

support	211	A book on a table does not fall because of the _____ force provided by the table.
weight	210	The force of gravity on a mass causes its _____.

Forces

line	201	To show the relationship between two quantities, use _____ graphs.
velocity	202	Term meaning speed in a certain direction.
gradient	203	The _____ of a distance-time graph indicates the speed.
stopped	204	A horizontal line on a distance-time graph means the object has _____.
decelerating	205	If the dots on ticker-tape are getting closer together, the object is _____.
distance	206	The area under a speed-time graph gives the _____ covered.
speed	207	A horizontal line on a speed-time graph represents constant _____.
accelerating	208	A curve upwards on a distance-time graph means the object is _____.
acceleration	209	The gradient of a speed-time graph represents _____.

independent	199	We normally draw graphs with the _____ variable on the horizontal axis.
dependent	200	A variable that changes when another variable is changed is called the _____ variable.

Distance, speed and time

work	187	Joule can be the unit of _____ or energy.
watt	188	The SI unit of power.
joule	189	The SI unit of energy.
newton	190	The SI unit for measuring force is the _____.
SI	191	Physics formulae only work if the measurements are in _____ units.
thousand	192	Kilo or 'k' means a _____.
millionth	193	Micro or 'μ' means a _____.
hundredth	194	Centi or 'c' means a _____.
thousandth	195	Milli or 'm' means a _____.
resistance	196	The ohm, symbol Ω, is the unit of _____.
acceleration	197	The unit of _____ is m s ⁻² .
second	198	The SI unit for speed is meters per _____.

404 _____ can indicate the weather conditions when a rock formed.

fossils

Reading the rocks

- 405 The rounded pebbles found in conglomerate suggest there was a _____ there once.
- 406 The Principle of _____ says that the oldest layers of rock will be found at the bottom.
- 407 A break in the rocks caused by movement within the crust.
- 408 For granite or schist to be exposed on the Earth's surface, _____ and erosion must occur.
- 409 Rock that usually forms where there was a beach.
- 410 Sedimentary rock that could be formed in very deep water or in an estuary.
- 411 The presence of this material in a rock sequence would suggest a low-lying forest or swamp.
- 412 Sedimentary rock that makes up most of the mountains in both the North and South Islands.

- river
- Superposition
- fault
- uplift
- sandstone
- mudstone
- coal
- greywacke

**New Directions in Science
Workbook**

**Key Facts
for Level 1 Science**

Anne Wignall, Terry Wales and
Wendy Robinson

Name _____

seconds	186	The SI unit for measuring time is _____.
meters	185	The SI unit for measuring distance is _____.
kilograms	184	The SI unit for measuring mass is _____.
amp	183	The unit of current is the _____.
volt	182	Unit measuring electrical potential difference.
current	181	The symbol I in a formula stands for _____.

Units and measurement

Physics facts

engineering	176	Genetic _____ can add or remove genes from an organism.
Modified	177	A GMO is a Genetically _____ Organism.
splicing	178	Genetic engineering is also called 'gene _____'.
sex-linked	179	Characteristics carried on the X-chromosome are said to be _____.
profilling	180	DNA _____ enables the identification of specific genetic conditions caused by faulty genes.

How to use this booklet

No matter how clever you are, some aspects of Level 1 Science just have to be learnt. The better you know the statements in this booklet, the easier it will be to understand the questions in tests and the faster you will be able to answer them.

Use a small card (a library or EFT POS card is ideal) to cover up either the clue or the answer, then slide the card down one clue at a time as you read the clue with its answer in place. Ask a friend or parent to quiz you on the facts. Upload the Flash cards and/or audio files on the CD onto your cell phone, MP3 player or photo frame.

Once you are familiar with the Facts, use the Revision tasks on the CD to test and reinforce your understanding. Each new activity will make new pathways in your brain, giving you a better understanding of the topic and the language needed at this level.

Your study should also include answering lots of written questions — such as those found in the *Workbook* and the NCEA examination papers on the CD.

To be adequately prepared for the external examinations you need to have done about 25 hours of exam revision. Don't leave it all until November!

To print this booklet you need a printer that will print on both sides of the page. The centre margin is very wide, so that you can hole-punch the pages after it is folded into an A6 booklet. Keep the booklet in your pocket or pencil case, or slip it into the (empty) CD pocket at the front of your Workbook.

sound	224	An MP3 player converts electrical energy into _____ energy.
heat	223	Most forms of energy are eventually transformed into _____ energy.
potential	222	Any kind of stored energy. spring is _____ potential energy.
elastic	221	The energy stored in a compressed light and heat energy.
light bulb	220	A _____ converts electrical energy into light and heat energy.
kinetic	219	Type of energy a moving object has. chocolate is _____ potential energy.
chemical	218	The energy stored in a bar of on a shelf has.
gravitational	217	The type of potential energy a book on a shelf has.
	216	'No net force' means that the sum of the forces is _____.
	215	Forces are vectors; they have both size and _____.
direction	214	The strength of a force is measured with a _____.
foremeter	213	The unit of weight is the _____.
newton	212	A ball rolling along the floor slows down because of the force of _____.
friction		

Energy

393	A line of under-sea volcanoes.	mid-ocean ridge
394	Semi-solid region below the Earth's crust.	mantle
395	Event caused by movement of the Earth's plates.	earthquakes
396	A _____ zone is where one tectonic plate moves under another plate.	subduction

Geological time

397	Geologists' term for layers of rock.	strata
398	Method of estimating the age of a rock using radioactivity: _____ dating.	radiometric
399	The youngest rocks in New Zealand are found in the _____ Island.	North
400	Term used to describe what happens when an area of crust moves downwards.	subsidence
401	A flow of ice that may be kilometres thick.	glacier
402	Period in the Earth's history when it was very cold and the sea level was much lower than it is today.	ice age
403	Name of a supercontinent that existed before New Zealand was formed.	Gondwana

225	Kinetic energy is proportional to the _____ of velocity.	square
226	The rate of doing work is _____.	power
227	Work is only done when an object _____ in the direction of the applied force.	moves
Heat		
228	Method of heat transfer that works in _____ fluids.	convection
229	We wear pale clothing in summer because light colours are poor _____ of heat.	absorbers
230	Heat rises because warm air or water is less _____ than cold air or water.	dense
231	A silver coffee pot keeps the liquid hot because the shiny silver is a poor _____ of heat.	radiator
232	A form of heat transfer that works in a vacuum.	radiation
233	Air is a poor _____ of heat.	conductor
234	When solids heat up, the particles within them _____ more rapidly.	vibrate
235	A feather duvet keeps you warm in bed because _____ is a poor conductor of heat.	air

383	Type of weathering that occurs when acid in rain reacts with rock.	chemical
384	Type of sedimentary rock that crystallises out of mineral-rich water.	evaporite

Metamorphic rocks

385	Under high _____ limestone is changed into marble.	temperatures
386	Term used to describe the way rocks have been bent or crumpled into curved shapes.	fold
387	Metamorphism caused by hot magma intruding into existing rocks.	contact
388	Type of rock that has been changed by heat or pressure.	metamorphic
389	Limestone that has been changed by high temperature.	marble
390	Metamorphism caused by large sections of rock being pushed together.	regional
391	When the _____ is high, mudstone or shale become slate.	pressure
392	A type of tectonic plate that is relatively thick, composed mainly of granite.	continental

167	Any individual with an _____ number of chromosomes will be sterile because meiosis cannot take place.	odd
168	Part of the body producing male gametes in humans.	testes
Punnett squares and pedigrees		
169	A Punnett square can be used to predict the _____ of offspring having a specific characteristic.	probability
170	When an organism has 2 alleles the same, they are _____.	homozygous
171	Pedigree charts or _____ trees are used to study characteristic over the generations.	family
172	When an organism has 2 different alleles it is _____.	heterozygous
173	Type of square used to predict the outcome of a particular mating.	Punnett
Profiling, problems and possibilities		
174	An individual with one recessive gene for a characteristic is a _____.	carrier
175	Substance produced by a GMO for people with diabetes.	insulin

Chemistry facts

Elements, compounds, mixtures and separation

1	A pure substance made up of two or more elements chemically combined.	compound
2	The _____ properties of a substance are how it reacts with other substances.	chemical
3	Salt is extracted from sea-water by _____.	crystallisation or evaporation
4	Scientists divide matter into _____ substances and mixtures.	pure
5	Physical _____ are things that can be measured such as density and conductivity.	properties
6	An _____ is a mixture of metals.	alloy
7	Separation method based on the boiling point.	distillation
8	A pure substance made of only one kind of atom.	element
9	A substance made of elements or compounds that are not chemically joined.	mixture

Chromosomes	
156	The small molecules that make up the 'rungs' of the DNA molecule are called ____.
157	Thread-like structures within each cell, containing the genes.
158	The shape made by the DNA molecule is called a double ____.
159	A change or mistake in the DNA is a ____.
160	The molecule of life.
161	Place within animal cells where the chromosomes are found.
Mitosis and meiosis	
162	Artificial production of genetically identical individuals.
163	Normal cell division.
164	After meiosis the chromosome number will be ____.
165	Cell division to form sex cells.
166	General term used to describe the organs in males and females where gametes are made.
Cloning	
167	Artificial production of genetically identical individuals.
Mitosis	
168	Normal cell division.
169	After meiosis the chromosome number will be ____.
170	Cell division to form sex cells.
171	General term used to describe the organs in males and females where gametes are made.
Meiosis	
172	Cell division to form sex cells.
173	General term used to describe the organs in males and females where gametes are made.

Electricity revision	
236	Dull black surfaces are ____ radiators of heat.
237	Non-metals are poor ____ because their electrons are locked in place.
238	Rubber, plastic and glass are all electrical ____.
239	The flow of charge is called electric current.
240	Atoms contain ____ charged protons in the nucleus.
241	Solid conductors contain ____ that are free to move.
242	Metals are ____ conductors of electricity.
243	Electrons are ____ charged.
Electricity at home	
244	The symbol I in a formula stands for ____.
245	Current measures the number of electrons passing each second, and is measured in ____.
246	____ measures the rate of energy transfer.
Good	
247	Good conductors are ____.
Bad	
248	Bad conductors are ____.
Current	
249	Current is the flow of ____.
Voltage	
250	Voltage is the potential difference between two points.
Resistance	
251	Resistance is the opposition to the flow of current.
Power	
252	Power is the rate at which energy is transferred.

Metals and non-metals

10	Silvery metal with low density that is a good conductor of both heat and electricity.	aluminium
11	Copper is used for electrical wiring because it is an excellent ____ of electricity.	conductor
12	Brown metal that is fairly unreactive and conducts heat and electricity well.	copper
13	Lead is used in yacht keels because of its high ____.	density
14	A soft, malleable element that is so reactive that it is stored under oil is ____.	sodium
15	All ____ conduct electricity and heat, and are ductile, malleable and shiny when freshly cut.	metals
16	Substances that can be pulled into a wire are ____.	ductile
17	High-quality saucepans have copper bases because copper is an excellent conductor of ____.	heat
18	Silver is used to coat mirrors because it has a high ____.	lustre

372	Granite contains large crystals because the magma cools very ____.	slowly
373	An igneous rock that forms on the surface of the crust is called extrusive or ____.	volcanic
374	A vertical column of lava shaped like a blade that forms inside the crust is called a ____.	dyke

Sedimentary rocks

375	Process by which surfaces are worn down.	weathering
376	The movement of particles, usually by wind or water.	transport
377	Process of laying down sediments.	deposition
378	Type of weathering that occurs when particles are knocked off rocks.	physical
379	Rocks formed by erosion and deposition of other rocks.	sedimentary
380	Clastic sedimentary rock is made up of ____ of older rocks.	fragments
381	The weathering and transport of particles.	erosion
382	Process of joining particles together, usually with compounds in water.	cementation

Components and circuits		
247	Voltage is the measure of the _____ the electrons have.	energy
248	Voltage is also called electrical potential _____.	difference
249	Power is the rate of energy transfer and is measured in _____.	watts
250	Watts is measured as _____ per second.	joules
251	We pay for Units of electricity; one Unit is one kilowatt _____.	hour
252	The unit of current is the _____.	amp
253	Safety device in a circuit that melts when too much current flows through it.	fuse
254	A _____ converts electrical energy into light and heat energy.	light bulb
255	Instrument used to measure current.	ammeter
256	A _____ provides a way to open or close a path around a circuit.	switch
257	Current is the _____ everywhere in a series circuit.	same
258	Unit measuring electrical potential difference.	volt

362 Sedimentary rock that forms in shallow marine waters where there are many shellfish. | limestone

Igneous rocks

363	A volcano composed of layers of lava and ash is known as a _____ volcano.	strato
364	An igneous rock that forms deep within the Earth's crust is called intrusive or _____.	plutonic
365	High-silica 'acidic' rocks have a high viscosity and are _____ coloured.	light
366	Rocks that have cooled slowly will contain _____ crystals.	large
367	Igneous rocks containing a high percentage of _____ are viscous and erupt explosively.	silica
368	Iron-rich, low-silica 'basic' rocks are _____ in colour.	dark
369	Magma that forces its way through older rock forms an igneous _____.	intrusion
370	Coarse-grained plutonic rock containing a high proportion of silica minerals.	granite
371	Volcanic and plutonic rocks are both _____ rocks.	igneous

144	The word used to describe sex cells.	gametes
145	The part of a chromosome that codes for a particular characteristic.	gene
146	If the F1 generation are the children of John and Mary, then the F2 generation are their _____.	grandchildren
147	The alleles for this characteristic are different, eg Gg.	heterozygous
148	Two chromosomes which carry genes for the same characteristics are said to be a _____ pair.	homologous
149	The 'Father of Genetics' is _____.	Mendel
150	Both alleles for a particular characteristic are the same.	homozygous
151	The visible outcome for a particular characteristic.	phenotype
152	An individual who is homozygous for a particular trait can be described as _____-breeding.	pure
153	A shy or hidden allele is called _____.	recessive
154	A _____ is a characteristic of an organism controlled by genes.	trait
155	A fertilised egg.	zygote

19	Substances that can be hammered or pressed into shape are described as _____.	malleable
20	Any element that is brittle or does not conduct electricity is a _____.	non-metal

Atomic structure and periodic table

21	The _____ number is equal to the number of protons in an atom.	atomic
22	The smallest particle inside an atom.	electron
23	Elements in the same _____ have the same number of outer-shell electrons.	group
24	Atoms of an element with different numbers of neutrons are called _____.	isotopes
25	The total number of particles in the nucleus gives the _____ number of an atom.	mass
26	The particle with no charge within an atom.	neutron
27	When an atom loses an electron it becomes a _____ ion.	positive
28	Negative ions form when atoms _____ electrons.	gain
29	All the elements are shown in order of atomic number in the _____ table.	periodic

dominant	143	Describes a characteristic that is visible if the individual has one allele for it.
discrete	142	A characteristic like gender or tongue-rolling with only a few choices is said to be ____.
allele	141	One of the forms a gene can take.
Mendel's inheritance		
variation	140	The advantage of sexual reproduction is that it allows for ____ within the species.
semen	139	Liquid containing male gametes.
normal	138	Type of curve produced when heights of a rugby team are plotted.
fertilisation	137	Process of joining two gametes to make one cell.
egg	136	The female gamete is called an ____.
different	135	In sexual reproduction the offspring will be ____ from the parents.
continuous	134	Characteristics like height that can have a range of values are said to be ____.
asexual	133	Type of reproduction in which offspring are identical to the parent.
Introduction to genetics		

30	Elements are composed of only one kind of ____.	atom
31	To find the number of neutrons, ____ atomic number from mass number.	subtract
32	Bond formed between oppositely-charged ions.	ionic
33	Most of the mass of an atom is found in the ____.	nucleus
34	The sub-atomic particle with a positive charge.	proton
35	Locations of electrons in an atom.	shells
36	Atom or group of atoms that has gained or lost electrons.	ion

Acids and bases

37	Acid required to form sulfates.	sulfuric
38	Substances that taste sour and turn blue litmus red are called ____.	acids
39	An alkaline solution will turn litmus paper ____.	blue
40	Salts formed by hydrochloric acid.	chlorides
41	Opposite of concentrated.	dilute
42	HCl is ____ acid.	hydrochloric
43	Gas given off when metals react with acid.	hydrogen

269	Cells supply ____ to the electrons.	energy
268	Direct current flows in one ____ only.	direction
267	A device that allows current to flow in only one direction.	diode
266	When cells are joined together in ____ their voltages add together.	series
265	Conventional ____ flows from the positive electrode to the negative electrode.	current
264	An LED is a Light ____ Diode.	Emitting
263	Several cells joined together are called a ____.	battery
Producing electricity and current		
262	Voltages across branches of a ____ circuit are always equal.	parallel
261	In parallel circuits, the total current is the ____ of the current in the branches.	sum
260	In a ____ circuit there is only one path around the circuit.	series
259	An ammeter measures the ____ of electrons flowing through a given point in a circuit.	number

352	A rock that looks like the pages of a book, seen edge on, is described as ____.	foliated
353	Liquids that are sticky and hard to pour are called ____.	viscous
354	Remains or traces of a prehistoric organism found in rock.	fossil

Identifying rocks

355	Grey rock often found in river beds, that may have white 'threads' through it.	greywacke
356	Layered metamorphic rock common in Central Otago.	schist
357	Black volcanic glass.	obsidian
358	Dark, heavy, fine-grained volcanic rock.	basalt
359	Fine-grained metamorphic rock that splits easily into thin sheets and can be used for roofing tiles.	slate
360	Light coloured volcanic rock that floats on water.	pumice
361	Sedimentary rock containing large rounded fragments of other rocks.	conglomerate

Current and resistance	
filament	270 Very thin, coiled wire in a light bulb that glows when the current passes through it.
variable	271 Rheostat is another name for a resistor.
greater	272 The longer the wire, the _____ its resistance.
less	273 A thick wire has _____ resistance than a thin one.
resistance increases	274 Ohm is the unit of _____.
	275 As temperature increases, the resistance _____.
low	276 When resistance is high, current is _____.
hot	277 When a large amount of current flows through a wire, the wire gets _____.

343	Point in a planet's orbit when it is closest to the Sun.	perihelion
344	A satellite in _____ orbit will pass over all points of the planet's surface.	polar
345	Unit of distance based on the distance between the Earth and the Sun.	Astronomical Unit
346	This phenomenon causes muscle atrophy and loss of calcium from the bones of astronauts.	microgravity

Geology facts

Describing rocks

347	Chemical used in a test to distinguish marble or limestone from other rocks.	acid
348	Word used to describe small holes in rock.	vesicles
349	Sediments with _____ bedding have large particles at the bottom and small ones at the top.	graded
350	Something with _____ fracture breaks into concentric rings like glass.	conchoidal
351	Word used to describe the size of the particles that make up a rock.	texture

Viruses		
121	Food that has not been thoroughly _____ may cause food poisoning.	cooked
122	Types of bacteria that can live without oxygen.	anaerobic
123	A strain of microbe that can no longer be killed by a compound is said to be _____ to that compound.	resistant
124	A solution used to kill bacteria on skin is an _____.	antiseptic
125	The tiniest microbes.	viruses
126	Small animal, such as an aphid, that can carry a virus from plant to plant.	vector
127	A compound that kills insects.	insecticide
128	Term used instead of 'reproduction' for viruses.	replication
129	The outer 'shell' of a virus particle is its _____.	protein coat
130	Places where viruses reproduce.	living cells
131	An _____ agent kills viruses.	antiviral
132	Viruses are always pathogens because they always _____ their host cell.	destroy/kill

44	When acids and bases react, they _____ each other.	neutralise
45	Type of acid that forms nitrates.	nitric
46	Scale used to measure degree of acidity.	pH
47	Acid + base \longrightarrow a _____ + water.	salt

Carbonates and oxides

48	Gas given off when calcium carbonate is heated or reacts with acids.	carbon dioxide
49	Sodium hydrogen carbonate is better known as _____ soda.	baking
50	Change from solid to gas without melting.	sublime
51	Most metal oxides are _____.	basic
52	Type of solution formed when non-metal oxides dissolve in water.	acidic
53	Bases that dissolve in water are called _____.	alkalis
54	Carbon dioxide gas makes limewater turn _____.	cloudy
55	Solid carbon dioxide is also known as _____.	dry ice
56	Solution used to test for carbon dioxide gas.	limewater

111	Microbes that may be visible with the naked eye.	fungi
112	Compounds produced by some fungi that inhibit the growth of bacteria.	antibiotics
113	Microbes that grow best at high temperatures are known as ____.	thermophilic
114	Dried food does not decompose because microbes need ____ to grow.	water
115	Most microbes grow well in ____, moist conditions when given the right food.	warm
116	Process of heating food for a short time to kill most of the harmful microbes it contains.	pasteurisation
117	Bacteria in food preserved with salt or sugar lose water by the process of ____.	osmosis
118	____ milk has been sterilised for at least a second.	UHT
119	Air containing a lot of water vapour has a high ____.	humidity
120	Microbes in frozen food are not dead but ____.	dormant

Controlling microbes

57	The speed of a reaction is called its ____.	rate
58	Fine powders have a large total ____.	surface area

Hydroxides and lime

59	Limewater is calcium ____ solution.	hydroxide
60	All metal hydroxides react with acids to form ____.	salts
61	Bases that dissolve in water are called ____.	alkalis
62	Substance used on the garden to reduce soil acidity.	lime
63	Caustic soda is the common name for ____ hydroxide.	sodium
64	Yellow non-metal that burns with a purple flame to form a choking gas.	sulfur

Metals

65	Relatively hard metal that reacts with cold water to form an alkaline solution.	calcium
66	Soft, relatively unreactive grey metal with high density.	lead
67	Silvery-grey, reactive metal that burns with a bright white light.	magnesium

278	An ice-covered rock orbiting the Sun	comet
279	A rock that burrs up as it enters the Earth's atmosphere is a ____	meteor
280	The period of time taken for a planet to make one orbit of the Sun is its ____.	year
281	Rocky planet with thin atmosphere that sometimes experiences huge dust storms.	Mars
282	Some of these minor planets have become moons of Jupiter and Saturn.	asteroids
283	Planet almost the same size as the Earth, with a very dense atmosphere that traps heat from the Sun.	Venus
284	A natural satellite of a planet is called a ____.	moon
285	Rocky planet with oxygen-rich atmosphere, largely covered in liquid water.	Earth
286	Number of planets orbiting our Sun.	eight

The solar system

Astronomy facts

332	____ motion occurs when a planet appears to be moving backwards.	retrograde
333	Line drawn on the star maps showing the path that the Sun and planets appear to take.	ecliptic
334	The closer a planet is to the Sun the ____ it moves.	faster
335	All planets in our Solar system lie in roughly the same ____.	plane
336	Point on a planet's orbit when it is furthest from the Sun.	aphelion
337	Number of planets visible with the naked eye from Earth.	five
338	The position of objects in the night sky changes by ____ degrees every hour.	fifteen
339	We see satellites because of the Sun's ____ light.	reflected
340	An artificial satellite will disappear from view when it enters the Earth's ____.	shadow
341	Geostationary satellites all orbit the Earth's ____.	equator
342	A satellite that maintains the same position above the Earth is known as ____.	geostationary

Sun, Earth and seasons	
Mercury	287 A rocky planet with no atmosphere; it gets very hot on the sunny side, and very cold at night.
Neptune	288 Small gas giant with a faint ring system, that may have a rocky centre.
orbit	289 The path a planet takes as it moves around the Sun is called its _____.
day	290 Period of time taken by a planet to turn once on its axis.
Jupiter	291 Large gas giant with thin ring system and a very large magnetic field around it.
Pluto	292 Small, rocky, dwarf planet with single moon that is always very cold.
Saturn	293 Gas giant with spectacular ring system, recently visited by a robot probe from Earth.
Uranus	294 Small gas giant with rocky rings, tilted so much it spins on its side.
planet	295 A large object orbiting a star is called a _____.
north	296 In the winter the Sun rises in the _____-east.

321	An _____ eclipse of the Sun occurs when the Moon is too far away to completely block the Sun.	annular
322	The darkest part of the shadow cast by the Earth is called the _____.	umbra
323	A solar eclipse is an eclipse of the _____.	Sun
324	Stars 'burn' by a process of nuclear _____.	fusion
325	The visible surface of the Sun.	photosphere
326	The coloured layer of the Sun visible during a solar eclipse.	chromosphere
327	Dark patches on the surface of the Sun that can be used to observe the Sun's rotation.	sunspots
328	Earth is protected from solar flares by its _____ field.	magnetic
329	The very thin, outer atmosphere of the Sun, visible during a solar eclipse.	corona
330	Coloured lights sometimes visible at high latitudes on Earth and caused by solar flares.	aurorae

The night sky

331	Planetary orbits are not circles but _____.	ellipses
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98	Compounds released by bacteria to digest their food.	enzymes
99	Jelly-like substance that makes up most of a cell.	cytoplasm
100	Method of reproduction for bacteria: _____.	binary fission
101	The energy release process in living cells.	respiration
102	Bacteria that require oxygen to live are called _____ bacteria.	aerobic
103	The 'seeds' of fungi.	spores
104	Structure of a fungus which contains the spores.	sporangium
105	Fungi that feed on dead organisms are called _____.	saprophytes
106	Microbes that live on living things are known as _____.	parasites
107	A web or mat of tangled threads in fungi.	mycelium
108	The threads a fungus sends out as it feeds.	hyphae
109	Appearance of fungi on an agar plate.	fuzzy
110	A chemical designed to kill fungi.	fungicide

Fungi and carbon cycle

68	Iron will rust if water and _____ are present	oxygen
69	Calcium is a very _____ metal.	reactive
70	This grey metal corrodes readily in moist air to form a red-brown oxide	iron
71	A metal used in jewellery, that doesn't react with oxygen so it stays shiny.	gold
72	A metal stored under oil to stop it from corroding.	sodium
73	Galvanised iron is coated in _____ to prevent rusting.	zinc
74	Particles move more _____ when they are heated.	quickly
75	When metals react they lose electrons to form _____ ions.	positive
76	Magnesium reacts with acid to produce _____ gas	hydrogen
77	Chemical reactions occur more rapidly in _____ solutions.	concentrated

algae	88	Single-celled organisms that remove nutrients and produce oxygen in waterways.
agar	89	Jelly extracted from sea-weed, used to grow bacteria.
Bacteria		
yoghurt	90	Food produced by a particular bacteria acting on milk.
toxins	91	Poisonous waste products of bacteria.
region	92	The nuclear _____ in a bacteria does not have a membrane.
secrete	93	When bacteria and fungi release enzymes into their food source we say they _____ the enzymes.
membrane	94	The cell _____ is a thin semi-permeable layer that controls entry and exit to a cell.
flagellum	95	'Tail' on some bacteria that allows them to move.
growth	96	When left to multiply, bacteria will show a 'S' shaped _____ curve.
extra-cellular	97	Type of digestion used by bacteria and fungi.

Biology facts

Microbes and nitrogen cycle

78	Term used to mean killing all microbes.	sterilise
79	Agar plates should be placed _____ in an incubator.	upside down
80	Large, nitrogen-rich molecules found in plants and animals are _____.	proteins
81	Disease-causing micro-organisms are called _____.	pathogens
82	Plants wthat provide root nodules for nitrogen-fixing bacteria are called _____.	legumes
83	Oven-like instrument used to keep agar plates warm.	incubator
84	Bacteria that convert atmospheric nitrogen into nitrates are called nitrogen _____ bacteria.	fixing
85	Bacteria that convert soil nitrates into elemental nitrogen are _____ bacteria.	denitrifying
86	To grow bacteria on an agar plate is to _____ them.	culture
87	A bacterial 'city' is called a _____.	colony

Earth, Moon and tides

month	297	Approximate time taken for the Moon to do one orbit of the Earth: one _____.
seasons	298	Phenomenon caused by the Earth's axial tilt.
winter solstice	299	Day when the noon shadow is at its longest.
turning	300	The Sun, Moon and stars rise and set because the Earth is _____.
east	301	The Moon rises in the _____.
equinox	302	Time of year when the length of the day and night are equal.
west	303	The Earth rotates from _____ to East.
atmosphere	304	The blanket of gases that surround a planet is called its _____.
high	305	When the Sun is _____ in the sky, shadows are short.
clockwise	306	Viewed from the south pole, the Earth rotates in a _____ direction.
tilted	307	We have seasons because the Earth's axis is _____.
last	308	In New Zealand, if the Moon appears like a 'D', the phase is _____ quarter.
new	309	Phase of the Moon when it is between the Earth and the Sun.

310	Changing appearance of a moon or planet caused by different portions of the surface being lit up.	phases
311	Type of tides which do not go very high or very low.	neap
312	Phenomenon caused by the gravitational attraction of the Moon on the sea.	tides
313	An eclipse of the Moon is also known as a _____ eclipse.	lunar
314	Phase of the Moon when the Earth is between the Moon and the Sun.	full
315	The force which holds the Moon in its orbit.	gravity
316	In New Zealand, if the Moon appears like a 'C', the phase is _____ quarter.	first
317	Number of high tides which happen at any one time on Earth.	two
318	These tides occur at full and new moon.	spring

Our Sun

319	The most abundant element in the universe is _____.	hydrogen
320	Huge jets of highly charged particles that come from the Sun are called solar _____.	flares