDROMEDA	WAVELENGTH	SPACE	TELESCOPE

Puzzle#17 - Compost

Composting can reduce household waste by up to 30%



FOOD SCRAPS

BROWN WASTE

MULCH

DECAY

MOISTURE

MICROBES

COMPOST BIN

AEROBIC

FERTILIZER

ORGANIC

TURNING

WORMS

NITROGEN

VERMICULTURE

ANAEROBIC

HUMUS

MANURE

CARBON

ROT

ECO

Puzzle#18 - Acid Rain

Acid rain can travel hundreds of miles from its source



- | | | | |
|---------------|---------------|------------|--------------|
| ALGAE | LIMESTONE | LICHEN | DEGRADATION |
| WEATHERING | ACIDITY | VEGETATION | TOXICITY |
| POLLUTION | RAINWATER | CHEMISTRY | AQUATIC LIFE |
| DEFORESTATION | BIOINDICATORS | OXIDATION | PH DROP |
| AIR QUALITY | NITRIC ACID | SEDIMENT | ATMOSPHERE |

Puzzle#19 - Isotope

Uranium-235 is so rare - it's about 1 in every 140 uranium



STABLE	ISOBAR	RADIOCARBON	URANIUM
FISSION	RADIOACTIVITY	CHAIN	ISOMER
HALF LIFE	BETA	TRACER	BOMBARDMENT
PARENT	ALPHA	GAMMA	NUCLEUS
MASS NUMBER	SPIN	ENRICHMENT	DAUGHTER

Puzzle#20 - Waste

The average person produces more than 4.5 pounds of waste every day



COMPOST

RUBBISH

LEACHATE

REDUCTION

DISPOSAL

METHANE

SANITATION

E WASTE

DEBRIS

OVERFLOW

LANDFILL

INCINERATION

SEWAGE

HAZARDOUS

DUMP SITE

TOXIC

GARBAGE

LITTER

EFFLUENT

MICROPLASTICS

Puzzle#21 - Invertebrates

Invertebrates make up over 95% of all animal species on Earth



ANT	TENTACLE	JELLYFISH	MOLLUSK
LOBSTER	ARTHROPOD	CORAL	SQUID
ANNELID	OCTOPUS	CNIDARIAN	SPONGE
SCORPION	ARACHNID	CRAB	LEECH
SNAIL	EARTHWORM	CLAM	EXOSKELETON

Puzzle#22 - Radiation

A chest X-ray gives less radiation than one week of natural exposure



INFRARED

X RAY

ISOTOPE

FALLOUT

PHOTON

EXPOSURE

MICROWAVE

FLUX

SIEVERT

DOSIMETER

FUSION

REACTOR

ULTRAVIOLET

IONIZING

PENETRATION

HEALTH

ONCOLOGY

RADON

COSMIC RAYS

GLOW

Puzzle#23 - Evolution

All humans share about 99.9% of their DNA with every other human



- | | | | |
|------------|----------|-------------|------------|
| DARWIN | HERITAGE | GENE POOL | DNA |
| POPULATION | HYBRID | DIVERSITY | EXTINCTION |
| ANCESTOR | GENETICS | CLADOGRAM | SELECTION |
| MUTATION | TRAIT | INHERITANCE | SPECIES |
| SPECIATION | FITNESS | GENE FLOW | SURVIVAL |

Puzzle#24 - Earth's Layers

Earth's inner core is as hot as the Sun's surface - 9,800°F - but stays solid from immense pressure



CRUST	MANTLE	ASH	VOLCANO
GEOLOGY	ROCK CYCLE	NICKEL	EARTHQUAKE
OUTER CORE	LAVA	SUBDUCTION	MAGMA
LITHOSPHERE	HOT SPOT	SEISMOLOGY	CONTINENTAL
PLATE	SEISMIC	BASALT	GRANITE

Puzzle#25 - Sound

The loudest sound ever recorded was the Krakatoa eruption in 1883 —
heard 3,000 miles away



- | | | | |
|------------|--------------|------------|-----------|
| VIBRATION | SONAR | MEDIUM | ACOUSTICS |
| TONE | BEAT | FREQUENCY | PITCH |
| ECHO | VOLUME | HERTZ | DECIBEL |
| SONIC BOOM | RAREFACTION | WHISPER | LOUDNESS |
| SILENCE | INTERFERENCE | INFRASOUND | RESONANCE |

Puzzle#26 - Invasive Species

North America spends billions battling zebra mussels accidentally introduced through ship ballast water



SPREAD	HABITAT LOSS	QUARANTINE	DISPLACEMENT
MANAGEMENT	COMPETITION	CONTROL	DOMINATION
COLONIZATION	DISRUPTION	REPRODUCTION	ERADICATION
INTRODUCTION	HUMAN ACTIVITY	NATIVE	MIGRATION
SUPREMACY	RESILIENCE	INVADER	EXCESS

Puzzle#27 - Thermodynamics

At Mount Everest's summit, water boils at just 70°C
instead of 100°C



- | | | | |
|------------|---------------|--------------|------------|
| WORK | SYSTEM | SURROUNDINGS | FIRST LAW |
| DIFFUSION | ENTROPY | CYCLE | HEATFLOW |
| MICROSTATE | CALORIMETER | CONDUCTIVITY | ENERGY |
| ISOTHERMAL | ADIABAT | ISOBARIC | EQUILIBRIA |
| ENGINE | REVERSIBILITY | THERMOSTAT | PHASE |

Puzzle#28 - Pollution

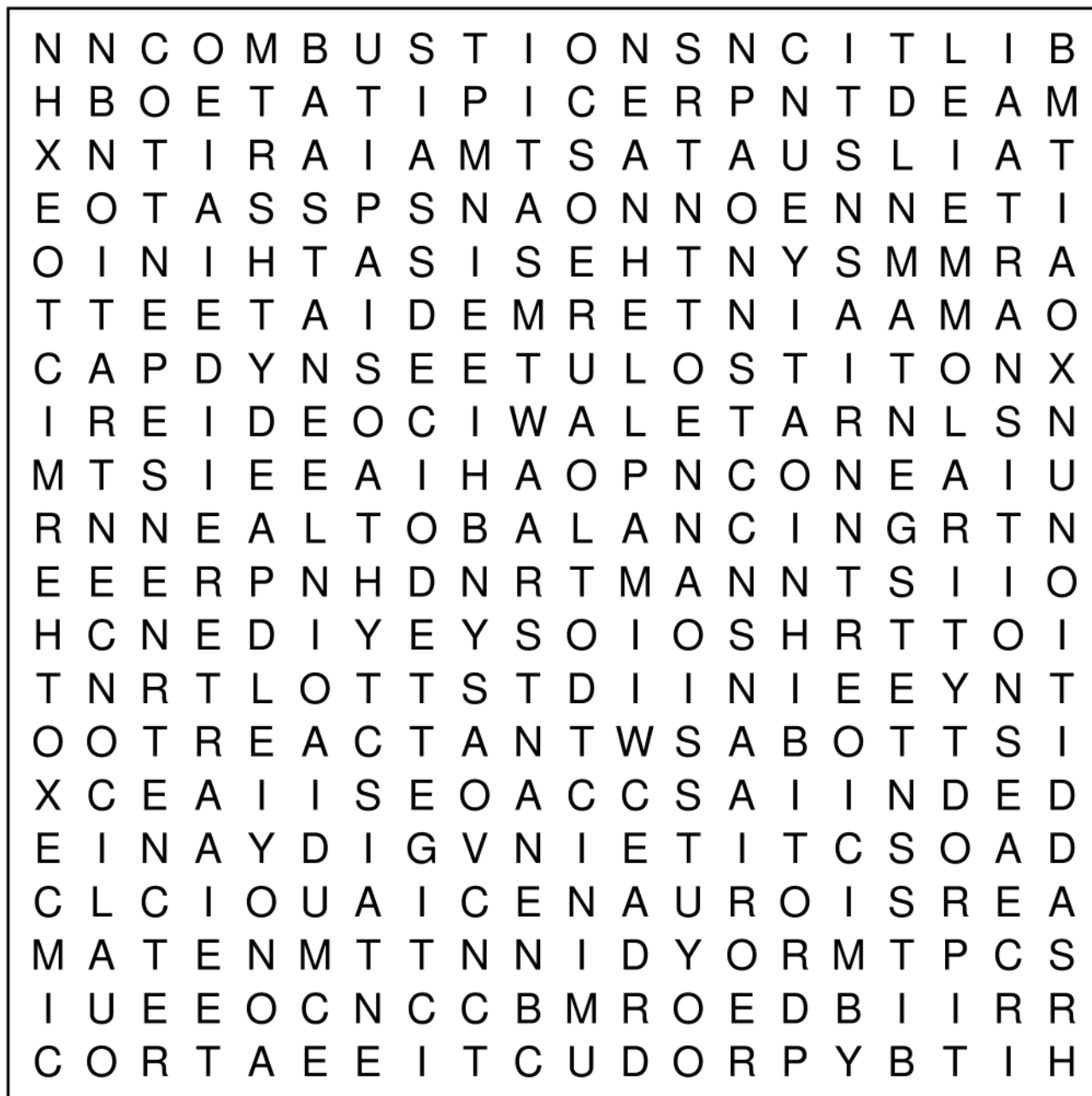
Air pollution causes about 7 million premature deaths worldwide each year



DUMPING	AIR	WASTEWATER	PARTICULATES
CONTAMINATION	NOISE	EROSION	PESTICIDES
ACID RAIN	FERTILIZERS	OIL SPILL	SMOKESTACK
SMOG	EMISSIONS	WATER	CLEAN ENERGY
FUMES	DISCHARGE	OVERLOAD	POLLUTANTS

Puzzle#29 - Chemical Reaction

The human body runs 37 trillion chemical reactions every second
to stay alive



ACTIVATION	BALANCING	REACTANT	REPLACEMENT
SYNTHESIS	RATE LAW	EXOTHERMIC	MOLARITY
INHIBITOR	PRECIPITATE	SCIENCE	SOLUTE
CONCENTRATION	ATOM	COMBUSTION	YIELD
INTERMEDIATE	BYPRODUCT	ADDITION	TRANSITION

Puzzle#30 - Microorganism

There are more microorganisms in a teaspoon of soil than there are people on Earth



SYMBIONT	CILIA	SPORE	MICROSCOPE
PROTOZOA	FLAGELLA	MICROBIOME	VIRUS
CELL	DECOMPOSITION	PATHOGENIC	PARASITE
FERMENTATION	BIOFILM	COCCUS	FUNGUS
ANTIGEN	ANTISEPTIC	ANTIBIOTIC	IMMUNITY

Puzzle#31 - Equilibrium

A red blood cell exchanges oxygen and carbon dioxide across its membrane in less than 1 second to maintain equilibrium



ADJUSTMENT	CONSTANTLY	REVERSIBLE	HOMOGENEOUS
DISTURBANCE	POSITION	CONSTANT	SYMMETRY
RATE	PRESSURE	RESTORING	CLOSED SYSTEM
INTERCHANGE	OPPOSITION	PROPORTION	VOLATILE
STABILITY	SHIFT	DYNAMIC	BALANCE

Puzzle#32 - Greenhouse

Plants grow up to 50% faster in greenhouses than outdoors



CLIMATE	SUNLIGHT	SHADE	AIR FLOW
PLANTS	GLAZING	CONVECTION	IRRIGATION
EVAPORATION	THERMOMETER	VENTILATION	DOME
ENVIRONMENT	GLASS	INSULATION	WARMTH
COVERING	UV RAYS	EFFECT	SOIL

Puzzle#33 - Satellite

Sputnik 1, the first artificial satellite, launched by the Soviet Union in 1957, was the size of a beach ball



STATION	PAYLOAD	DISH	SOLAR PANEL
TELEMETRY	TRACKING	SIGNAL	COMMUNICATION
TRAJECTORY	ROCKET	GPS	RECEIVER
REMOTE	TRANSMITTER	DATA	NAVIGATION
IMAGING	SPACECRAFT	EARTH	LAUNCH

Puzzle#34 - Insects

A honeybee visits 50–100 flowers in a single trip



TERMITE

EXOSKELETAL

OVIPOSITOR

BUMBLEBEE

COCOON

CAMOUFLAGE

MOTH

SILK

PUPA

LARVA

GRASSHOPPER

MOSQUITO

NESTING

PROBOSCIS

COCKROACH

VENOM

FLIGHT

HONEY

ANTENNAE

FLEA

Puzzle#35 - Immunity

The human body can make 10 billion unique antibodies to fight invaders



DEFENSE	IMMUNOGEN	VACCINATION	RESPONSE
BOOSTER	ALLERGY	INFLAMMATION	SEROLOGY
SMALLPOX	BACTERIA	LYMPH	MEMORY CELL
EPITOPE	POLYCLONAL	NEUTRALIZING	HEPATITIS
ADAPTIVE	MEASLES	TOLERANCE	HYBRIDOMA

Puzzle#36 - Sustainability

Recycling one aluminum can saves enough energy to power a TV for 3 hours!



COMPOSTING	ZERO WASTE	GREENWASHING	MATERIALS
MITIGATION	SORTING	MINIMALISM	LOCAVORE
REGENERATION	CIRCULAR	TRASH	UPCYCLE
CONSCIOUS	PACKAGING	TURBINE	REPURPOSE
FAIR TRADE	REFURBISH	PERMACULTURE	BAMBOO

Puzzle#37 - States of Matter

Plasma makes up over 99% of the visible universe



PLASMA	COMPRESS	CRYSTALLINE	DEPOSITION
MELT	LIQUID	VISCOSITY	SOLID
SUBLIMATE	CHANGE	EVAPORATE	EXPAND
IONIZE	FLUID	BOIL	VAPOR
FREEZE	STATE	CONDENSE	AMORPHOUS

Puzzle#38 - Nervous System

There are about 86 billion neurons in the human brain!

O	I	S	N	I	N	O	T	O	R	E	S	L	T	P	I	T	T	I	R
O	T	U	E	V	E	S	T	I	B	U	L	A	R	S	I	E	N	E	R
S	P	L	A	V	N	F	C	S	O	N	R	N	C	O	O	O	E	E	I
X	T	U	R	E	H	Y	C	E	N	T	R	A	L	T	R	I	S	N	Y
N	T	M	S	R	I	A	S	N	B	R	R	L	A	A	D	R	T	P	A
O	P	I	X	C	N	H	P	S	T	T	D	O	I	O	S	A	T	S	D
I	S	T	R	A	R	A	O	A	V	E	E	I	W	D	A	T	U	N	R
T	O	S	A	R	T	O	M	T	A	E	E	I	E	X	U	R	N	A	I
A	T	I	O	H	O	M	A	I	R	U	R	T	A	X	L	E	A	M	X
N	A	R	W	N	A	E	E	O	S	E	U	E	B	E	E	L	N	R	E
I	L	A	N	R	S	D	Y	N	Y	R	D	N	R	M	T	T	T	V	M
D	Y	E	E	P	I	U	S	M	M	L	A	I	N	A	R	C	R	U	D
R	N	R	Y	R	N	L	S	E	P	L	U	M	O	M	I	E	R	O	N
O	B	P	O	E	H	L	M	U	A	L	M	A	S	N	N	B	L	T	C
O	R	I	O	S	U	A	L	I	T	T	G	P	E	A	E	H	E	R	P
C	L	B	T	V	S	B	L	E	H	N	E	O	T	R	Y	U	C	T	B
L	T	A	X	N	S	G	R	I	E	R	A	D	E	M	L	R	R	N	A
R	E	R	M	L	A	D	N	A	T	O	Y	C	A	N	V	L	A	O	O
E	T	I	R	D	N	E	D	L	I	S	P	I	N	A	L	A	P	C	N
E	T	L	A	D	O	N	D	T	C	N	E	I	R	E	F	L	E	X	E

- | | | | |
|----------|-----------|--------------|-----------|
| CRANIAL | SENSATION | SYMPATHETIC | SPINAL |
| CORTEX | DENDRITE | GLIAL | NEURON |
| CENTRAL | MEDULLA | VESTIBULAR | DOPAMINE |
| PATHWAY | CEREBRUM | BRAIN | SEROTONIN |
| STIMULUS | REFLEX | COORDINATION | NERVE |

Puzzle#39 - Optics

A human eye can distinguish about 10 million different colors!



TRANSMIT

APERTURE

FIBER

TRANSPARENT

ABSORB

POLARIZE

ILLUMINATION

CONVEX

IRIS

GLARE

CORNEA

LENSMAKER

IMAGE

ZOOM

MIRROR

RETINA

MAGNIFY

CHROMATIC

LENSLET

DISPERSION

Puzzle#40 - Moon

A day on the Moon lasts about 29.5 Earth days



OBSERVATORY

SELENOLOGY

MOONQUAKE

ECLIPSE

LUNAR

CRESCENT

CRATER

GIBBOUS

EXOSPHERE

ORBITER

LIBRATION

TERMINATOR

SATELLITE

PERIGEE

FULL

SURFACE

TIDE

LANDING

APOLLO

METEOR

Puzzle#41 - Fossils

The oldest identified fossilized bacteria are over 3.5 billion years old

S	R	M	E	L	E	N	O	C	R	S	R	A	I	O	X	M	L	O	E
A	P	A	E	V	R	E	S	E	R	P	I	A	N	I	N	T	N	N	I
Y	C	H	L	I	L	S	X	P	I	Y	R	I	T	M	R	O	O	P	R
N	F	A	I	R	L	T	E	E	A	A	A	A	E	V	V	L	I	S	O
C	N	R	S	R	O	T	N	Y	T	I	T	T	T	I	A	T	T	T	T
A	P	A	S	T	R	R	T	I	A	I	S	N	A	T	E	M	A	S	S
S	S	R	O	I	N	O	I	N	R	M	B	A	T	D	E	C	Z	A	B
M	O	L	F	N	I	A	M	I	T	P	A	V	E	S	X	O	I	N	M
I	M	Y	O	T	O	T	C	Y	S	R	F	T	I	F	T	D	L	P	O
L	E	G	R	F	O	I	I	L	A	I	N	A	R	E	I	I	A	A	E
T	E	A	C	Y	P	E	T	I	I	N	N	S	E	A	N	L	R	L	P
E	R	R	I	I	C	T	R	A	S	T	C	E	L	L	C	T	E	E	L
C	E	E	M	I	R	I	L	F	Z	A	E	C	N	R	T	E	N	O	Z
M	M	O	L	D	T	N	O	B	S	I	S	P	R	T	M	E	I	N	E
I	C	E	Z	I	N	O	B	R	A	C	L	B	N	A	A	A	M	T	X
I	P	E	T	E	A	M	R	L	E	C	M	I	P	I	I	T	T	O	N
E	I	T	E	N	E	M	B	U	R	I	A	L	S	S	Y	M	X	L	O
Y	G	O	L	O	E	A	H	C	R	A	A	R	F	S	P	O	L	O	O
I	R	R	E	X	C	A	V	A	T	E	R	A	L	R	O	P	N	G	O
I	X	I	I	Z	C	O	P	R	O	L	I	T	E	I	T	F	N	Y	M

- | | | | |
|----------------|-------------|-----------|---------------|
| LEAFPRINT | ERA | COPROLITE | MICROFOSSIL |
| MOLD | PETRIFY | EXCAVATE | TRACE |
| STRATA | ARCHAEOLOGY | AMMONITE | CAST |
| IMPRINT | EXTINCT | PRESERVE | FOSSILIZATION |
| MINERALIZATION | BURIAL | CARBONIZE | PALEONTOLOGY |

Puzzle#42 - Mutation

A mutation in Tibetan people helps them thrive at high altitudes
with thin air



COPY	HEREDITARY	RANDOM	EVOLUTION
MISSENSE	SUBSTITUTION	LINK	VARIATION
INSERTION	DNA REPAIR	GENETIC	MUTAGEN
ERROR	ONCOGENE	DELETION	CARCINOGEN
CHROMOSOME	FRAMESHIFT	PROMOTER	GENOTYPE

Puzzle#43 - Metals

Steel is the world's most used metal - over 1.8 billion tons are produced every year



- | | | | |
|-----------|-----------|----------|----------|
| PURITY | ALUMINUM | HARDNESS | ZINC |
| SILVER | MALLEABLE | METALLIC | CHROMIUM |
| TITANIUM | DUCTILE | LUSTER | CASTING |
| STRENGTH | COPPER | SMELTING | ALLOY |
| CORROSION | GOLD | MAGNET | REFINING |

Puzzle#44 - Forces

The strongest force in nature is the nuclear force, binding protons together even though they repel each other



DIRECTION	NORMAL	DEFORMATION	DRAG
TORQUE	ELASTICITY	THRUST	CENTRIFUGAL
EQUATION	TENSION	FORCEFIELD	PUSH
POTENTIAL	COEFFICIENT	CONTACT	APPLIED
ELECTROSTATIC	LIFT	REST	KINETIC

Puzzle#45 - Water Cycle

The water on Earth has been cycling through the water cycle for more than 3 billion years



- | | | | |
|------------|-------------|--------------|--------------|
| SNOWFALL | GROUNDWATER | WATERSHED | STORM |
| CLOUD | FOG | DRAINAGE | PERCOLATION |
| MIST | RAINSTORM | SUBLIMATION | CONDENSATION |
| FRESHWATER | DEW | INFILTRATION | HYDROLOGY |
| RUNOFF | RESERVOIR | FLOOD | AQUIFER |

Puzzle#46 - Natural Resources

Humans have used more resources in the last 50 years than in all of previous history



- | | | | |
|--------------|-------------|-------------|-------------|
| MINING | EXTRACTION | FRESH WATER | WILDLIFE |
| RESERVE | AGRICULTURE | HYDROPOWER | FORESTS |
| OVERFISHING | MINERALS | ORE | ECOSPHERE |
| COAL | DEPLETION | WASTE | RESTORATION |
| NONRENEWABLE | OIL | NUTRIENT | FUEL |

Puzzle#47 - Fungi

Fungi are just 2–5% of Earth's biomass but decompose nearly 80% of dead organic matter



MUSHROOM

TRUFFLE

MYCORRHIZA

MYCOLOGY

FUNGEMIA

COLONY

FRUITING

BIOME

PARASITIC

MOSS

SPORES

CAPSULE

CORDYCEPS

HYPHAE

SAPROPHYTE

LITTERFALL

MYCELIUM

BIODEGRADE

SYMBIOSIS

NATURE

Puzzle#48 - Crystals

Some of the largest crystals ever discovered measure over
30 feet in length



INCLUSION	GEMSTONE	HABIT	TRIGONAL
CRYSTALFIELD	TRICLINIC	QUARTZ	SHAPE
REFRACT	FACET	HEXAGONAL	CUBIC
NUCLEATION	MONOCLINIC	CRUSTAL	IMPURITY
GEODE	POLYMORPH	STRUCTURE	CLEAVAGE

Puzzle#49 - Electricity

A lightning strike can power a small town for a day with 1 billion volts

S	T	C	G	O	L	O	T	D	N	V	T	N	H	U	C	U	N	U	O
I	O	R	W	C	L	T	S	O	O	E	A	O	N	I	C	A	C	E	T
C	O	W	I	R	E	A	D	E	O	P	A	C	R	A	N	H	R	E	D
R	O	A	T	O	K	F	S	A	U	T	E	C	O	C	E	E	I	L	U
E	U	N	T	O	U	U	L	R	O	D	U	C	V	D	P	N	C	T	I
L	S	C	D	O	F	T	C	T	R	I	D	I	S	M	U	T	O	G	A
E	W	D	R	U	U	P	I	R	T	E	C	V	A	U	T	T	A	T	T
F	I	E	L	D	C	A	U	T	O	T	R	O	I	M	I	T	O	H	U
U	T	E	L	I	T	T	U	R	N	T	A	K	R	A	P	S	A	C	A
G	C	M	O	U	U	T	O	E	C	E	A	W	C	L	O	R	R	I	O
R	H	R	O	C	D	I	R	R	R	O	R	R	R	O	U	T	D	E	R
O	C	O	D	T	E	O	U	A	O	W	I	R	E	O	T	T	S	U	C
U	R	T	L	A	D	E	A	T	H	R	O	E	U	N	L	E	C	H	T
N	N	A	I	U	O	O	L	E	P	I	G	D	T	C	E	C	A	W	T
D	V	L	E	O	R	L	N	K	A	A	R	U	U	I	T	G	R	T	I
S	C	U	D	L	T	R	O	A	T	O	T	V	T	T	T	S	T	N	W
I	E	S	L	M	C	R	T	L	U	S	R	T	U	A	O	O	R	M	U
N	H	N	A	R	E	U	O	A	D	R	V	R	O	T	F	R	I	S	E
P	U	I	R	D	L	V	T	H	T	L	A	T	R	S	U	R	C	C	R
L	O	M	S	E	E	E	R	C	S	E	W	R	C	R	E	O	A	S	R

- | | | | |
|-----------|---------|-----------|-----------|
| FUUSE | CIRCUIT | GENERATOR | WIRE |
| SPARK | OHM | CURRENT | INSULATOR |
| ELECTRODE | SWITCH | LOAD | SHORT |
| AMPERE | GROUND | VOLTAGE | FIELD |
| STATIC | WATT | CONDUCTOR | OUTLET |

Puzzle#50 - Solar System

Jupiter is so huge it could fit all the other planets in the Solar System - and still have room to spare



- | | | | |
|---------|---------|------------|--------|
| COMET | VENUS | ELLIPTICAL | PROBE |
| NEPTUNE | DWARF | ORBITER | ROVER |
| OORT | INCLINE | CORONA | PLUTO |
| KUIPER | RINGS | MARS | METEOR |
| TRITON | MERCURY | URANUS | SATURN |

Puzzle#51 - Dinosaurs

The largest dinosaur ever discovered, Argentinosaurus, is estimated to have weighed up to 100 tons



- | | | | |
|-------------|---------|----------|-------------|
| JURASSIC | RAPTOR | TAIL | ROAR |
| TEETH | REPTILE | GIGANTIC | PREHISTORIC |
| STEGOSAURUS | TRACKS | EGG | CLAWS |
| JAWBONE | SCALES | THEROPOD | SKULL |
| SKELETON | NESTING | HORNS | TRICERATOPS |

Puzzle#52 - Seasons

In roughly 13,000 years, Earth's axial precession will shift the Northern Hemisphere's summer solstice from June to December



HIBERNATE

BLOOM

LEAVES

SOLSTICE

SPRING

EQUATOR

SUN

MELTING

FROST

CHANGING

HEMISPHERE

COLD

SEASONAL

TRADITION

DAYLIGHT

HARVEST

EQUINOX

TRANSITION

WINTER

TILT

Puzzle#53 - Hormones

The human body produces about 50 different hormones



RECEPTOR	TARGET	HOMEOSTASIS	THYROID
ENDOCRINE	GLAND	MELATONIN	CORTISOL
MOOD	OXYTOCIN	TISSUE	ESTROGEN
TESTOSTERONE	SECRETION	ADRENAL	PUBERTY
FEEDBACK	STEROID	BODY	GROWTH

Puzzle#54 - Plant Cell

Plant cells are roughly 10 times bigger than animal cells



CHLOROPLAST

JELLY

TONOPLAST

SPONGY

DIVISION

CELL PLATE

STOMATA

PLASTID

MEMBRANE

PIGMENT

CYTOPLASM

GOLGI

NUCLEOLUS

LIGHT

ENDOPLASMIC

LYSOSOME

SEED

CHLOROPHYLL

CELLULOSE

WALL

Puzzle#55 - Ancient Oceans

Ancient oceans had layers of water that didn't mix, creating oxygen-free zones, which rarely happen today



PALEOOCEAN

NEKTON

HADAL

NAUTILOID

DEVONIAN

BENTHIC

SALINITY

PLACODERM

TECTONICS

DEEP

MUD

ABYSS

REEF

BASIN

TRILOBITE

AMMONITE

ANOXIC

MANGROVE

SEAFLOOR

SAND

Puzzle#56 - Karyotype

Humans have 46 chromosomes, fruit flies have 8, and the fern
Ophioglossum has 1,440 - the highest known



ANALYSIS	SYNDROME	SEQUENCE	ANOMALY
DISORDER	DUPLICATION	ORGANISM	LABORATORY
SCREENING	MOSAICISM	AMNIOCENTESIS	EMBRYO
BARR BODY	CYTOGENETICS	TRISOMY	LOCUS
KARYOGRAM	PRENATAL	PHOTOGRAPH	MITOSIS

Puzzle#57 - Vertebrates

The blue whale is the largest animal with a backbone, growing over 100 feet long and weighing up to 200 tons



INSTINCT

FIN

ENDOSKELETON

GILL

JAW

BACKBONE

MAMMAL

CHORDATE

AMPHIBIAN

FUR

CAMOUFLAGE

ORGAN

BONE

SPINE

FOSSIL

FEATHER

MUSCLE

LUNG

JUVENILE

CARTILAGE

Puzzle#58 - Medicinal Drugs

Penicillin, the first antibiotic, was discovered in 1928 when mold contaminated a petri dish



ASPIRIN	CURE	INJECTION	PENICILLIN
TABLET	PAINKILLER	INHALER	RELIEF
PARACETAMOL	ANTIVIRAL	SIDE EFFECT	TREATMENT
ANTACID	IBUPROFEN	ANESTHETIC	DOSAGE
PATCH	PRESCRIPTION	SYRINGE	THERAPY

Puzzle#59 - Ice Age

Ice sheets covered nearly 30% of Earth's land during
the last Ice Age



- | | | | |
|-----------|----------|-------------|-----------|
| MAMMOTH | TRAIL | SABERTOOTH | BISON |
| PLATEAU | FROZEN | CAVE | SHELTER |
| STONEWORK | BLIZZARD | EPOCH | AVALANCHE |
| ICE SHEET | REINDEER | PLEISTOCENE | DEAD |
| TUNDRA | SURVIVOR | SNOWSTORM | MEGAFUNA |

Puzzle#60 - Vitamins and Minerals

One orange has about 70 mg of vitamin C, nearly 78% of the daily requirement



MAGNESIUM

SELENIUM

METABOLISM

HAIR

IODINE

ANTIOXIDANT

POTASSIUM

STRONG

PHOSPHORUS

FOLATE

THIAMINE

VITAMIN D

BLOOD

SUPPORT

DIET

NUTRITION

DEFICIENCY

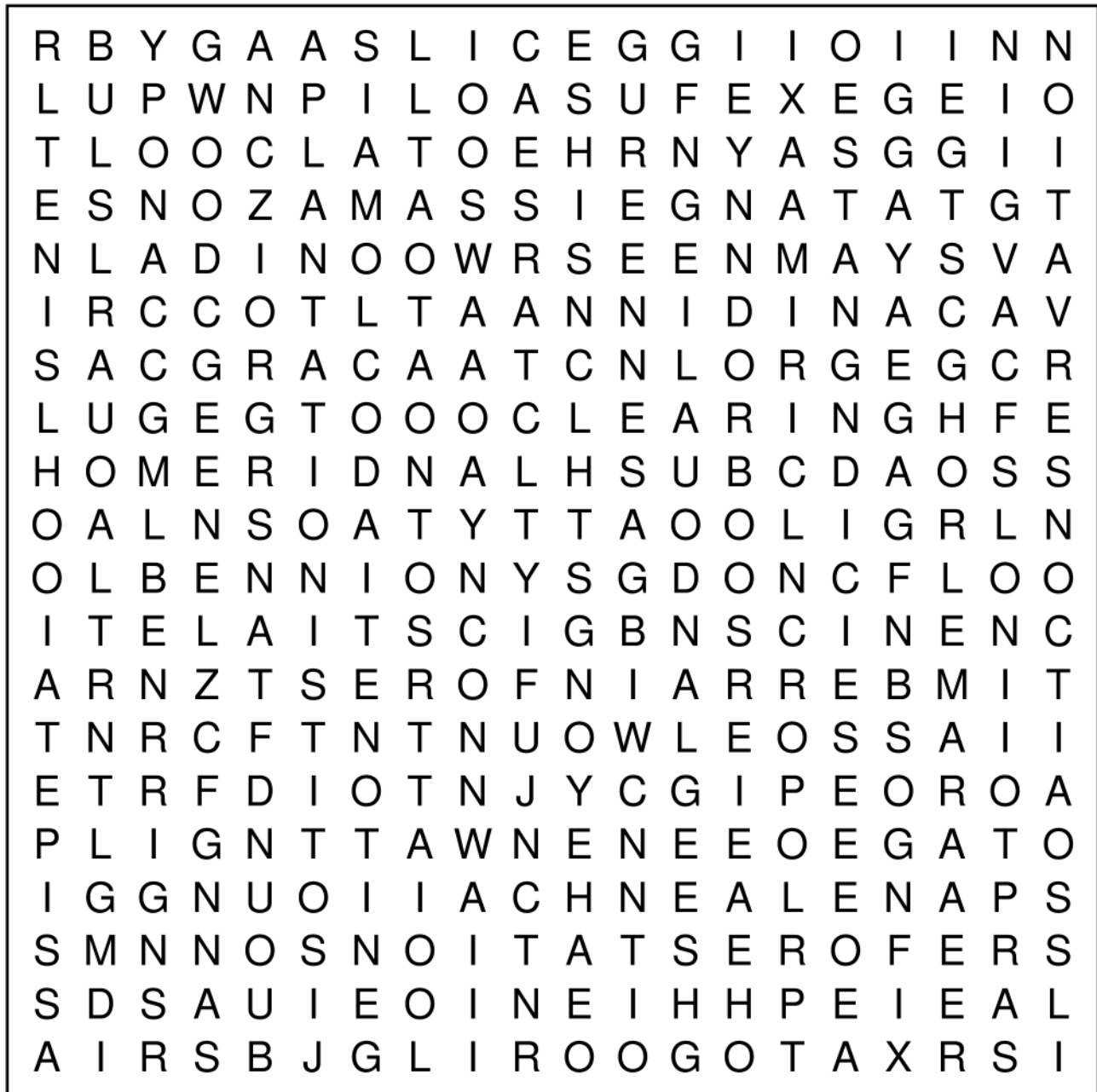
CALCIUM

SODIUM

SUPPLEMENT

Puzzle#61 - Deforestation

Around 17% of the Amazon rainforest has been destroyed in the last 50 years



WOOD	CROP	TREES	AMAZON
CLEARING	BUSHLAND	JUNGLE	LOGGING
LOSS	RAINFOREST	FIRE	PLANTATION
LAND	TIMBER	REFORESTATION	OXYGEN
ILLEGAL	CONSERVATION	CHAINSAW	CANOPY

Puzzle#62 - Energy Sources

The Sun delivers more energy to Earth in one afternoon than the entire world uses in a year



WINDMILL	NATURAL GAS	GRID	TRANSFORMER
RADIANT	STEAM	POWER STATION	CONVERTER
HYDRO	EMISSION	POWER	WIND
PHOTOVOLTAIC	SOLAR	BATTERY	HYDROGEN
PIPELINE	ELECTRICITY	KILOWATT	RENEWABLE

Puzzle#63 - Planet Formation

It takes around 10 million years for dust in a protoplanetary disk to form a planet through collisions and gravity



INSTABILITY

DISK

ROTATION

PROTOSTAR

HEAT

SPIRAL

CLUMP

ACCRETION

ROCK

PEBBLE

AGGREGATION

OUTGASSING

METEORITE

FRAGMENTATION

SPHERE

COLLIDE

PLANETESIMAL

NEBULAR

ICE

DUST

Puzzle#64 - Human Body

The human heart beats 100,000 times a day, pumping
7,500 liters of blood



CARTILAGE

ESOPHAGUS

DIAPHRAGM

SWEAT

ARTERY

LIGAMENT

BLADDER

TOOTH

PANCREAS

NOSE

VEIN

INTESTINE

HEART

MARROW

CAPILLARY

JOINT

KIDNEY

KNEECAP

STOMACH

NEURONS

Puzzle#65 - Pollination

One-third of the world's food depends on pollinators

M	S	A	S	Y	E	N	O	H	A	U	O	O	C	S	C	N	L	G	T
M	N	N	T	L	B	U	R	F	A	R	E	E	E	U	D	E	L	E	O
B	E	E	G	S	E	Y	S	I	L	Y	C	U	R	M	R	B	E	U	N
A	M	L	A	L	E	I	M	L	L	F	A	C	T	M	U	U	N	E	E
N	A	R	R	O	T	A	N	I	L	L	O	P	E	E	A	M	L	U	O
E	T	L	D	A	U	O	A	T	N	V	W	U	C	R	L	B	G	E	L
H	S	O	E	T	T	T	U	S	P	A	L	N	O	B	W	L	D	O	T
I	M	T	N	I	A	C	S	I	O	G	U	E	H	A	G	E	P	Y	T
R	E	C	E	C	T	I	E	P	V	N	L	E	C	I	R	B	U	G	E
B	S	S	L	T	T	F	N	N	U	F	Z	Z	U	B	V	E	R	E	B
B	Z	W	P	A	R	W	L	S	L	B	I	I	U	N	H	E	U	R	A
E	N	P	E	N	P	A	I	O	E	W	T	T	W	T	D	L	A	Z	E
E	E	T	T	R	M	F	R	L	W	C	T	T	R	M	E	H	R	A	E
V	E	T	I	L	H	A	T	T	D	E	T	E	F	L	W	V	B	E	M
E	B	E	R	U	L	E	Z	T	R	F	R	T	E	G	I	I	F	A	I
N	A	S	I	U	R	B	O	F	Q	F	L	G	T	T	N	A	L	P	E
L	M	T	S	R	F	F	L	N	L	U	N	O	L	R	T	H	W	O	A
T	W	I	E	R	T	Y	T	A	M	C	E	P	W	A	N	T	H	E	R
N	U	U	R	O	E	B	A	R	R	U	U	E	A	E	A	E	R	S	E
I	P	E	P	P	B	L	U	W	T	A	I	L	N	F	R	L	S	O	M

BUTTERFLY

FLOWER

GARDEN

FLORAL

OVULE

INSECT

POLLINATOR

STAMEN

BUZZ

HONEY

SUMMER

NECTAR

PLANT

BUMBLEBEE

ANTHER

WILDFLOWER

FRUIT

HIVE

QUEEN

PISTIL

Puzzle#66 - Life Cycles

The average lifespan of a housefly is around 4 weeks from egg to death



- | | | | |
|------------|------------|-----------|---------------|
| HATCHLING | ADULT | OFFSPRING | GERMINATION |
| DESCENDANT | DEVELOPMEN | LIFE SPAN | TODDLER |
| MATURITY | GENERATION | AGING | FERTILIZATION |
| PARENTHOOD | DEATH | JUVENILE | ADOLESCENT |
| NEONATE | LONGEVITY | BIRTH | LEARNING |

Puzzle#67 - Antibiotics

Over 700,000 people die each year from antibiotic-resistant infections



PHARMACY	SYMPTOM	HOSPITAL	TRIAL
PHARMACOLOGY	GERM	HEALTHCARE	INFECTION
RESISTANCE	AMOXICILLIN	MEDICINE	SUPERBUG
PATHOGEN	DOSEAGE	SEPSIS	MICROBE
STERILIZE	CONTAGION	DRUG	DOSE

Puzzle#68 - Birds

The Arctic tern flies about 43,500 miles each year - the longest migration of any bird



NEST	CROW	AERODYNAMICS	PEACOCK
WHISTLE	FLOCK	PLUMAGE	FLIGHT
BEAK	WINGBEAT	PENGUIN	BROOD
EGGSHELL	HOVERING	WOODPECKER	SONG
FEEDING	PREEN	SKYWARD	SPARROW

Puzzle#69 - Extinction

Over 99% of all species that ever lived on Earth are now extinct



EXTERMINATION

LOSTWORLD

DINOSAUR

IMPACT

GONE

ENDANGERED

DIE

DISAPPEAR

ADAPTATION

REMAINS

THREATENED

PERMIAN

PRESERVATION

CATASTROPHE

PREY

POACHING

CRETACEOUS

LIFEFORM

DECLINE

BIOTA

Puzzle#70 - Ozone Layer

If compressed, all the ozone in Earth's atmosphere would form a layer
just 3 mm thick

S	A	E	L	S	E	R	S	T	R	A	T	O	S	P	H	E	R	E	N
U	N	I	E	S	E	O	B	S	M	L	E	M	A	L	A	N	R	T	O
N	D	E	N	V	I	R	O	N	M	E	N	T	A	L	Y	H	A	I	N
B	N	S	S	I	W	G	B	E	S	I	D	C	C	T	G	T	B	O	S
E	S	E	M	S	H	G	R	N	L	Y	L	H	R	E	L	S	I	E	W
A	V	L	D	A	T	T	E	E	E	T	I	E	N	C	T	T	L	T	E
M	L	U	C	F	S	A	A	D	E	U	C	S	I	R	C	A	E	S	I
U	A	C	E	E	L	A	K	T	R	N	L	T	A	E	E	S	Y	F	T
T	U	E	E	T	A	O	D	T	S	N	H	T	T	H	C	K	E	A	C
I	U	L	H	Y	C	S	O	U	O	S	O	O	C	R	S	Y	S	S	F
O	V	O	L	L	I	B	W	I	S	S	R	R	U	P	D	E	H	A	L
L	R	M	O	N	M	L	N	K	P	P	E	A	S	S	S	I	T	H	H
R	A	U	E	E	E	R	N	H	N	C	I	O	A	O	E	O	L	N	S
M	D	P	A	Y	H	E	E	R	O	V	E	G	N	L	I	E	K	P	M
S	I	O	P	H	C	R	P	V	F	N	C	O	D	S	N	C	L	H	A
S	A	C	E	R	I	A	E	O	R	D	D	S	E	I	Y	W	I	O	C
N	T	R	R	C	I	R	E	U	E	C	E	I	P	N	N	C	R	S	H
I	I	I	O	I	Y	S	B	I	O	C	K	N	N	N	L	C	E	O	T
I	O	A	A	S	E	H	R	S	N	I	N	P	M	I	N	I	I	T	N
U	N	E	S	U	O	H	N	C	A	R	H	S	B	Y	E	R	H	E	E

MOLECULES	STRATOSPHERIC	RECOVERY	CHEMICALS
CLOUDS	ENVIRONMENTAL	SAFETY	SHIELD
GREENHOUSE	GAS	BURN	BREAKDOWN
SKY	THIN	PROTECTION	FREON
UV RADIATION	HOLE	STRATOSPHERE	SUNBEAM

Puzzle#71 - Coral Reefs

Coral reefs occupy less than 1% of the ocean floor but provide habitat for approximately 25% of all marine species



FISH	THREAT	POLYPS	ANEMONE
SALTWATER	SESSILE	BLEACHING	OCEAN
FRINGING	CRUSTACEAN	TROPICAL	CALCIFICATION
MARINE	LAGOON	SPONGES	ZOOXANTHELLAE
TIDEPPOOL	FRAGILE	ATOLL	BARRIER

Puzzle#72 - Weather Phenomena

The highest ever recorded wind speed on Earth was 253 mph during
Cyclone Olivia in 1996



METEOROLOGY

ANTICYCLONE

HABOOB

HURRICANE

TORNADO ALLEY

HAIL

MICROCLIMATE

WARM FRONT

CLOUDBURST

BAROMETER

AURORA

LIGHTNING

GUST

VIRGA

CUMULUS

SLEET

TYPHOON

UMBRELLA

GRAUPEL

SNOWFLAKE

Puzzle#74 - Hydrosphere

The Earth's hydrosphere contains about 336 million cubic miles of water, covering roughly 71% of the planet's surface



- | | | | |
|-----------|--------------|--------------|-----------|
| SEA | WATER CYCLE | DESALINATION | RILL |
| CHANNEL | POND | GLACIER | AQUATIC |
| RIVER | BRACKISH | SWAMP | RAIN |
| BAY | ESTUARY | WETLAND | WAVE |
| WATERFALL | HYDROTHERMAL | SPRING | ICE SHELF |

Puzzle#75 - Parasites

Malaria parasites infect over 200 million people worldwide every year



- | | | | |
|--------------|--------------|-----------|-------------|
| FLEAS | PARASITOID | ENDEMIC | MICROSCOPIC |
| ECTOPARASITE | CO EVOLUTION | HOST | INFESTATION |
| TOXIN | BLOODSUCKER | LIFECYCLE | DISEASE |
| ZOONOSIS | EGGS | MALARIAL | LARVAE |
| LICE | CARRIER | TICKS | WORM |

Puzzle#76 - Aerodynamics

The SR-71 Blackbird flies over three times the speed of sound,
reaching 2,193 mph



WING	STALL	TURBULENCE	FUSELAGE
GLIDE	BOUNDARY	FLOW	ALTITUDE
VORTEX	YAW	MOTION	AIRFLOW
PROPELLER	WAKE	GLIDE RATIO	STREAMLINE
ROLL	SHOCK WAVE	LIFT FORCE	REYNOLDS

Puzzle#77 - Glaciers & Ice Caps

Glaciers and ice caps store about 69% of the world's fresh water



MELTWATER

STREAM

SNOW

OUTWASH

ICEBERG

CLIFF

SERAC

CRYOCONITE

RIDGE

LAKE

ICE CORE

BASAL SLIDING

VALLEY

NUNATAK

CREVASSE

COL

FIRN

ACCUMULATION

ABLATION

GLACIAL LAKE

Puzzle#78 - Simple Machines

Simple machines reduce human effort by up to 90% in industrial applications



INERTIA	MOMENTUM	PRECISION	IMPULSE
PULLEY	LEVER	START	STOP
MECHANICAL	WEDGE	WHEEL	ADVANTAGE
RATCHET	PIVOT	RAMP	ROPE
BLOCK	HANDLE	GEAR	PRODUCTIVITY

Puzzle#79 - Predator and Prey

Cheetahs can accelerate from 0 to 60 mph in just 3 seconds



BITE	CRYPTIC	VIGILANCE	HUNT
OMNIVORE	ALARM	ESCAPE	TRAP
SPRINT	CHASE	EVASION	NOCTURNAL
PREDATION	MIMICRY	VENOM	AGILITY
INSTINCTIVE	AMBUSH	TERRITORY	ATTACK

Puzzle#80 - Supernova

A supernova can outshine a whole galaxy, releasing more energy in seconds than the Sun in 10 billion years



AFTERGLOW

BLACKHOLE

MASSIVE

PULSAR

BRIGHT

EJECTA

SPECTRA

STELLAR

BINARY

REMNANT

RADIATE

LIGHT CURVE

BLAST

TYPE IA

WHITE DWARF

SUPERGIANT

EXPLOSION

SHOCKWAVE

HELIUM

DETONATION

Puzzle#1 - Famous Scientists - Solution

Marie Curie was the first person to win two Nobel Prizes in different sciences - in physics and chemistry!



- | | | | |
|------------|--------------|----------|-----------|
| INNOVATION | FARADAY | GOODALL | FLEMING |
| HOOKE | GALILEO | CRICK | WATSON |
| TESLA | BREAKTHROUGH | RESEARCH | FRANKLIN |
| HYPOTHESIS | DISCOVERY | THEORY | KEPLER |
| EXPERIMENT | HAWKING | MENDEL | CAVENTISH |

Puzzle#2 - Periodic Table - Solution

The only letter not appearing in the periodic table is "J"



- | | | | |
|-----------|----------------|--------------|------------|
| NOBLE GAS | NONMETAL | ATOMIC | ORBITALS |
| ACTINIDE | METALLOID | HALOGEN | REACTIVITY |
| GROUP | COMPOUND | MENDELEEV | NONMETALS |
| ELECTRON | LANTHANIDE | PERIODIC LAW | NUMBER |
| SYMBOL | CLASSIFICATION | ELEMENT | METAL |

Puzzle#3 - DNA - Solution

The DNA from a single cell could stretch nearly 7 feet!



- | | | | |
|-------------|----------|------------|-------------|
| BASE PAIR | ADENINE | NUCLEOTIDE | GUANINE |
| CODON | RNA | THYMINE | CODE |
| CYTOSINE | ALLELE | PROTEIN | PHENOTYPE |
| REPLICATION | DOMINANT | RECESSIVE | TRANSLATION |
| GENE | HELICASE | POLYMERASE | CLONING |

Puzzle#4 - Climate - Solution

Earth's hottest year on record was 2023



- | | | | |
|----------------|----------|-------------|------------|
| HUMIDITY | ALBEDO | JET STREAM | AEROSOLS |
| ZONES | WILDFIRE | TEMPERATURE | SEA LEVEL |
| FORECAST | MONSOON | DROUGHT | POLAR |
| CARBON DIOXIDE | HEATWAVE | CYCLONE | TROPICS |
| PRECIPITATION | ICE AGE | WEATHER | PERMAFROST |

Puzzle#5 - Black Hole - Solution

The largest known black hole, TON 618, weighs 66 billion Suns



- | | | | |
|-----------|------------|-------------|-------------|
| HORIZON | COLLAPSE | EVENT | VACUUM |
| COSMIC | MASS | RELATIVITY | REDSHIFT |
| WORMHOLE | DILATION | CORE | MERGER |
| QUASAR | DISTORTION | FORMATION | INVISIBLE |
| CURVATURE | INFINITE | DARK MATTER | SINGULARITY |

Puzzle#6 - Light - Solution

Sunlight takes 8 minutes to reach Earth, meaning we see the Sun in the past



- | | | | |
|------------|--------------|------------|-------------|
| COLOR | AMPLITUDE | BRIGHTNESS | SPECTRUM |
| REFLECTION | PRISM | OPAQUE | SHADOW |
| SPEED | TRANSLUCENT | LASER | DIFFRACTION |
| ANGLE | POLARIZATION | LUMINOSITY | RAY |
| OPTICS | ABSORPTION | LENS | SCATTERING |

Puzzle#7 - Atom - Solution

Atoms are mostly empty space - if the nucleus were the size of a peanut, the atom would be as big as a stadium



- | | | | |
|----------|---------|-----------|------------|
| NEUTRON | PROTON | IONIC | SHELL |
| CHARGE | NUCLEAR | HALF LIFE | VALENCE |
| QUANTUM | ORBITAL | UNSTABLE | MATTER |
| PARTICLE | BONDING | SUBATOMIC | MODEL |
| ION | BOND | COVALENT | BOHR MODEL |

Puzzle#8 - Virus - Solution

Viruses aren't fully alive - they need a host cell to reproduce



- | | | | |
|--------------|------------|--------------|------------|
| ZERO PATIENT | OUTBREAK | EBOLA | ANTIBODY |
| IMMUNE | INFECTIOUS | CORONAVIRUS | CONTAGIOUS |
| ZIKA | RABIES | TRANSMISSION | GENOME |
| CAPSID | STRAIN | INCUBATION | ZOO NOTIC |
| PANDEMIC | VIRAL LOAD | HIV | VACCINE |

Puzzle#9 - Acids and Bases - Solution

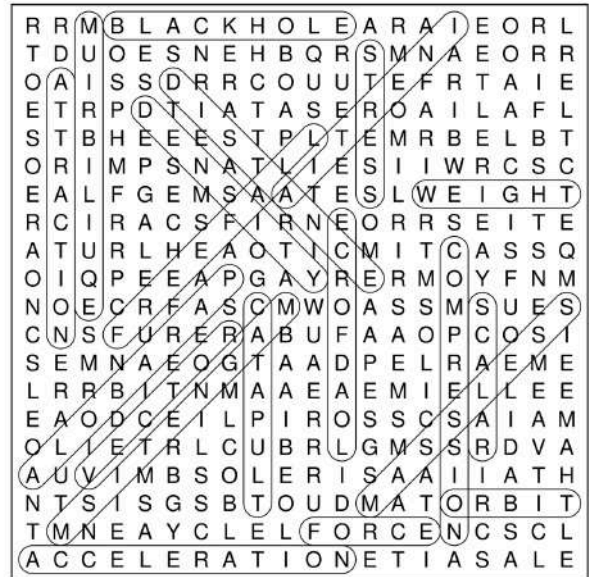
Pure water is neutral at pH 7, right in the middle of the 0–14 pH scale



- | | | | |
|-----------|----------------|-----------|-------------|
| INDICATOR | IONIZATION | CARBONATE | NEUTRAL |
| HYDROXIDE | ALKALI | CORROSIVE | SALT |
| BUFFER | BASE | LITMUS | ELECTROLYTE |
| TITRATION | NEUTRALIZATION | REACTION | SOLUTION |
| AMMONIA | ALKALINITY | WEAK | DISSOLVE |

Puzzle#10 - Gravity - Solution

A feather and a hammer fall at the same rate on the Moon because there's no air resistance



- | | | | |
|-------------|-----------|-----------|--------------|
| FORCE | INERTIA | WEIGHT | CATAPULT |
| COMPRESSION | STRESS | MAGNETISM | DISTANCE |
| ATTRACTION | ORBIT | MASSLESS | FREEFALL |
| EQUILIBRIUM | DENSITY | PARABOLA | ACCELERATION |
| BLACK HOLE | LOADFORCE | SCALAR | VECTOR |

Puzzle#11 - Fermentation - Solution

One teaspoon of yeast holds about 20 billion live yeast cells!



- | | | | |
|---------------|-----------|-------------|-------------|
| ACETOBACTER | ALCOHOL | BIOCHEMICAL | BREWING |
| CHEESE | CULTURE | ETHANOL | GLUCOSE |
| GLYCOLYSIS | KEFIR | KIMCHI | LACTIC ACID |
| MICROORGANISM | PICKLING | PROBIOTIC | SAUERKRAUT |
| SOURDOUGH | SUBSTRATE | WINEMAKING | YEAST |

Puzzle#12 - Carbon Footprint - Solution

The average person's carbon footprint is about 16 tons of CO2 per



- | | | | |
|--------------|----------------|-----------|-----------|
| EFFICIENCY | SUSTAINABILITY | REDUCE | BIOFUEL |
| RECYCLE | SOLAR POWER | RECYCLING | TRANSPORT |
| FOSSIL FUELS | BIODEGRADABLE | INDUSTRY | WARMING |
| CARBON TAX | REUSE | OFFSET | FOOTPRINT |
| NET ZERO | WIND ENERGY | GREEN | PLASTIC |

Puzzle#13 - Food Chain - Solution

Only about 10% of energy is passed from one level of a food chain to the next - the rest is lost as heat



BIOMASS	DECOMPOSER	HERBIVORE	ECOSYSTEM
CONSUMER	ZOOPLANKTON	PREDATOR	FUNGI
PRODUCER	TRANSFER	DEPENDENCE	WEB
NUTRIENTS	PLANKTON	BIODIVERSITY	NICHE
SCAVENGER	HABITAT	COMMUNITY	FAUNA

Puzzle#14 - Kepler's Laws - Solution

Kepler discovered his laws of planetary motion in the 1600s - using only data and math



PERIOD	FOCUS	EPICYCLE	YEAR
PLANETARY	ELLIPSE	GRAVITY	OBSERVATION
HELIOCENTRIC	ECCENTRICITY	PLANET	SOLAR SYSTEM
AREA	CELESTIAL	ASTRONOMY	VELOCITY
REVOLUTION	TIME	RETROGRADE	NEWTON

Puzzle#15 - Magnetism - Solution

The strongest man-made magnet can generate 45 teslas of magnetic field



STEEL	COMPASS	ELECTRONS	DOMAIN
HORSESHOE	LODESTONE	FIELD LINES	MRI
REPEL	POLARITY	MOTOR	INDUCTION
BAR MAGNET	COIL	SOLENOID	MAGNETITE
NORTH POLE	ATTRACT	IRON	EDDY CURRENTS

Puzzle#16 - Light-Year - Solution

One light-year is 6 trillion miles - and Andromeda is 2.5 million light-years away!



COSMOS	CLUSTER	EXPANSION	DEEP SPACE
SCALE	HUBBLE	ASTEROID	STAR
GALAXY	RADIATION	UNIVERSE	EXOPLANET
MILKY WAY	NEBULA	PARSEC	INTERGALACTIC
ANDROMEDA	WAVELENGTH	SPACE	TELESCOPE

Puzzle#17 - Compost - Solution

Composting can reduce household waste by up to 30%



- | | | | |
|-------------|--------------|-------------|---------|
| FOOD SCRAPS | BROWN WASTE | MULCH | DECAY |
| MOISTURE | MICROBES | COMPOST BIN | AEROBIC |
| FERTILIZER | ORGANIC | TURNING | WORMS |
| NITROGEN | VERMICULTURE | ANAEROBIC | HUMUS |
| MANURE | CARBON | ROT | ECO |

Puzzle#18 - Acid Rain - Solution

Acid rain can travel hundreds of miles from its source



- | | | | |
|---------------|---------------|------------|--------------|
| ALGAE | LIMESTONE | LICHEN | DEGRADATION |
| WEATHERING | ACIDITY | VEGETATION | TOXICITY |
| POLLUTION | RAINWATER | CHEMISTRY | AQUATIC LIFE |
| DEFORESTATION | BIOINDICATORS | OXIDATION | PH DROP |
| AIR QUALITY | NITRIC ACID | SEDIMENT | ATMOSPHERE |

Puzzle#19 - Isotope - Solution

Uranium-235 is so rare - it's about 1 in every 140 uranium



- | | | | |
|-------------|---------------|-------------|-------------|
| STABLE | ISOBAR | RADIOCARBON | URANIUM |
| FISSION | RADIOACTIVITY | CHAIN | ISOMER |
| HALF LIFE | BETA | TRACER | BOMBARDMENT |
| PARENT | ALPHA | GAMMA | NUCLEUS |
| MASS NUMBER | SPIN | ENRICHMENT | DAUGHTER |

Puzzle#20 - Waste - Solution

The average person produces more than 4.5 pounds of waste every day



- | | | | |
|----------|-----------|------------|---------------|
| COMPOST | RUBBISH | LEACHATE | REDUCTION |
| DISPOSAL | METHANE | SANITATION | E WASTE |
| DEBRIS | OVERFLOW | LANDFILL | INCINERATION |
| SEWAGE | HAZARDOUS | DUMP SITE | TOXIC |
| GARBAGE | LITTER | EFFLUENT | MICROPLASTICS |

Puzzle#21 - Invertebrates - Solution

Invertebrates make up over 95% of all animal species on Earth



- | | | | |
|----------|-----------|-----------|-------------|
| ANT | TENTACLE | JELLYFISH | MOLLUSK |
| LOBSTER | ARTHROPOD | CORAL | SQUID |
| ANNELID | OCTOPUS | CNIDARIAN | SPONGE |
| SCORPION | ARACHNID | CRAB | LEECH |
| SNAIL | EARTHWORM | CLAM | EXOSKELETON |

Puzzle#22 - Radiation - Solution

A chest X-ray gives less radiation than one week of natural exposure



- | | | | |
|----------|-----------|-------------|-------------|
| INFRARED | EXPOSURE | FUSION | HEALTH |
| X RAY | MICROWAVE | REACTOR | ONCOLOGY |
| ISOTOPE | FLUX | ULTRAVIOLET | RADON |
| FALLOUT | SIEVERT | IONIZING | COSMIC RAYS |
| PHOTON | DOSIMETER | PENETRATION | GLOW |

Puzzle#23 - Evolution - Solution

All humans share about 99.9% of their DNA with every other human



- | | | | |
|------------|----------|-------------|------------|
| DARWIN | HERITAGE | GENE POOL | DNA |
| POPULATION | HYBRID | DIVERSITY | EXTINCTION |
| ANCESTOR | GENETICS | CLADOGRAM | SELECTION |
| MUTATION | TRAIT | INHERITANCE | SPECIES |
| SPECIATION | FITNESS | GENE FLOW | SURVIVAL |

Puzzle#24 - Earth's Layers - Solution

Earth's inner core is as hot as the Sun's surface - 9,800°F - but stays solid from immense pressure



- | | | | |
|-------------|------------|------------|-------------------|
| CRUST | MANTLE | ASH | VOLCANO |
| GEOLOGY | ROCK CYCLE | NICKEL | EARTHQUAKE |
| OUTER CORE | LAVA | SUBDUCTION | MAGMA |
| LITHOSPHERE | HOT SPOT | SEISMOLOGY | CONTINENTAL PLATE |
| SEISMIC | BASALT | GRANITE | |

Puzzle#25 - Sound - Solution

The loudest sound ever recorded was the Krakatoa eruption in 1883 — heard 3,000 miles away



- | | | | |
|------------|--------------|------------|-----------|
| VIBRATION | SONAR | MEDIUM | ACOUSTICS |
| TONE | BEAT | FREQUENCY | PITCH |
| ECHO | VOLUME | HERTZ | DECIBEL |
| SONIC BOOM | RAREFACTION | WHISPER | LOUDNESS |
| SILENCE | INTERFERENCE | INFRASOUND | RESONANCE |

Puzzle#26 - Invasive Species - Solution

North America spends billions battling zebra mussels accidentally introduced through ship ballast water



- | | | | |
|--------------|----------------|--------------|--------------|
| SPREAD | HABITAT LOSS | QUARANTINE | DISPLACEMENT |
| MANAGEMENT | COMPETITION | CONTROL | DOMINATION |
| COLONIZATION | DISRUPTION | REPRODUCTION | ERADICATION |
| INTRODUCTION | HUMAN ACTIVITY | NATIVE | MIGRATION |
| SUPREMACY | RESILIENCE | INVADER | EXCESS |

Puzzle#27 - Thermodynamics - Solution

At Mount Everest's summit, water boils at just 70°C instead of 100°C



- | | | | |
|------------|---------------|--------------|------------|
| WORK | SYSTEM | SURROUNDINGS | FIRST LAW |
| DIFFUSION | ENTROPY | CYCLE | HEATFLOW |
| MICROSTATE | CALORIMETER | CONDUCTIVITY | ENERGY |
| ISOTHERMAL | ADIABAT | ISOBARIC | EQUILIBRIA |
| ENGINE | REVERSIBILITY | THERMOSTAT | PHASE |

Puzzle#28 - Pollution - Solution

Air pollution causes about 7 million premature deaths worldwide each year



- | | | | |
|---------------|-------------|------------|--------------|
| DUMPING | AIR | WASTEWATER | PARTICULATES |
| CONTAMINATION | NOISE | EROSION | PESTICIDES |
| ACID RAIN | FERTILIZERS | OIL SPILL | SMOKESTACK |
| SMOG | EMISSIONS | WATER | CLEAN ENERGY |
| FUMES | DISCHARGE | OVERLOAD | POLLUTANTS |

Puzzle#33 - Satellite - Solution

Sputnik 1, the first artificial satellite, launched by the Soviet Union in 1957, was the size of a beach ball



- | | | | |
|------------|-------------|--------|---------------|
| STATION | PAYLOAD | DISH | SOLAR PANEL |
| TELEMETRY | TRACKING | SIGNAL | COMMUNICATION |
| TRAJECTORY | ROCKET | GPS | RECEIVER |
| REMOTE | TRANSMITTER | DATA | NAVIGATION |
| IMAGING | SPACECRAFT | EARTH | LAUNCH |

Puzzle#34 - Insects - Solution

A honeybee visits 50–100 flowers in a single trip



- | | | | |
|---------|-------------|-------------|-----------|
| TERMITE | EXOSKELETAL | OVIPOSITOR | BUMBLEBEE |
| COCOON | CAMOUFLAGE | MOTH | SILK |
| PUPA | LARVA | GRASSHOPPER | MOSQUITO |
| NESTING | PROBOSCIS | COCKROACH | VENOM |
| FLIGHT | HONEY | ANTENNAE | FLEA |

Puzzle#35 - Immunity - Solution

The human body can make 10 billion unique antibodies to fight invaders



- | | | | |
|----------|------------|--------------|-------------|
| DEFENSE | IMMUNOGEN | VACCINATION | RESPONSE |
| BOOSTER | ALLERGY | INFLAMMATION | SEROLOGY |
| SMALLPOX | BACTERIA | LYMPH | MEMORY CELL |
| EPITOPE | POLYCLONAL | NEUTRALIZING | HEPATITIS |
| ADAPTIVE | MEASLES | TOLERANCE | HYBRIDOMA |

Puzzle#36 - Sustainability - Solution

Recycling one aluminum can saves enough energy to power a TV for 3 hours!



- | | | | |
|--------------|------------|--------------|-----------|
| COMPOSTING | ZERO WASTE | GREENWASHING | MATERIALS |
| MITIGATION | SORTING | MINIMALISM | LOCAVORE |
| REGENERATION | CIRCULAR | TRASH | UPCYCLE |
| CONSCIOUS | PACKAGING | TURBINE | REPURPOSE |
| FAIR TRADE | REFURBISH | PERMACULTURE | BAMBOO |

Puzzle#37 - States of Matter - Solution

Plasma makes up over 99% of the visible universe



- | | | | |
|-----------|----------|-------------|------------|
| PLASMA | COMPRESS | CRYSTALLINE | DEPOSITION |
| MELT | LIQUID | VISCOSITY | SOLID |
| SUBLIMATE | CHANGE | EVAPORATE | EXPAND |
| IONIZE | FLUID | BOIL | VAPOR |
| FREEZE | STATE | CONDENSE | AMORPHOUS |

Puzzle#38 - Nervous System - Solution

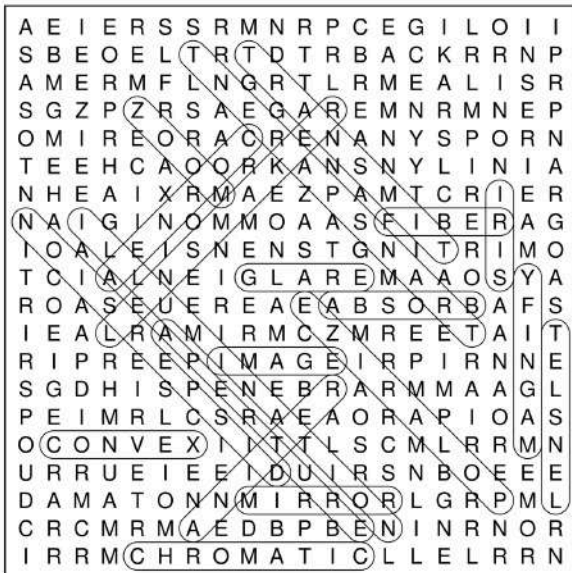
There are about 86 billion neurons in the human brain!



- | | | | |
|----------|-----------|--------------|-----------|
| CRANIAL | SENSATION | SYMPATHETIC | SPINAL |
| CORTEX | DENDRITE | GLIAL | NEURON |
| CENTRAL | MEDULLA | VESTIBULAR | DOPAMINE |
| PATHWAY | CEREBRUM | BRAIN | SEROTONIN |
| STIMULUS | REFLEX | COORDINATION | NERVE |

Puzzle#39 - Optics - Solution

A human eye can distinguish about 10 million different colors!



- | | | | |
|----------|-----------|--------------|-------------|
| TRANSMIT | APERTURE | FIBER | TRANSPARENT |
| ABSORB | POLARIZE | ILLUMINATION | CONVEX |
| IRIS | GLARE | CORNEA | LENSMAKER |
| IMAGE | ZOOM | MIRROR | RETINA |
| MAGNIFY | CHROMATIC | LENSLET | DISPERSION |

Puzzle#40 - Moon - Solution

A day on the Moon lasts about 29.5 Earth days



- | | | | |
|-------------|------------|-----------|------------|
| OBSERVATORY | SELENOLOGY | MOONQUAKE | ECLIPSE |
| LUNAR | CRESCENT | CRATER | GIBBOUS |
| EXOSPHERE | ORBITER | LIBRATION | TERMINATOR |
| SATELLITE | PERIGEE | FULL | SURFACE |
| TIDE | LANDING | APOLLO | METEOR |

Puzzle#41 - Fossils - Solution

The oldest identified fossilized bacteria are over 3.5 billion years old



- | | | | |
|----------------|-------------|-----------|---------------|
| LEAFPRINT | ERA | COPROLITE | MICROFOSSIL |
| MOLD | PETRIFY | EXCAVATE | TRACE |
| STRATA | ARCHAEOLOGY | AMMONITE | CAST |
| IMPRINT | EXTINCT | PRESERVE | FOSSILIZATION |
| MINERALIZATION | BURIAL | CARBONIZE | PALEONTOLOGY |

Puzzle#43 - Metals - Solution

Steel is the world's most used metal - over 1.8 billion tons are produced every year



- | | | | |
|-----------|-----------|----------|----------|
| PURITY | ALUMINUM | HARDNESS | ZINC |
| SILVER | MALLEABLE | METALLIC | CHROMIUM |
| TITANIUM | DUCTILE | LUSTER | CASTING |
| STRENGTH | COPPER | SMELTING | ALLOY |
| CORROSION | GOLD | MAGNET | REFINING |

Puzzle#42 - Mutation - Solution

A mutation in Tibetan people helps them thrive at high altitudes with thin air



- | | | | |
|------------|--------------|----------|------------|
| COPY | HEREDITARY | RANDOM | EVOLUTION |
| MISSENSE | SUBSTITUTION | LINK | VARIATION |
| INSERTION | DNA REPAIR | GENETIC | MUTAGEN |
| ERROR | ONCOGENE | DELETION | CARCINOGEN |
| CHROMOSOME | FRAMESHIFT | PROMOTER | GENOTYPE |

Puzzle#44 - Forces - Solution

The strongest force in nature is the nuclear force, binding protons together even though they repel each other



- | | | | |
|---------------|-------------|-------------|-------------|
| DIRECTION | NORMAL | DEFORMATION | DRAG |
| TORQUE | ELASTICITY | THRUST | CENTRIFUGAL |
| EQUATION | TENSION | FORCEFIELD | PUSH |
| POTENTIAL | COEFFICIENT | CONTACT | APPLIED |
| ELECTROSTATIC | LIFT | REST | KINETIC |

Puzzle#45 - Water Cycle - Solution

The water on Earth has been cycling through the water cycle for more than 3 billion years



- | | | | |
|------------|-------------|--------------|--------------|
| SNOWFALL | GROUNDWATER | WATERSHED | STORM |
| CLOUD | FOG | DRAINAGE | PERCOLATION |
| MIST | RAINSTORM | SUBLIMATION | CONDENSATION |
| FRESHWATER | DEW | INFILTRATION | HYDROLOGY |
| RUNOFF | RESERVOIR | FLOOD | AQUIFER |

Puzzle#46 - Natural Resources - Solution

Humans have used more resources in the last 50 years than in all of previous history



- | | | | |
|--------------|-------------|-------------|-------------|
| MINING | EXTRACTION | FRESH WATER | WILDLIFE |
| RESERVE | AGRICULTURE | HYDROPOWER | FORESTS |
| OVERFISHING | MINERALS | ORE | ECOSPHERE |
| COAL | DEPLETION | WASTE | RESTORATION |
| NONRENEWABLE | OIL | NUTRIENT | FUEL |

Puzzle#47 - Fungi - Solution

Fungi are just 2-5% of Earth's biomass but decompose nearly 80% of dead organic matter



- | | | | |
|-----------|------------|------------|------------|
| MUSHROOM | TRUFFLE | MYCORRHIZA | MYCOLOGY |
| FUNGEMIA | COLONY | FRUITING | BIOME |
| PARASITIC | MOSS | SPORES | CAPSULE |
| CORDYCEPS | HYPHAE | SAPROPHYTE | LITTERFALL |
| MYCELIUM | BIODEGRADE | SYMBIOSIS | NATURE |

Puzzle#48 - Crystals - Solution

Some of the largest crystals ever discovered measure over 30 feet in length



- | | | | |
|--------------|------------|-----------|----------|
| INCLUSION | GEMSTONE | HABIT | TRIGONAL |
| CRYSTALFIELD | TRICLINIC | QUARTZ | SHAPE |
| REFRACT | FACET | HEXAGONAL | CUBIC |
| NUCLEATION | MONOCLINIC | CRUSTAL | IMPURITY |
| GEODE | POLYMORPH | STRUCTURE | CLEAVAGE |

Puzzle#49 - Electricity - Solution

A lightning strike can power a small town for a day with 1 billion volts



- | | | | |
|-----------|---------|-----------|-----------|
| FUSE | CIRCUIT | GENERATOR | WIRE |
| SPARK | OHM | CURRENT | INSULATOR |
| ELECTRODE | SWITCH | LOAD | SHORT |
| AMPERE | GROUND | VOLTAGE | FIELD |
| STATIC | WATT | CONDUCTOR | OUTLET |

Puzzle#50 - Solar System - Solution

Jupiter is so huge it could fit all the other planets in the Solar System - and still have room to spare



- | | | | |
|---------|---------|------------|--------|
| COMET | VENUS | ELLIPTICAL | PROBE |
| NEPTUNE | DWARF | ORBITER | ROVER |
| OORT | INCLINE | CORONA | PLUTO |
| KUIPER | RINGS | MARS | METEOR |
| TRITON | MERCURY | URANUS | SATURN |

Puzzle#51 - Dinosaurs - Solution

The largest dinosaur ever discovered, Argentinosaurus, is estimated to have weighed up to 100 tons



- | | | | |
|-------------|---------|----------|-------------|
| JURASSIC | RAPTOR | TAIL | ROAR |
| TEETH | REPTILE | GIGANTIC | PREHISTORIC |
| STEGOSAURUS | TRACKS | EGG | CLAWS |
| JAWBONE | SCALES | THEROPOD | SKULL |
| SKELETON | NESTING | HORNS | TRICERATOPS |

Puzzle#52 - Seasons - Solution

In roughly 13,000 years, Earth's axial precession will shift the Northern Hemisphere's summer solstice from June to December



- | | | | |
|-----------|------------|------------|----------|
| HIBERNATE | BLOOM | LEAVES | SOLSTICE |
| SPRING | EQUATOR | SUN | MELTING |
| FROST | CHANGING | HEMISPHERE | COLD |
| SEASONAL | TRADITION | DAYLIGHT | HARVEST |
| EQUINOX | TRANSITION | WINTER | TILT |

Puzzle#53 - Hormones - Solution

The human body produces about 50 different hormones



RECEPTOR	TARGET	HOMEOSTASIS	THYROID
ENDOCRINE	GLAND	MELATONIN	CORTISOL
MOOD	OXYTOCIN	TISSUE	ESTROGEN
TESTOSTERONE	SECRETION	ADRENAL	PUBERTY
FEEDBACK	STEROID	BODY	GROWTH

Puzzle#54 - Plant Cell - Solution

Plant cells are roughly 10 times bigger than animal cells



CHLOROPLAST	JELLY	TONOPLAST	SPONGY
DIVISION	CELL PLATE	STOMATA	PLASTID
MEMBRANE	PIGMENT	CYTOPLASM	GOLGI
NUCLEOLUS	LIGHT	ENDOPASMIC	LYSOSOME
SEED	CHLOROPHYLL	CELLULOSE	WALL

Puzzle#55 - Ancient Oceans - Solution

Ancient oceans had layers of water that didn't mix, creating oxygen-free zones, which rarely happen today



PALEOCEAN	BENTHIC	MUD	AMMONITE
NEKTON	SALINITY	ABYSS	ANOXIC
HADAL	PLACODERM	REEF	MANGROVE
NAUTILOID	TECTONICS	BASIN	SEAFLOOR
DEVONIAN	DEEP	TRILOBITE	SAND

Puzzle#56 - Karyotype - Solution

Humans have 46 chromosomes, fruit flies have 8, and the fern Ophioglossum has 1,440 - the highest known



ANALYSIS	SYNDROME	SEQUENCE	ANOMALY
DISORDER	DUPLICATION	ORGANISM	LABORATORY
SCREENING	MOSAICISM	AMNIOCENTESIS	EMBRYO
BARR BODY	CYTOGENETICS	TRISOMY	LOCUS
KARYOGRAM	PRENATAL	PHOTOGRAF	MITOSIS

Puzzle#57 - Vertebrates - Solution

The blue whale is the largest animal with a backbone, growing over 100 feet long and weighing up to 200 tons



- | | | | |
|-----------|----------|--------------|-----------|
| INSTINCT | FIN | ENDOSKELETON | GILL |
| JAW | BACKBONE | MAMMAL | CHORDATE |
| AMPHIBIAN | FUR | CAMOUFLAGE | ORGAN |
| BONE | SPINE | FOSSIL | FEATHER |
| MUSCLE | LUNG | JUVENILE | CARTILAGE |

Puzzle#58 - Medicinal Drugs - Solution

Penicillin, the first antibiotic, was discovered in 1928 when mold contaminated a petri dish



- | | | | |
|-------------|--------------|-------------|------------|
| ASPIRIN | CURE | INJECTION | PENICILLIN |
| TABLET | PAINKILLER | INHALER | RELIEF |
| PARACETAMOL | ANTIVIRAL | SIDE EFFECT | TREATMENT |
| ANTACID | IBUPROFEN | ANESTHETIC | DOSAGE |
| PATCH | PRESCRIPTION | SYRINGE | THERAPY |

Puzzle#59 - Ice Age - Solution

Ice sheets covered nearly 30% of Earth's land during the last Ice Age



- | | | | |
|-----------|----------|-------------|-----------|
| MAMMOTH | TRAIL | SABERTOOTH | BISON |
| PLATEAU | FROZEN | CAVE | SHELTER |
| STONEMAN | BLIZZARD | EPOCH | AVALANCHE |
| ICE SHEET | REINDEER | PLEISTOCENE | DEAD |
| TUNDRA | SURVIVOR | SNOWSTORM | MEGAFUNA |

Puzzle#60 - Vitamins and Minerals - Solution

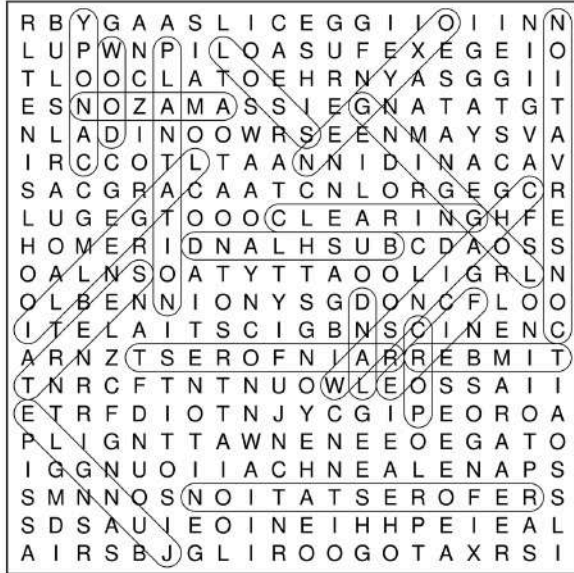
One orange has about 70 mg of vitamin C, nearly 78% of the daily requirement



- | | | | |
|------------|-------------|------------|------------|
| MAGNESIUM | SELENIUM | METABOLISM | HAIR |
| IODINE | ANTIOXIDANT | POTASSIUM | STRONG |
| PHOSPHORUS | FOLATE | THIAMINE | VITAMIN D |
| BLOOD | SUPPORT | DIET | NUTRITION |
| DEFICIENCY | CALCIUM | SODIUM | SUPPLEMENT |

Puzzle#61 - Deforestation - Solution

Around 17% of the Amazon rainforest has been destroyed in the last 50 years



- | | | | |
|----------|--------------|---------------|------------|
| WOOD | CROP | TREES | AMAZON |
| CLEARING | BUSHLAND | JUNGLE | LOGGING |
| LOSS | RAINFOREST | FIRE | PLANTATION |
| LAND | TIMBER | REFORESTATION | OXYGEN |
| ILLEGAL | CONSERVATION | CHAINSAW | CANOPY |

Puzzle#62 - Energy Sources - Solution

The Sun delivers more energy to Earth in one afternoon than the entire world uses in a year



- | | | | |
|--------------|-------------|---------------|-------------|
| WINDMILL | NATURAL GAS | GRID | TRANSFORMER |
| RADIANT | STEAM | POWER STATION | CONVERTER |
| HYDRO | EMISSION | POWER | WIND |
| PHOTOVOLTAIC | SOLAR | BATTERY | HYDROGEN |
| PIPELINE | ELECTRICITY | KILOWATT | RENEWABLE |

Puzzle#63 - Planet Formation - Solution

It takes around 10 million years for dust in a protoplanetary disk to form a planet through collisions and gravity



- | | | | |
|-------------|-----------|---------------|--------------|
| INSTABILITY | SPIRAL | AGGREGATION | COLLIDE |
| DISK | CLUMP | OUTGASSING | PLANETESIMAL |
| ROTATION | ACCRETION | METEORITE | NEBULAR |
| PROTOSTAR | ROCK | FRAGMENTATION | ICE |
| HEAT | PEBBLE | SPHERE | DUST |

Puzzle#64 - Human Body - Solution

The human heart beats 100,000 times a day, pumping 7,500 liters of blood



- | | | | |
|-----------|-----------|-----------|-----------|
| CARTILAGE | ESOPHAGUS | DIAPHRAGM | SWEAT |
| ARTERY | LIGAMENT | BLADDER | TOOTH |
| PANCREAS | NOSE | VEIN | INTESTINE |
| HEART | MARROW | CAPILLARY | JOINT |
| KIDNEY | KNEECAP | STOMACH | NEURONS |

Puzzle#65 - Pollination - Solution

One-third of the world's food depends on pollinators



- | | | | |
|-----------|-----------|------------|------------|
| BUTTERFLY | FLOWER | GARDEN | FLORAL |
| OVULE | INSECT | POLLINATOR | STAMEN |
| BUZZ | HONEY | SUMMER | NECTAR |
| PLANT | BUMBLEBEE | ANTHER | WILDFLOWER |
| FRUIT | HIVE | QUEEN | PISTIL |

Puzzle#66 - Life Cycles - Solution

The average lifespan of a housefly is around 4 weeks from egg to death



- | | | | |
|------------|-------------|-----------|---------------|
| HATCHLING | ADULT | OFFSPRING | GERMINATION |
| DESCENDANT | DEVELOPMENT | LIFE SPAN | TODDLER |
| MATURITY | GENERATION | AGING | FERTILIZATION |
| PARENTHOOD | DEATH | JUVENILE | ADOLESCENT |
| NEONATE | LONGEVITY | BIRTH | LEARNING |

Puzzle#67 - Antibiotics - Solution

Over 700,000 people die each year from antibiotic-resistant infections



- | | | | |
|--------------|-------------|------------|-----------|
| PHARMACY | SYMPTOM | HOSPITAL | TRIAL |
| PHARMACOLOGY | GERM | HEALTHCARE | INFECTION |
| RESISTANCE | AMOXICILLIN | MEDICINE | SUPERBUG |
| PATHOGEN | DOSEAGE | SEPSIS | MICROBE |
| STERILIZE | CONTAGION | DRUG | DOSE |

Puzzle#68 - Birds - Solution

The Arctic tern flies about 43,500 miles each year - the longest migration of any bird



- | | | | |
|----------|----------|--------------|---------|
| NEST | CROW | AERODYNAMICS | PEACOCK |
| WHISTLE | FLOCK | PLUMAGE | FLIGHT |
| BEAK | WINGBEAT | PENGUIN | BROOD |
| EGGSHELL | HOVERING | WOODPECKER | SONG |
| FEEDING | PREEN | SKYWARD | SPARROW |

Puzzle#69 - Extinction - Solution

Over 99% of all species that ever lived on Earth are now extinct



EXTERMINATION	LOST WORLD	DINOSAUR	IMPACT
GONE	ENDANGERED	DIE	DISAPPEAR
ADAPTATION	REMAINS	THREATENED	PERMIAN
PRESERVATION	CATASTROPHE	PREY	POACHING
CRETACEOUS	LIFEFORM	DECLINE	BIOTA

Puzzle#70 - Ozone Layer - Solution

If compressed, all the ozone in Earth's atmosphere would form a layer just 3 mm thick



MOLECULES	STRATOSPHERIC	RECOVERY	CHEMICALS
CLOUDS	ENVIRONMENTAL	SAFETY	SHIELD
GREENHOUSE	GAS	BURN	BREAKDOWN
SKY	THIN	PROTECTION	FREON
UV RADIATION	HOLE	STRATOSPHERE	SUNBEAM

Puzzle#71 - Coral Reefs - Solution

Coral reefs occupy less than 1% of the ocean floor but provide habitat for approximately 25% of all marine species



FISH	THREAT	POLYPS	ANEMONE
SALTWATER	SESSILE	BLEACHING	OCEAN
FRINGING	CRUSTACEAN	TROPICAL	CALCIFICATION
MARINE	LAGOON	SPONGES	ZOOXANTHELLAE
TIDEPOOL	FRAGILE	ATOLL	BARRIER

Puzzle#72 - Weather Phenomena - Solution

The highest ever recorded wind speed on Earth was 253 mph during Cyclone Olivia in 1996



METEOROLOGY	ANTICYCLONE	HABOOB	HURRICANE
TORNADO ALLEY	HAIL	MICROCLIMATE	WARM FRONT
CLOUDBURST	BAROMETER	AURORA	LIGHTNING
GUST	VIRGA	CUMULUS	SLEET
TYPHOON	UMBRELLA	GRAUPEL	SNOWFLAKE

Puzzle#73 - Amphibians - Solution

The golden poison dart frog carries enough toxin in its skin to kill up to 10 adult humans



- | | | | |
|--------|-------------|-------------|------------|
| FROG | HIBERNATION | MUCUS | SALAMANDER |
| POISON | GILLS | TERRESTRIAL | LUNGS |
| SLIME | MOIST | CAUDATA | WETLANDS |
| ANURA | TADPOLE | NEWT | WEBBED |
| SPAWN | TOAD | VOCAL SAC | SKIN |

Puzzle#74 - Hydrosphere - Solution

The Earth's hydrosphere contains about 336 million cubic miles of water, covering roughly 71% of the planet's surface



- | | | | |
|-----------|--------------|--------------|-----------|
| SEA | WATER CYCLE | DESALINATION | RILL |
| CHANNEL | POND | GLACIER | AQUATIC |
| RIVER | BRACKISH | SWAMP | RAIN |
| BAY | ESTUARY | WETLAND | WAVE |
| WATERFALL | HYDROTHERMAL | SPRING | ICE SHELF |

Puzzle#75 - Parasites - Solution

Malaria parasites infect over 200 million people worldwide every year



- | | | | |
|--------------|--------------|-----------|-------------|
| FLEAS | PARASITOID | ENDEMIC | MICROSCOPIC |
| ECTOPARASITE | CO EVOLUTION | HOST | INFESTATION |
| TOXIN | BLOODSUCKER | LIFECYCLE | DISEASE |
| ZOONOSIS | EGGS | MALARIAL | LARVAE |
| LICE | CARRIER | TICKS | WORM |

Puzzle#76 - Aerodynamics - Solution

The SR-71 Blackbird flies over three times the speed of sound, reaching 2,193 mph



- | | | | |
|-----------|------------|-------------|------------|
| WING | STALL | TURBULENCE | FUSELAGE |
| GLIDE | BOUNDARY | FLOW | ALTITUDE |
| VORTEX | YAW | MOTION | AIRFLOW |
| PROPELLER | WAKE | GLIDE RATIO | STREAMLINE |
| ROLL | SHOCK WAVE | LIFT FORCE | REYNOLDS |

Puzzle#77 - Glaciers & Ice Caps - Solution

Glaciers and ice caps store about 69% of the world's fresh water



- | | | | | |
|---------|--------------|----------|---------------|---------|
| MELT | WATER | STREAM | SNOW | OUTWASH |
| ICEBERG | CLIFF | SERAC | CRYOCONITE | |
| RIDGE | LAKE | ICE CORE | BASAL SLIDING | |
| VALLEY | NUNATAK | CREVASSE | COL | |
| FIRN | ACCUMULATION | ABLATION | GLACIAL LAKE | |

Puzzle#78 - Simple Machines - Solution

Simple machines reduce human effort by up to 90% in industrial applications



- | | | | |
|------------|----------|-----------|--------------|
| INERTIA | MOMENTUM | PRECISION | IMPULSE |
| PULLEY | LEVER | START | STOP |
| MECHANICAL | WEDGE | WHEEL | ADVANTAGE |
| RATCHET | PIVOT | RAMP | ROPE |
| BLOCK | HANDLE | GEAR | PRODUCTIVITY |

Puzzle#79 - Predator and Prey - Solution

Cheetahs can accelerate from 0 to 60 mph in just 3 seconds



- | | | | |
|-------------|---------|-----------|-----------|
| BITE | CRYPTIC | VIGILANCE | HUNT |
| OMNIVORE | ALARM | ESCAPE | TRAP |
| SPRINT | CHASE | EVASION | NOCTURNAL |
| PREDATION | MIMICRY | VENOM | AGILITY |
| INSTINCTIVE | AMBUSH | TERRITORY | ATTACK |

Puzzle#80 - Supernova - Solution

A supernova can outshine a whole galaxy, releasing more energy in seconds than the Sun in 10 billion years



- | | | | |
|-----------|---------|-------------|------------|
| AFTERGLOW | EJECTA | RADIATE | SUPERGIANT |
| BLACKHOLE | SPECTRA | LIGHT CURVE | EXPLOSION |
| MASSIVE | STELLAR | BLAST | SHOCKWAVE |
| PULSAR | BINARY | TYPE IA | HELIUM |
| BRIGHT | REMNANT | WHITE DWARF | DETONATION |

relax