

EDUCATOR'S
LEARNEST
BOOKS



L3 Science

Answers

All Recap Test Answers

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This answer book is for Teachers and Parents only.

Each Recap Test aims to gauge how much of any single topic has been understood by the student. They can be used once or more, and a flexible time allowance of 10, 15 or 20 minutes is recommended.

Our tests are brief but challenging, making use of the various question formats typical of SATs and entrance exams.

Answers require more than a multiple choice guess, so students are required to write, draw or select answers accordingly. This can be done on-paper or on-screen.

ANSWERS

Total marks = 12

1. We describe the properties of materials to recognise one material from another, and to group them by type.
2. 'Magnetism' describes how magnetic or non-magnetic a material is.
3. 'Solubility' describes how soluble (dissolvable) or insoluble a material is.
4. a) conductivity, b) conductive
5. b) white paper, d) apple, e) human, f) mirror

ANSWERS

Total marks = 11

1. A reversible change means the material can be changed, and changed back again to its original form.
2. A change of a material is only reversible if no chemical reaction has occurred between the substances.
3. mixture
4. solution
5. Evaporation separates the dissolved substance from the liquid. The liquid evaporates when the solution is boiled.

ANSWERS

Total marks = 17

1. An irreversible change of a material means it cannot be returned to its original state before the change.
2. a) chemical, e) changes, b) two, d) more, c) combine
3. Colour change, change in transparency, change in temperature can indicate a chemical reaction has taken place.
4. Chemical reactions occur because reagents and reactants mix to produce a new substance.
5. Fire indicates that a material is burning, and oxygen is being used.

ANSWERS

Total marks = 12

1. Earth takes one day to complete one rotation.
2. a) tilted, d) axis, c) north, b) south
3. Earth's angle of tilt is 23.5°
4. b) orbits, c) 365
5. If it is winter in the Northern Hemisphere, the season in the Southern Hemisphere would be summer.

ANSWERS

Total marks = 16

1. A planet is a large, natural object that orbits the Sun.
2. revolve, orbits
3. The planets orbit anti-clockwise around the Sun.
4. The Sun's gravitational pull holds all planets in orbit.
5. Mercury, Venus, Earth, Mars
6. Jupiter, Saturn, Uranus and Neptune are the four gaseous planets in the Solar System.

ANSWERS

Total marks = 14

1. 29.5 days
2. We can see the Moon from Earth because the Sun is shining light on it.
3. Earth sees the left half of the Moon.
4. Because the New Moon's dark side faces Earth.
5.
 - i) First Quarter Moon
 - ii) Waning Gibbous Moon
 - iii) New Moon

ANSWERS

Total marks = 11

1. Gravity is a force which pulls all matter towards the centre of the planet.
2. f) gravitational field, b) attracted, a) Earth
3. Gravitational forces cause objects to fall or be pulled downwards until they reach a surface.
4. the Moon
5. i) gravitational pull
ii) lift
iii) air resistance

ANSWERS

Total marks = 9

1. contact, two
2. Friction causes moving objects to slow down.
3. resist
4. b) Friction works in the opposite direction to the driving force.
5. The force working against a fish swimming in the sea is water resistance.

ANSWERS

Total marks = 9

1. f) smaller, a) greater
2. Levers increase the power of the effort force.
3. Bicycles, cars and drills use gears.
4. lower
5. Pulleys are used to lift or move something.

ANSWERS

Total marks = 17

1. A life cycle is the series of developmental stages that make up an organism's lifetime, including reproduction.
2. All animals begin their life with a fertilised egg.
3. True
4.
 - 1) Egg
 - 2) Tadpole
 - 3) Tadpole with 2 legs
 - 4) Tadpole with 4 legs
 - 5) Froglet
 - 6) Adult frog
5.
 - 1) First comes the egg.
 - 2) The next stage is the chick.
 - 3) The final stage is the adult hen.

ANSWERS

Total marks = 10

1. Reproduction is the process of making new members of a species.
2. fertilise
3. ANY TWO FROM:
seastars, some worms and most wasps
4. To 'diversify' means to change and to include more variety.
5. identical

ANSWERS

Total marks = 14

1. Species are classified according to their similarities and differences.
2. Ancestral information reveals how a species has evolved and adapted to changing environments.
3. An 'ancestor' is an earlier type of organism from which others have evolved.
4. ANY FIVE FROM:
mouse, gorilla, zebrafish, spiny lobster, weeping willow or any other
5. The scientific name for a lion is *Panthera leo*.

ANSWERS

Total marks = 14

1. Animals are broadly categorised into vertebrates and invertebrates.
2. 1.2
3. 7.7
4. annelids, molluscs, myriapods, arachnids, crustaceans, insects
5. The scientific name of the rat species is *Rattus rattus*.

ANSWERS

Total marks = 14

1. flowering, non-flowering
2. There are approximately 400,000 species of plant on Earth.
3. True
4. True
5. i) 'Marine species' refers to a species that lives in water.
ii) 'Terrestrial species' refers to a species that lives on land.
6. i) ANY TWO FROM:
grasses, cereals, shrubs, deciduous tree
ii) ANY TWO FROM:
mosses, seaweed, ferns, coniferous trees

ANSWERS

Total marks = 14

1. c) 6
2. foetus, baby, childhood, adolescence, adulthood, old age
3. 'Independent' means being free from the control or influence of others.
4. 'Dependent' means you need help or influence from other people (for example, a new born baby is dependent on his/her parent).
5. Puberty begins about a year earlier for girls than for boys.

ANSWERS

Total marks = 12

1. The circulatory system delivers oxygen to the body's cells, and removes the carbon dioxide created by those cells.
2. c) heart and d) lungs
3. Blood pressure is the measure of the force that your heart uses to pump blood around your body.
4. 'Deoxygenated' means oxygen is no longer contained.
5. i) in
ii) exhale

ANSWERS

Total marks = 14

1. The two types of food you need the most are fruits and vegetables, and starchy carbohydrates. The least recommended type of food is fats.
2. food, drinks, units, calories
3. The recommended daily calorie intake for 6–12 year olds is 1,600–2,200 kcal.
4. Exercising regularly makes the heart, lungs and muscles stronger.
5. ‘Sedentary’ means to not be physically active and likely includes a lot of sitting down.

ANSWERS

Total marks = 12

1. Drug is a substance or chemical that can affect how the body works or how a person feels or behaves.
2. cigarettes, e-cigarettes
3. Addictive drugs are drugs that the human craves even though it is causing harm. Some addictive drugs include alcohol, nicotine, amphetamine, for example.
4. alcohol
5. Most people avoid non-medicinal drugs (e.g. smoking or drinking alcohol), because they are not healthy.

ANSWERS

Total marks = 13

1. An electrical current runs through a circuit.
2. It is a cell. Cells transform chemical energy into electrical energy to power a circuit.
3. It is a battery. Batteries provide a push of energy to get the current flowing in the circuit. Batteries are two or more cells in a group.
4. It is a bulb. Bulbs light up when the electrical circuit is closed.
5. a) open

ANSWERS

Total marks = 13

1. electrical energy, batteries
2. Voltage was discovered by Alessandro Volta.
3. A higher voltage makes bulbs brighter, motors turn faster and buzzers sound louder.
4. Too many cells may cause the bulb to break because too much electricity is flowing through the circuit.
5. Each bulb will have the same brightness because there is one battery per bulb in both of the circuits.

ANSWERS

Total marks = 11

1. Evolution is the process by which all kinds of organism have developed from earlier, simpler forms of life.
2. The first forms of life were simple, single-celled organisms.
3. Charles Darwin theorised the evolutionary changes took thousands or millions of years.
4. humans
5. wolves

ANSWERS

Total marks = 11

1. Fossils reveal information about living organisms which lived on Earth millions and billions of years ago.
2. Fossils contain DNA which can help inform scientists how an organism has changed, or what it changed into over time.
3. 3.5
4. Sediment is the material that settles at the bottom of a liquid.
5. Tectonic shifts are the movement of Earth's continental crust (land mass).

ANSWERS

Total marks = 9

1. A generation is a period of time, about thirty years.
2. To inherit means to receive through a parent gene.
3. genes, offspring's
4. variations
5. Asexual reproduction is the type of reproduction which results in genetic clones.

ANSWERS

Total marks = 9

1. An 'adaptation' is the way an animal's body or behaviour changes over time to help it survive or live in its environment.
2. Tigers have adapted a striped coat which helps them blend into the jungles where sunlight filters through treetops.
3. Lions are a tan colour which camouflages well in their woodland, desert and savannah habitats.
4. elephants', tusks, self-defence, picking, things, up
5. One of the earliest human adaptations was to walk upright.

ANSWERS

Total marks = 12

1. Adaptations help plants to survive extreme climates, feed better or reproduce.
2. Tiny hairs and thorns on leaves catch water from the air.
3. The function of scented flowers is to attract insects (for pollination).
4. The cone tree's conical shape sheds snow, allowing light to reach it.
5. Cacti have a thick and fleshy stem to store water.

ANSWERS

Total marks = 11

1. straight
2. Light is reflected off the object.
3. i) A light blue T-shirt reflects more light because the colour is lighter.
ii) A silver plate reflects more light because the surface is more shiny and smooth.
4. d) 300,000,000
5. It is reflected at 45° because a mirror has a smooth, reflective surface that reflects light at the same angle.

ANSWERS

Total marks = 9

1. d) darkness, b) blocking
2. It will be similar to the shape of the object that blocks the light.
3. No, it can be stretched or squashed.
4. opaque
5. c) more than one shadow.

