

Science Practice Questions

Student Workbook

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192 questions · circle the best answer for each

Name: _____ Date: _____

Life Science

Cells & Cell Processes

1. How does the body make new cells to heal a cut?
 - A. Cells appear from nothing
 - B. Existing cells divide in two
 - C. The heart makes them
 - D. Food turns straight into cells
2. Which biomolecule is mainly used to BUILD and REPAIR the body?
 - A. Carbohydrates
 - B. Proteins
 - C. Fats
 - D. Water
3. Which part of a cell contains its DNA and directs its activities?
 - A. Cell membrane
 - B. Nucleus
 - C. Cytoplasm
 - D. Cell wall
4. Green plants make food from sunlight, water, and carbon dioxide. This process is:
 - A. Respiration
 - B. Digestion
 - C. Photosynthesis
 - D. Evaporation

Human Body Systems

1. What is the main idea of this passage?
 - A. The heart is the most important organ
 - B. The body's systems each have a job and work together to keep it alive
 - C. Blood carries oxygen
 - D. Bones support the body
2. In the passage, keeping the body balanced and alive is called:
 - A. Digestion
 - B. Homeostasis
 - C. Respiration
 - D. Circulation
3. Which of the following is NOT a job of the skeletal system?
 - A. Supporting the body
 - B. Protecting organs
 - C. Pumping blood
 - D. Working with muscles to move

4. Which two systems work together to get oxygen into the blood?
- A. Digestive and nervous
 - B. Respiratory and circulatory
 - C. Skeletal and muscular
 - D. Digestive and circulatory

Genetics & Heredity

1. In a $Bb \times Bb$ cross, what percent of the offspring are expected to show the RECESSIVE trait?
- A. 0%
 - B. 25%
 - C. 50%
 - D. 75%
2. Inside the nucleus, DNA is packed into structures called:
- A. Chromosomes
 - B. Mitochondria
 - C. Membranes
 - D. Ribosomes
3. If both parents are Bb , what fraction of offspring are expected to be bb ?

Both parents are Bb

	B	b
B	BB	Bb
b	Bb	bb

- A. $\frac{1}{4}$
- B. $\frac{1}{2}$
- C. $\frac{3}{4}$
- D. 0

4. What fraction of the offspring are expected to be tall (have at least one T)?

Tt crossed with tt (T is dominant)

	T	t
t	Tt	tt
t	Tt	tt

- A. 1/4
B. 1/2
C. 3/4
D. All
5. An allele that shows up only when two copies are present is called:
A. Dominant
B. Recessive
C. A phenotype
D. A gene
6. In this BB × bb cross, what genotype will ALL of the offspring have?

BB × bb

	B	B
b	Bb	Bb
b	Bb	Bb

- A. BB
B. Bb
C. bb
D. A mix of all three

7. In a $Bb \times Bb$ cross, what is the genotype ratio of the offspring?

- A. 1 BB : 2 Bb : 1 bb
- B. All Bb
- C. 1 BB : 1 bb
- D. 3 BB : 1 bb

8. B (brown eyes) is dominant over b (blue eyes). In a $Bb \times Bb$ cross, what fraction of children are expected to have BROWN eyes?

- A. 1/4
- B. 1/2
- C. 3/4
- D. All

9. In this $Bb \times bb$ cross, what fraction of the offspring are bb?

$Bb \times bb$

	B	b
b	Bb	bb
b	Bb	bb

- A. 1/4
- B. 1/2
- C. 3/4
- D. 0

10. A person who carries one recessive allele hidden behind a dominant one (like Bb) is called a:

- A. Twin
- B. Carrier
- C. Clone
- D. Donor

11. Which of these describes a PHENOTYPE rather than a genotype?

- A. Bb
- B. BB
- C. Brown eyes
- D. bb

Evolution & Natural Selection

1. In a dark forest, dark moths are hidden from birds while light moths get eaten. Over time, most moths become dark. This is an example of:
 - A. Photosynthesis
 - B. Natural selection
 - C. Homeostasis
 - D. Erosion
2. A trait that helps an organism survive in its environment is called:
 - A. A mutation
 - B. An adaptation
 - C. A phenotype
 - D. A control

Ecosystems & Energy Flow

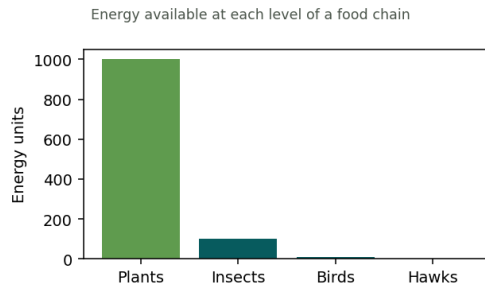
1. The largest population an ecosystem can support over time is called its:
 - A. Food web
 - B. Carrying capacity
 - C. Energy pyramid
 - D. Habitat
2. Bees and flowers helping each other is an example of:
 - A. Predation
 - B. Mutualism
 - C. Competition
 - D. Erosion
3. Two deer feeding from the same small patch of grass are in:
 - A. Mutualism
 - B. Predation
 - C. Competition
 - D. Cooperation
4. What is the main idea of this passage?
 - A. Plants are green
 - B. How energy and matter move through an ecosystem
 - C. Predators are dangerous
 - D. Soil is important
5. Based on the passage, why are there fewer top predators than plants?
 - A. Predators are bigger
 - B. Energy shrinks at each step of the chain
 - C. Plants reproduce quickly
 - D. There is a rule against predators

6. In this food chain, which organism is the primary consumer?

Algae → Insect → Fish → Heron

- A. Algae
- B. Insect
- C. Fish
- D. Heron

7. Which level of the food chain has the most available energy?



- A. Plants
- B. Insects
- C. Birds
- D. Hawks

8. What is the main role of decomposers in an ecosystem?

- A. To make food from sunlight
- B. To break down dead material and recycle nutrients
- C. To hunt large animals
- D. To produce oxygen

9. In this grassland food chain, which organism is the producer?

Grass → Grasshopper → Mouse → Hawk

- A. Grass
- B. Grasshopper
- C. Mouse
- D. Hawk

10. Which organism is the primary consumer — the first to eat the producer?

Grass → Grasshopper → Mouse → Hawk

- A. Grass
- B. Grasshopper
- C. Mouse
- D. Hawk

11. In this ocean food chain, which organism is the top predator?

Plankton → Shrimp → Fish → Seal

- A. Plankton
- B. Shrimp
- C. Fish
- D. Seal

12. Which organism is a secondary consumer — it eats the primary consumer?

Plankton → Shrimp → Fish → Seal

- A. Plankton
- B. Shrimp
- C. Fish
- D. Seal

13. If the beetles disappeared from this food chain, what would most likely happen to the frogs?

Berries → Beetle → Frog → Snake

- A. They would have more food
- B. They would have less food
- C. Nothing would change
- D. They would become producers

Reading an Article: How Vaccines Work

1. What is the main idea of the passage?

- A. The immune system is slow
- B. How vaccines help the body fight disease
- C. Newborns get sick easily
- D. Germs are everywhere

2. According to the passage, what does a vaccine show the body?

- A. A strong, full-strength germ
- B. A harmless piece or weakened form of a germ
- C. A memory cell
- D. A dose of medicine

3. In the passage, 'memory cells' are cells that:

- A. Store your thoughts
- B. Remember a germ so the body can fight it faster later
- C. Make you feel sick
- D. Replace the vaccine

4. Why can a first infection make you sick for several days?

- A. The germ is stronger the first time
- B. The immune system needs time to learn the new germ
- C. Vaccines wear off
- D. Memory cells attack the body

5. 'Community immunity' most helps people who:
- A. Are already vaccinated
 - B. Cannot get the vaccine, such as newborns
 - C. Never leave home
 - D. Make vaccines
6. According to the passage, how did Edward Jenner get the idea for the first vaccine?
- A. He read about it in a book
 - B. He noticed milkmaids who had cowpox rarely caught smallpox
 - C. He invented it in a lab
 - D. He caught smallpox himself

Reading an Article: Why Bees Matter

1. What is the main idea of the passage?
- A. Bees make honey
 - B. Bees are important pollinators, and their numbers are dropping
 - C. Flowers need nectar
 - D. Pesticides are useful
2. According to the passage, what is pollination?
- A. Bees making honey
 - B. Pollen moving from flower to flower so plants make seeds and fruit
 - C. Flowers producing nectar
 - D. Bees losing their hives
3. Based on the passage, if bees disappeared, we would most likely expect:
- A. More honey
 - B. Less of foods like apples and almonds
 - C. More wild flowers
 - D. Fewer pesticides
4. The passage uses 'about one in every three bites of food' to show:
- A. How much honey bees make
 - B. How much of our food depends on pollinators
 - C. How many bees exist
 - D. How fast bees fly
5. According to the passage, why are billions of honeybees trucked into California's almond orchards each spring?
- A. To make honey for sale
 - B. Because the almond trees depend on bees to pollinate their blossoms
 - C. To protect the trees from pests
 - D. To collect water for the trees

6. Beyond farms, how else does the passage say bees are important?
- A. They clean rivers
 - B. They pollinate wild plants that feed birds, deer, and other animals
 - C. They control the weather
 - D. They build the soil

Reading an Article: Cells, the Building Blocks of Life

1. What is the main idea of the passage?
- A. Bacteria are tiny
 - B. All living things are made of cells, which carry out life's jobs
 - C. Plants are green
 - D. Humans have trillions of cells
2. According to the passage, what is the job of the nucleus?
- A. To release energy
 - B. To hold the DNA and control the cell
 - C. To let things in and out
 - D. To capture sunlight
3. In the passage, 'photosynthesis' is the process by which:
- A. Cells release energy from food
 - B. Plants make food from sunlight, water, and carbon dioxide
 - C. DNA is copied
 - D. Water enters the cell
4. Based on the passage, plants can make their own food but animals cannot because plants have:
- A. A nucleus
 - B. Mitochondria
 - C. Chloroplasts
 - D. A cell membrane

Reading an Article: How the Body Uses Food

1. What is the main idea of the passage?
- A. Chewing is important
 - B. How the body breaks down food and uses its nutrients
 - C. The stomach has acids
 - D. Waste leaves the body
2. According to the passage, where does most absorption of nutrients happen?
- A. The mouth
 - B. The stomach
 - C. The small intestine
 - D. The blood

3. According to the passage, which nutrient mainly builds and repairs the body?
- A. Carbohydrates
 - B. Proteins
 - C. Fats
 - D. Vitamins
4. Based on the passage, why do health experts recommend eating a variety of foods?
- A. Variety tastes better
 - B. Different nutrients do different jobs the body needs
 - C. It is cheaper
 - D. It speeds up digestion
5. According to the passage, digestion begins in the:
- A. Stomach
 - B. Small intestine
 - C. Mouth
 - D. Blood
6. You eat a bowl of oatmeal before a long walk. Which type of nutrient in the oatmeal gives you quick energy?
- A. Protein
 - B. Carbohydrates
 - C. Fat
 - D. Water
7. After lifting weights, an athlete eats eggs and chicken. Which nutrient in that food mainly helps build and repair muscle?
- A. Fat
 - B. Protein
 - C. Sugar
 - D. Vitamins

Reading an Article: Genes and Heredity

1. What is the main idea of the passage?
- A. Everyone has DNA
 - B. How traits are passed from parents to children through genes
 - C. Blue eyes are rare
 - D. Punnett squares are hard
2. According to the passage, traits are carried in a molecule called:
- A. Protein
 - B. DNA
 - C. An allele
 - D. A Punnett square

3. In the passage, a 'dominant' allele is one that:
- A. Only shows with two copies
 - B. Shows up whenever it is present
 - C. Never shows up
 - D. Is carried only by fathers
4. Based on the passage, two brown-eyed parents can have a blue-eyed child because:
- A. Blue eyes are dominant
 - B. Each parent carried a hidden recessive allele for blue eyes
 - C. The child has no genes from them
 - D. Eye color is random

Reading an Article: Natural Selection

1. What is the main idea of the passage?
- A. Beetles are dark
 - B. How species change over time through natural selection
 - C. Birds eat beetles
 - D. Fossils are old
2. In the passage, 'variations' are:
- A. Types of birds
 - B. Small differences among individuals of a species
 - C. Changes in the weather
 - D. Kinds of trees
3. Based on the passage, why did the beetle group become mostly dark over time?
- A. Dark beetles laid more eggs by chance
 - B. Birds ate the easy-to-see light beetles, so dark ones survived and reproduced
 - C. The bark turned dark
 - D. Dark beetles were larger
4. In the passage, a trait that improves survival in an environment is called:
- A. A variation
 - B. An adaptation
 - C. A fossil
 - D. A species

Physical Science

Matter & Its Properties

1. What is the main idea of this passage?
 - A. Ice is cold
 - B. The states of matter and the two kinds of changes
 - C. Gases are invisible
 - D. Iron rusts slowly
2. According to the passage, ice melting is an example of a:
 - A. Chemical change
 - B. Physical change
 - C. New substance forming
 - D. Gas
3. Which of the following is a chemical change?
 - A. Ice melting
 - B. Iron rusting
 - C. Water boiling
 - D. Tearing paper
4. Which material would sink in water?

Density of materials (water = 1.0 g/mL)

Material	Density (g/mL)
Cork	0.24
Ice	0.92
Aluminum	2.70
Lead	11.3

- A. Cork
- B. Ice
- C. Aluminum
- D. None

Atoms & Chemical Reactions

1. What is the main idea of this passage?
 - A. Water is a compound
 - B. Atoms build all matter, and mass is conserved in reactions
 - C. Gold is valuable
 - D. Reactions happen fast
2. In the passage, an 'element' is:
 - A. A mixture of substances
 - B. A substance made of just one kind of atom
 - C. A kind of reaction
 - D. A drop of water

3. In a sealed jar, 10 g of reactants react completely. What is the total mass of the products?
- A. Less than 10 g
 - B. Exactly 10 g
 - C. More than 10 g
 - D. It cannot be known
4. A substance with a pH of 3 is:
- A. A base
 - B. Neutral
 - C. An acid
 - D. A metal

Chemical Equations

1. What is the main idea of this passage?
- A. Arrows are important
 - B. How to read a chemical equation
 - C. Water is H_2O
 - D. Atoms are tiny
2. According to the passage, why must an equation be balanced?
- A. To look neat
 - B. Because atoms are never created or destroyed
 - C. Because of the arrow
 - D. To use bigger numbers
3. In the equation $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$, which are the reactants?
- A. $2\text{H}_2\text{O}$
 - B. 2H_2 and O_2
 - C. Only O_2
 - D. The arrow
4. What does the arrow ($\rightarrow$) in a chemical equation mean?
- A. Equals zero
 - B. 'Produces' or 'yields'
 - C. Subtract
 - D. Divide
5. In the formula H_2O , how many hydrogen atoms are there?
- A. 1
 - B. 2
 - C. 3
 - D. 0

6. In $2\text{H}_2\text{O}$, how many water molecules are shown?
- A. 1
 - B. 2
 - C. 4
 - D. 6
7. Why must a chemical equation be balanced — the same atoms on both sides?
- A. To look neat
 - B. Because atoms are never created or destroyed
 - C. To make the numbers bigger
 - D. Because of gravity
8. How many oxygen atoms are on the LEFT side of $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$?
- A. 1
 - B. 2
 - C. 4
 - D. 0
9. In $\text{C} + \text{O}_2 \rightarrow \text{CO}_2$, how many oxygen atoms are on each side?
- A. 1
 - B. 2
 - C. 3
 - D. 4
10. In the formula CH_4 , how many hydrogen atoms are there?
- A. 1
 - B. 2
 - C. 4
 - D. 6
11. In 2NaCl , how many chlorine (Cl) atoms are shown in all?
- A. 1
 - B. 2
 - C. 3
 - D. 4
12. In $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$, which substance is a PRODUCT?
- A. CH_4
 - B. O_2
 - C. CO_2
 - D. None of these

Forces & Motion

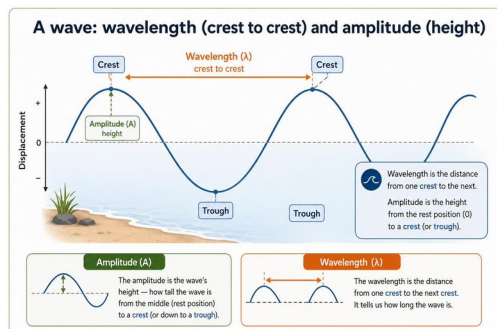
1. An object at rest stays at rest unless a force acts on it. This idea is called:
 - A. Gravity
 - B. Inertia
 - C. Friction
 - D. Energy
2. A car travels 150 miles in 3 hours. What is its average speed in miles per hour? (Type the number)
Answer: _____

Energy

1. Which is an example of stored (potential) energy?
 - A. A car driving
 - B. A book on a high shelf
 - C. A rolling ball
 - D. A spinning fan
2. When you rub your hands together, they warm up. Friction turns motion energy into:
 - A. Light
 - B. Sound
 - C. Thermal (heat) energy
 - D. Chemical energy

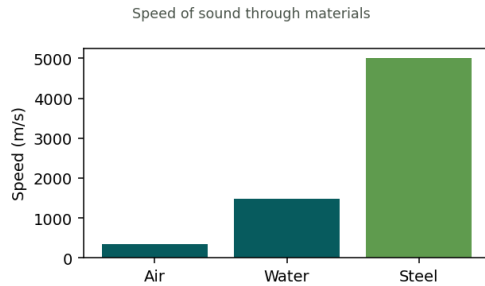
Waves, Light & Electricity

1. On the wave shown, the distance labeled X (crest to crest) is the wave's:



- A. Amplitude
- B. Wavelength
- C. Frequency
- D. Speed

2. Sound travels fastest through which material?



- A. Air
- B. Water
- C. Steel
- D. Equal

Magnetism

1. Every magnet has how many poles?
 - A. One
 - B. Two
 - C. Three
 - D. None
2. What happens when you bring two NORTH poles close together?
 - A. They attract (pull together)
 - B. They repel (push apart)
 - C. Nothing happens
 - D. They melt
3. The invisible area around a magnet where it can push or pull is called the:
 - A. Magnetic field
 - B. Circuit
 - C. Current
 - D. Pole
4. An electromagnet is made by:
 - A. Rubbing two magnets together
 - B. Running electric current through a coil of wire
 - C. Heating iron
 - D. Freezing a magnet

Reading an Article: Renewable Energy

1. What is the main idea of the passage?
 - A. Fossil fuels are cheap
 - B. Wind and solar are growing as clean alternatives to fossil fuels
 - C. Solar panels have moving parts
 - D. The wind always blows

2. According to the passage, how does a wind turbine make electricity?
 - A. It burns fuel
 - B. Moving air spins blades that turn a generator
 - C. Sunlight hits a panel
 - D. It stores heat
3. In the passage, 'renewable energy' means sources that:
 - A. Burn cleanly
 - B. Do not run out and do not burn fuel
 - C. Are always available
 - D. Cost nothing to build
4. Based on the passage, a real challenge for wind and solar is that:
 - A. They cost too much fuel
 - B. The wind and sun are not always available
 - C. They pollute the air
 - D. They cannot make electricity

Reading an Article: Sound and How We Hear

1. What is the main idea of the passage?
 - A. Guitars are loud
 - B. How sound is made, travels, and is described
 - C. Space is silent
 - D. Ears are complicated
2. According to the passage, what does sound need in order to travel?
 - A. Bright light
 - B. A material such as air, water, or a solid
 - C. Empty space
 - D. Electricity
3. The passage says sound travels FASTEST through:
 - A. Gases
 - B. Liquids
 - C. Solids
 - D. Empty space
4. Based on the passage, why is space silent?
 - A. Space is too cold
 - B. There is no material for sound to travel through
 - C. Sound is too weak
 - D. No one is listening

Reading an Article: Forces and Motion

1. What is the main idea of the passage?
 - A. Cars are dangerous
 - B. How forces and Newton's laws explain motion
 - C. Rockets are fast
 - D. Doors are heavy
2. In the passage, a 'force' is defined as:
 - A. A kind of energy
 - B. A push or a pull
 - C. A moving object
 - D. A type of speed
3. According to the passage, why do you need a seatbelt when a car stops suddenly?
 - A. Cars are heavy
 - B. A moving object keeps moving until a force stops it (Newton's first law)
 - C. Seatbelts add speed
 - D. Gravity pulls you down
4. Based on the passage, why is it harder to stop a loaded cart than an empty one?
 - A. The loaded cart is colder
 - B. A heavier object needs more force to change its motion
 - C. Empty carts have no wheels
 - D. Loaded carts move faster on their own

Reading an Article: Chemical Changes

1. What is the main idea of the passage?
 - A. Ice is cold
 - B. The difference between physical and chemical changes, and that matter is conserved
 - C. Eggs are food
 - D. Rust is red
2. According to the passage, which is an example of a PHYSICAL change?
 - A. Iron rusting
 - B. Wood burning
 - C. Ice melting into water
 - D. An egg cooking
3. According to the passage, which is a sign of a chemical change?
 - A. The object gets wet
 - B. A color change, gas bubbles, or heat and light given off
 - C. The object moves
 - D. The object gets colder only

4. Based on the passage, a nail rusting is a chemical change because:
- A. The nail gets wet
 - B. A brand-new material forms that can't easily be turned back
 - C. The nail changes shape
 - D. The nail gets colder

Earth & Space Science

Earth's Structure & Plate Tectonics

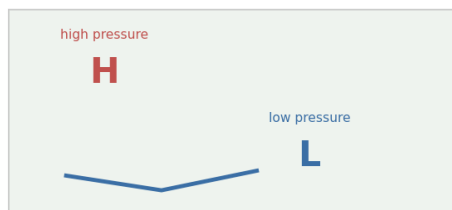
1. Earthquakes and volcanoes happen most often where:
 - A. Rivers meet the ocean
 - B. Tectonic plates meet
 - C. Deserts form
 - D. Forests grow
2. Which layer of the Earth is the hottest?
 - A. The crust
 - B. The mantle
 - C. The outer core
 - D. The inner core

Rocks, Minerals & Earth's Cycles

1. A rock that forms when melted lava cools and hardens is:
 - A. Sedimentary
 - B. Igneous
 - C. Metamorphic
 - D. A fossil
2. Water vapor cooling into liquid droplets that form clouds is called:
 - A. Evaporation
 - B. Condensation
 - C. Erosion
 - D. Precipitation

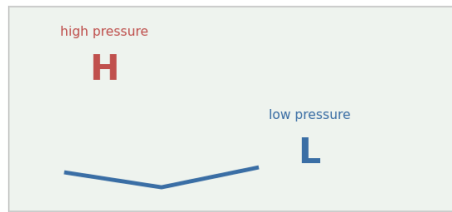
Weather & Climate

1. On this weather map, what does the H stand for?



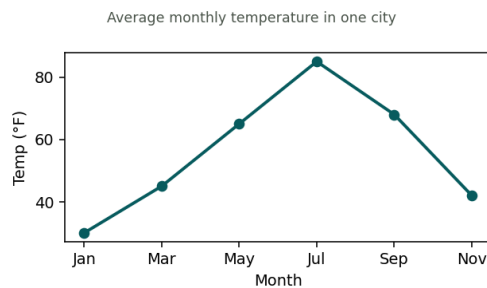
- A. Heat
- B. High pressure
- C. Humidity
- D. Hurricane

2. Which usually brings clouds and storms?



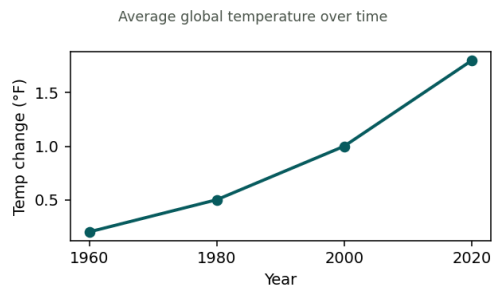
- A. High pressure (H)
- B. Low pressure (L)
- C. The key
- D. Fair skies

3. Which month was the warmest?



- A. January
- B. March
- C. July
- D. November

4. Based on the trend, the average global temperature is:



- A. Decreasing
- B. Staying the same
- C. Increasing
- D. Rising then falling

Astronomy: Earth, Moon & Beyond

1. Stars form from giant clouds of:
 - A. Water
 - B. Gas and dust (a nebula)
 - C. Rock
 - D. Ice
2. A very large star may end its life by exploding as a:
 - A. White dwarf
 - B. Supernova
 - C. Comet
 - D. Planet
3. Which planet is farthest from the Sun?

Distance of planets from the Sun

Planet	Distance (million km)
Mercury	58
Earth	150
Jupiter	778
Neptune	4,500

- A. Mercury
 - B. Earth
 - C. Jupiter
 - D. Neptune
4. What causes day and night on Earth?
 - A. Earth orbiting the sun
 - B. Earth spinning on its axis
 - C. The moon's phases
 - D. The tilt of Earth

Reading an Article: Coral Reefs & Warming Seas

1. What is the main idea of the passage?
 - A. Coral reefs are very colorful
 - B. Warming oceans threaten coral reefs and the life they support
 - C. Algae live inside coral
 - D. Reefs cover less than 1% of the ocean
2. According to the passage, what do the algae give the coral?
 - A. A safe home
 - B. Food made from sunlight
 - C. A bright white color
 - D. Cooler water

3. In the passage, 'coral bleaching' refers to coral that has:
- A. Grown much larger
 - B. Turned white after losing its algae
 - C. Been cleaned by divers
 - D. Changed into a new species
4. Based on the passage, bleached coral is most likely to recover if:
- A. The water cools again soon
 - B. The heat lasts a long time
 - C. More algae are removed
 - D. Fishing increases nearby

Reading an Article: What Causes Earthquakes

1. What is the main idea of the passage?
- A. The ground is always still
 - B. What causes earthquakes and how people prepare for them
 - C. Fingernails grow slowly
 - D. Buildings are dangerous
2. According to the passage, how fast do tectonic plates move?
- A. A few meters a day
 - B. A few centimeters a year
 - C. Hundreds of miles an hour
 - D. They do not move
3. In the passage, 'tectonic plates' are:
- A. Ocean waves
 - B. Huge slabs of Earth's outer shell
 - C. Layers of the atmosphere
 - D. Types of rock
4. Based on the passage, why do some regions have far more earthquakes than others?
- A. They have taller buildings
 - B. They sit along plate boundaries
 - C. They are colder
 - D. They have more people

Reading an Article: Why the Moon Changes Shape

1. What is the main idea of the passage?
- A. The Moon grows and shrinks
 - B. Why the Moon appears to change shape as it orbits Earth
 - C. The Moon makes its own light
 - D. Months are long

2. According to the passage, why does the Moon shine?
 - A. It burns like the Sun
 - B. Sunlight bounces off it
 - C. It glows on its own
 - D. Earth lights it up
3. In the passage, the 'phases' of the Moon are:
 - A. The Moon's craters
 - B. The repeating shapes of the lit Moon we see
 - C. The Moon's orbit speed
 - D. The Moon's gravity
4. Based on the passage, during a new moon the Moon seems to vanish because:
 - A. It moves far away
 - B. Its lit side faces away from us
 - C. It stops orbiting
 - D. Clouds cover it

Reading an Article: Weather and the Water Cycle

1. What is the main idea of the passage?
 - A. Rain is wet
 - B. How the water cycle drives weather, and how weather differs from climate
 - C. The sun is hot
 - D. Deserts are dry
2. According to the passage, what powers the water cycle?
 - A. The wind
 - B. The sun
 - C. The ocean
 - D. Clouds
3. In the passage, 'condensation' is the step where:
 - A. Water is heated into vapor
 - B. Vapor turns back into liquid droplets and forms clouds
 - C. Rain falls to the ground
 - D. Water collects in rivers
4. According to the passage, precipitation is:
 - A. Water evaporating
 - B. Vapor forming clouds
 - C. Rain or snow falling from clouds
 - D. Water heating up

Reading an Article: Rocks and Earth's Resources

1. What is the main idea of the passage?
 - A. Rocks are hard
 - B. Rocks are recycled over time, and Earth's resources are renewable or nonrenewable
 - C. Coal is black
 - D. Sand is everywhere
2. According to the passage, igneous rock forms when:
 - A. Layers are pressed together
 - B. Melted rock cools and hardens
 - C. Heat and pressure change a rock
 - D. Water washes over it
3. In the passage, a 'nonrenewable' resource is one that:
 - A. Is replaced quickly by nature
 - B. Took millions of years to form and can't be quickly replaced
 - C. Comes from the sun
 - D. Is found only in oceans
4. Based on the passage, why are many communities turning to renewable resources?
 - A. They are prettier
 - B. Nonrenewable resources are limited and burning them can pollute
 - C. They are harder to use
 - D. They took longer to form

Science Skills

Reading Science & Finding Evidence

1. Which of these is a claim rather than evidence?
 - A. The plants grew 12 cm in two weeks
 - B. Fertilizer is the best way to grow tomatoes
 - C. The sample included 40 plants
 - D. The temperature stayed at 70°F
2. Read: 'The town added a bike lane. Afterward, bike commuting rose 30% and traffic accidents fell.' What is the main idea?
 - A. Bikes are expensive
 - B. The new bike lane had positive effects
 - C. Cars are dangerous
 - D. Everyone should bike

Designing & Interpreting Experiments

1. A student gives plants different amounts of water and measures their growth. What is the independent variable (the thing changed on purpose)?
 - A. The growth of the plants
 - B. The amount of water
 - C. The type of soil
 - D. The size of the pot
2. In a fair experiment, why should you keep everything the same except one variable?
 - A. To save time
 - B. So you know the change caused any difference
 - C. To use less equipment
 - D. To make it harder
3. Ice cream sales and sunburns both rise in summer. What is the best conclusion?
 - A. Ice cream causes sunburns
 - B. Sunburns cause ice cream sales
 - C. Both rise with hot, sunny weather
 - D. There is no reason
4. What is the FIRST step of the scientific method?
 - A. Draw a conclusion
 - B. Ask a question about something you observe
 - C. Measure the results
 - D. Change two things at once

5. In the scientific method, what do you do right after forming a hypothesis?
- A. Publish the results
 - B. Test it with a fair experiment
 - C. Change the question
 - D. Throw out the data

Test Practice: Read the Material, Answer the Set

1. According to Table 1, how does the amount of sediment downstream compare with the amount above the beavers' pool?

Table 1 — Average amounts in water samples after storms

Measurement	Above beavers' pool	Downstream
Sediments (mg/L)	120	50
Nitrogen (mg/L)	3.2	2.0
Phosphate (mg/L)	1.0	0.2

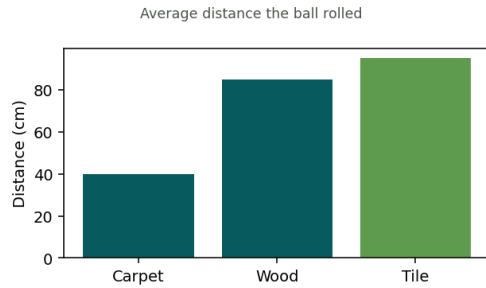
- A. It is more than twice as high downstream
 - B. It is about the same
 - C. It is less than half as much downstream
 - D. The table does not show sediment
2. Based on the passage and the table, what is the most reasonable conclusion about the beavers' pool?

Table 1 — Average amounts in water samples after storms

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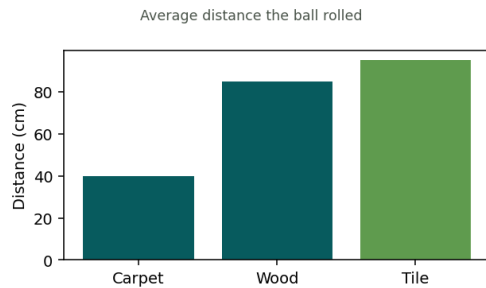
- A. It adds sediment and nutrients to the water
 - B. It traps sediment and nutrients, so less flows downstream
 - C. It has no effect on the water
 - D. It only affects nitrogen
3. Beavers cut down mostly small trees close to the water. Which change to the habitat would MOST likely result?
- A. Fewer trees shading the stream near the bank
 - B. More trees growing in the stream
 - C. The stream flowing uphill
 - D. No change at all
4. Which of these is a CLAIM rather than a measurement reported in the study?
- A. Sediment above the pool averaged 120 mg/L
 - B. Nitrogen downstream averaged 2.0 mg/L
 - C. Beaver dams improve water quality downstream
 - D. Phosphate above the pool averaged 1.0 mg/L

5. On which surface did the ball roll the FARTHEST?



- A. Carpet
- B. Wood
- C. Tile
- D. They were equal

6. Which statement best explains why the ball rolled the shortest distance on carpet?



- A. Carpet has more friction, which slows the ball
- B. Carpet has no friction
- C. The ball was heavier on carpet
- D. Gravity is stronger on carpet

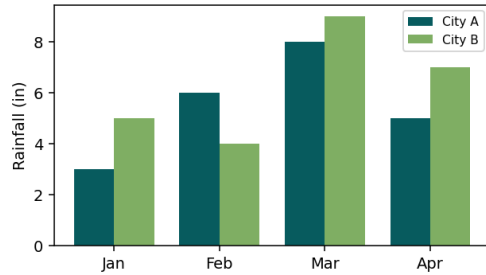
7. Why did the class release the ball from the same height every time?

- A. To make the test look neat
- B. So the only thing changing was the surface
- C. To use less time
- D. To make the ball heavier

Science Math

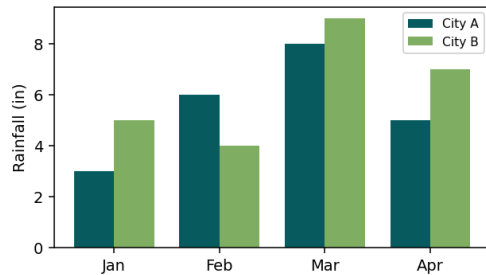
Reading Graphs & Tables

1. In this double bar graph, which city had more rain in February?



- A. City A
- B. City B
- C. They were equal
- D. Neither had rain

2. A double bar graph uses two colors so you can:



- A. Make it prettier
- B. Compare two groups side by side
- C. Hide the numbers
- D. Show a pie

3. In which month were the most books read?



- A. January
- B. February
- C. March
- D. April

4. According to the table, which city had the LEAST rainfall?

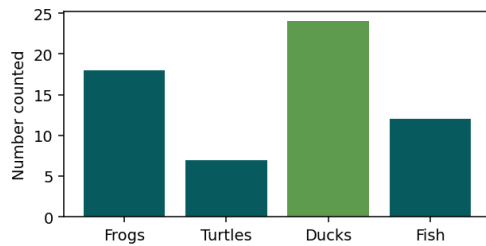
Rainfall by city (inches)

City	Rainfall
Ada	12
Belle	31
Cove	8

- A. Ada
- B. Belle
- C. Cove
- D. They are equal

5. Which animal was most common?

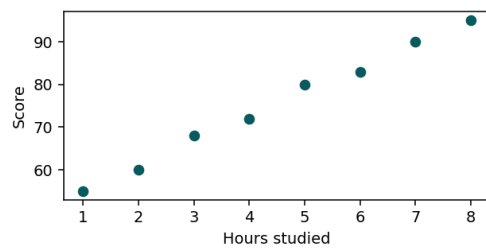
Animals counted in a pond survey



- A. Frogs
- B. Turtles
- C. Ducks
- D. Fish

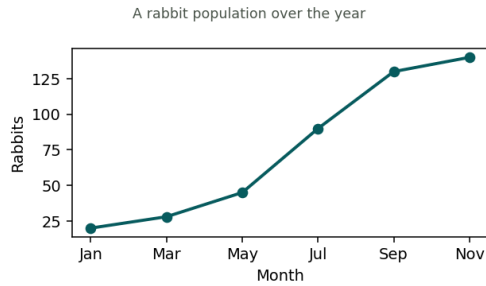
6. What relationship does the scatter plot show?

Study time vs. test score



- A. More study, lower scores
- B. More study, higher scores
- C. No relationship
- D. Scores stay the same

7. During which period did the population grow fastest?



- A. Jan to Mar
- B. Mar to May
- C. May to Jul
- D. Sep to Nov

Data & Numbers in Science

1. A plant grew from 10 cm to 16 cm. What was the percent increase?

- A. 6%
- B. 16%
- C. 60%
- D. 160%

2. What is the median of 3, 9, 4, 7, 5?

- A. 4
- B. 5
- C. 7
- D. 9

3. A car travels 120 miles in 2 hours. What is its rate (speed)?

- A. 60 miles per hour
- B. 120 miles per hour
- C. 240 miles per hour
- D. 2 miles per hour

4. What is the mean (average) height? (Type the number)

Plant heights (cm)

Plant	Height (cm)
A	4
B	8
C	6
D	10
E	2

Answer: _____

5. Find the median of: 3, 7, 2, 9, 5. (Type the number)

Answer: _____

6. What is the range of: 12, 4, 9, 4, 15? (Type the number)

Answer: _____

7. In a sample of 200 cells, 30 are dividing. What percent are dividing? (Type the number, no % sign)

Answer: _____

8. Which is 45,000 in scientific notation?

A. 4.5×10^3

B. 45×10^3

C. 4.5×10^4

D. 4.5×10^5

9. Which is 0.0007 written in scientific notation?

A. 7×10^4

B. 7×10^{-3}

C. 7×10^{-4}

D. 0.7×10^3

10. What is 3×10^5 written out as a regular number?

A. 350

B. 3,000

C. 30,000

D. 300,000

Reading Graphs: Complete the Passage

How to Read Charts & Graphs

1. According to the passage, what should you read FIRST on a graph?

A. The color

B. The title and the axis labels

C. The biggest bar

D. The bottom corner

2. Why does the passage warn you to check the scale?

A. Scales are always wrong

B. A graph can look dramatic even when the real change is small

C. Bigger scales are better

D. The scale never matters

3. During which hour did the store have the MOST visitors?



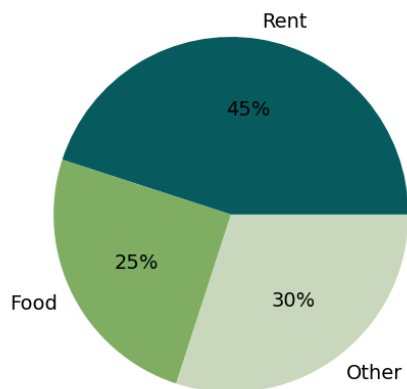
- A. 9
- B. 11
- C. 1 o'clock
- D. 5

4. What happens to the number of visitors after 1 o'clock?



- A. It keeps rising
- B. It stays the same
- C. It falls
- D. It doubles

5. In this monthly budget, which is the largest share?



- A. Rent
- B. Food
- C. Other
- D. They are equal

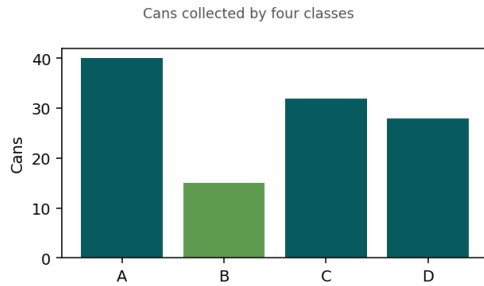
6. According to the table, who had the highest score?

Test scores

Student	Score
Ana	88
Ben	72
Cal	95
Dee	80

- A. Ana
 - B. Ben
 - C. Cal
 - D. Dee
7. An axis is labeled 0, 25, 50, 75 with one line between each pair. What is each small line worth?
- A. 5
 - B. 12.5
 - C. 25
 - D. 50
8. A question asks for the CHANGE in temperature from 40° on Monday to 65° on Friday. What is the change?
- A. 25 degrees
 - B. 40 degrees
 - C. 65 degrees
 - D. 105 degrees
9. In a pie chart, which slice shows the largest part of the whole?
- A. The smallest slice
 - B. The biggest slice
 - C. The top slice
 - D. They are all equal
10. Before reading the numbers on any graph, what should you check first?
- A. The color of the bars
 - B. The title, axis labels, and units
 - C. The size of the paper
 - D. The last data point

11. Which class collected the FEWEST cans?



- A. Class A
- B. Class B
- C. Class C
- D. Class D

12. On a line graph, a flat (horizontal) section means:

- A. The value is rising fast
- B. The value is falling
- C. No change during that time
- D. The graph is broken

13. On a pie chart, a slice that fills about half the circle represents about:

- A. 10%
- B. 25%
- C. 50%
- D. 90%

Basic Math Reminders

1. What is 25 out of 50 written as a percent?

- A. 10%
- B. 25%
- C. 50%
- D. 75%

2. What is the average (mean) of 10, 20, and 30?

- A. 10
- B. 20
- C. 30
- D. 60

3. What is $\frac{1}{4}$ written as a decimal?

- A. 0.14
- B. 0.25
- C. 0.40
- D. 0.50

4. What is 10% of 200?
- A. 2
 - B. 10
 - C. 20
 - D. 100
5. Round 68 to the nearest ten.
- A. 60
 - B. 65
 - C. 70
 - D. 80