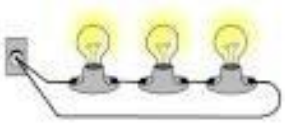
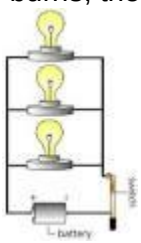
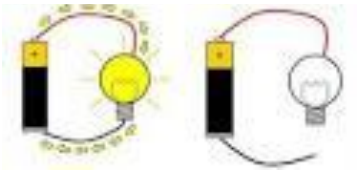
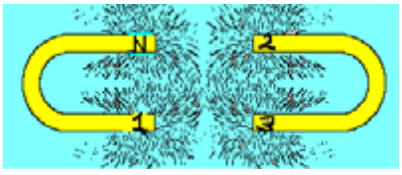
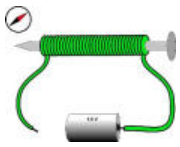
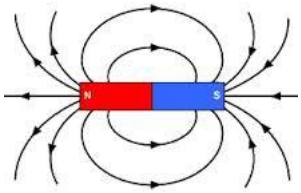
Science Review Checklist: 4th Grade

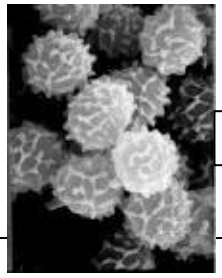
Put a check in the box each time you answer the question correctly.			1.Cover the right column with a piece of paper. 2. Answer the question and check your answer. 3. Put a check in the box if you answer correctly. 4. Go through the packet until you have answered each question correctly 3 times.	**Cover these answers!**
			1. The capacity of an eyedropper would be a few:	milliliters
			2. A liter is close in volume to a:	quart
			3. An instrument that's used to measure mass is a:	balance
			4. An instrument that's used to measure weight is a:	scale
			5. An instrument that's used to measure volume is a:	graduated cylinder
			6. In what unit is mass measured?	grams (g) or kilograms (kg)
			7. In what unit is weight measured?	pounds (lbs) or Newtons (N)
			8. The mass of a paperclip or a sheet of paper is about 1:	gram (g)
			9. 1,000 grams (or about the mass of a book) equals:	1 kilogram (kg)
			10. In an experiment to measure how different types of soil affect tulip growth, you fill five identical pots with different types of soil and place a tulip bulb in each. The variable in the experiment is the:	soil
			11. The pots, tulip bulbs, water and amount of sunlight should be the same for all of the pots. These are the:	constants
			12. For accuracy, you perform the experiment many times. In the first three trials, the tulip and sandy soil grows only 10 cm tall before dying. In the 4th trial, the tulip grows15cm tall and flowers. Which result is **unusual**?	The 4th trial because it is different than the others
			13. _____ describes how fast an object is moving and is a measure of motion.	speed
			14. The direction of an object's _____ can be described using four words: up, down, left, or right. This also describes the object's path, direction, and speed.	motion
			15. Energy may exist in two states. What are they?	kinetic and potential
			16. Objects in motion have _____ energy.	kinetic
			17. Potential energy is _____ energy. It can be used later.	stored

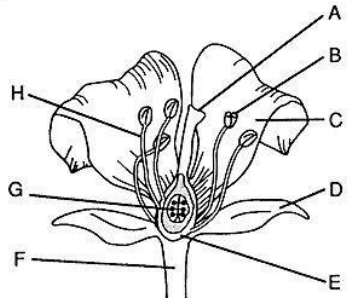
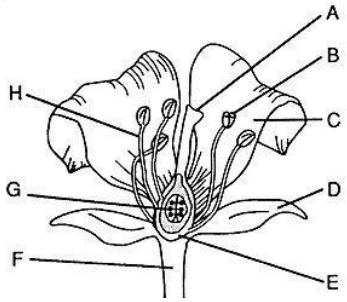
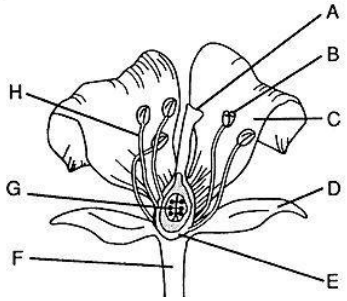
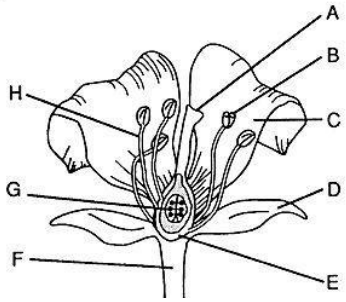
			18. Due to the pull of gravity, the higher an object is off the ground, the more _____ it has.	potential energy
			19. When I hold a ball in the air, it has potential energy. When I let go, the ball starts to fall. Potential energy changes to:	kinetic energy
			20. Energy stored in food, batteries, and fossil fuels like coal and gasoline is:	chemical energy
			21. A roller coaster car as it speeds downward along the track is an example of _____ energy.	kinetic
			22. A rubber band that has been stretched as far as it will go is an example of _____ energy.	potential
			23. A bow that has been pulled back with an arrow resting on it, ready to release is an example of _____ energy.	potential
			24. A battery operated television remote control being used to change stations is an example of _____ energy.	kinetic
			25. Two objects rubbing together creates _____.	friction
			26. Friction resists or stops motion, and creates _____.	heat
			27. Unless acted on by a force, objects in motion tend to stay in motion and objects at rest remain at rest. This is the process of:	inertia
			28. It's harder to push a real truck than a toy truck because objects with more mass have more _____.	inertia
			29. A _____ is any push or pull that causes an object to move, stop, or change speed or direction.	force
			30. If the _____ of an object increases, then the force needed to move it will increase.	mass
			31. Something with a lot of _____ is very hard to start or stop moving.	inertia
			32. For every action, there is an equal and opposite _____.	reaction
			33. Which will light a bulb, an open or closed circuit?	closed
			34. If your string of holiday lights goes dark when one little bulb burns out, the string of lights is a _____ circuit. 	series

			35. This circuit has more than one pathway for the flow of electrical current. If one bulb burns, the others will remain lit. It is a _____ circuit. 	parallel
			36. Closed circuits allow the movement of electrical energy, but _____ circuits do not.	open
			37. What types of circuits are the following? A B 	A. closed B. open
			38. Electrical energy moves easily through materials that are ___. Some examples are steel, copper, iron, gold, and silver.	conductors
			39. Wires are usually made from _____ because it conducts electricity well.	metal (often copper)
			40. Materials like rubber, plastic and wood do not conduct electricity well because electrons do not easily move through them. They are called:	insulators
			41. Some circuits use power from batteries. Batteries are sometimes called _____, and have a positive (+) and negative (-) end.	dry cells
			42. This is a dry-cell battery. Common dry-cells usually have low: 	voltage (1.5v or 9v)
			43. Magnets attract these metals:	iron (steel), cobalt, and nickel
			44. The iron filings in this picture show lines of _____ created by a magnetic field. 	force
			45. A _____ is a container full of chemicals that react with one another to become a source of electrons.	dry-cell battery

			46. Magnetism and _____ are very closely related.	electricity
			47. An electric current creates a magnetic field, and a magnetic field creates a(n) _____.	electric current
			48. If you wrap a wire around a nail and run electricity through the wire, you have created a(n) _____, which can be turned on and off. 	electromagnet
			49. _____ magnets cannot be turned off.	Permanent
			50. Benjamin Franklin, Michael Faraday, and Thomas Edison made important discoveries about _____.	electricity
			51. If you rub your feet on the carpet, or rub a balloon on a wool sweater, you may create _____ electricity. 	static
			52. Magnetism is an invisible force but there is a way to see its effects. If you scatter small iron shavings along a magnet, an interesting pattern happens. _____ extend from the poles of a magnet in an arched pattern. 	Lines of force
			53. Electrical energy can be transformed into what three kinds of energy?	thermal (heat) radiant (light) mechanical (motion)
			54. What kind of energy is associated with heat?	thermal
			55. What kind of energy is associated with motion?	mechanical
			56. What kind of energy is associated with light?	radiant energy
			57. Sunlight is a major source of _____ energy.	radiant
			58. Lightbulbs use electricity to create _____ energy.	radiant
			59. Hair dryers use what two types of energy to blow warm air into wet hair?	mechanical and thermal

			60. This man was one of the first people to figure out that a magnetic field could produce a steady stream of electricity. He invented the electric motor.	Michael Faraday
			61. Tiny fans in computers to keep them from overheating, and blenders with sharp motor-powered blades use _____ energy.	mechanical
			62. Static electricity occurs when negatively charged _____ are rubbed off of one surface and on to another.	electrons
			63. X-rays are an example of _____ energy.	radiant
			64. Who proved that lighting is an electrical current that exists in nature? He also invented bifocals, and used lightning rods to protect buildings against lightning.	Benjamin Franklin
			65. _____ energy powers toasters, clothes dryers, and electric stoves.	Thermal
			66. Benjamin Franklin learned that lightning was a form of electricity. What kind of electricity?	static
			67. Who invented the telegraph and a light bulb that could burn for a very long time?	Thomas Edison
			68. _____ are a network of teeny little “straws” that pull water and nutrients up from the soil. They also anchor the plant to the soil.	Roots
			69. Which part supports the plant upright and carries moisture and nutrients from the roots throughout the plant?	the stem
			70. _____ are thin, flat green parts of the plant that absorb sunlight and use it to help make sugar to feed the plant.	Leaves
			71. _____ are often the colorful part of a plant that has the things needed for the plant to reproduce.	Flowers
			72. Flowering plants and trees reproduce by making _____.	seeds
			73. In order for a plant to make a seed, a plant needs _____.	pollen
			74. Seeds are carried by what three things to other places where a brand-new plant can grow?	wind, water, and animals
			75. The seed forms in the female reproductive part of the flower called the _____, which is the stalk in the center of a flower down which the pollen travels.	pistil
			76. Pollen forms on the ends of the male reproductive parts of the flower called the:	stamen

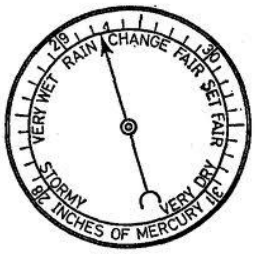
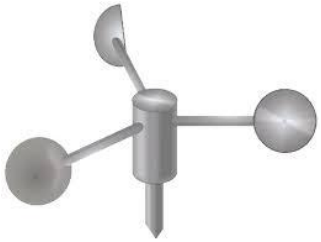
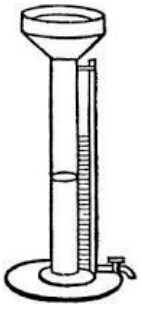
			77. The small leaves that form around the developing flower to protect it are the:	sepals
			78. The _____ is the sticky tip at the top of the pistil that receives the pollen.	stigma
			79. Pollen is transferred from the stamen to the pistil in a process called:	pollination
			80. _____ are tiny, one-celled organisms from which plants like mosses and ferns reproduce.  	Spores
			81. Green plants produce their own food in a process called:	photosynthesis
			82. Spore-makers like ferns and mosses have millions of spores. Under the right conditions the spores drop off, blow away, and sprout into new plants. They do not use pollen and _____ to reproduce.	seeds
			83.To produce food, plants use what 5 things?	water, nutrients, sunlight, carbon dioxide (from the air) and chlorophyll
			84. Plants are green because of _____. It's a chemical that absorbs sunlight and helps plants make sugar.	chlorophyll
			85. In photosynthesis, the warm rays of the sun power a chemical reaction in the _____ of a plant.	leaves
			86. _____ enters the leaves, and oxygen is released from the leaves into the air where animals breathe it in.	Carbon dioxide
			87. Many plants enter a period of _____ in the winter, which is similar to hibernation for animals. During this period, their normal life functions are slowed or suspended.	dormancy
			88. Dormancy is brought on by changes in the _____.	environment
			89. _____ are tiny grains made by a seed-bearing plant that are needed for it to reporoduce.	Pollen
			90. Most plants reproduce with seeds. What two common plants reproduce with spores?  spores	ferns and mosses

			91. In the following diagram of the flower, what letter points to the sepal? 	D
			92.In the following diagram of the flower, what 2 lettersmake up the stamen? 	B (anther) H(filament)
			93. In the following diagram of the flower, what letter points to the stigma? 	A
			94. In the following diagram of the flower, what letter points to the embryo? 	G
			95. The _____ is the baby plant that starts as a single cell within a seed.	embryo
			96. Birds, butterflies, and other animals carry pollen, but the best little pollinator out there is the _____ because they are perfectly designed to be pollen carries. They have hairy bodies that attract the pollen.	bee

			97. Ferns and mosses reproduce with _____.	spores
			98. During photosynthesis, plants use sunlight to convert carbon dioxide and water into _____ to use as a food source.	sugar (glucose)
			99. An organism's _____ provides food, water, shelter, and space.	habitat
			100. A _____ is a group of different organisms that share the same region and depend on and interact with one another.	community
			101. All of the organisms in a forest make up a forest _____.	community
			102. All of the organisms in a pond make up a:	pond community
			103. All energy comes from the _____, and then cycles through the food webs to all of the animals in the community.	sun
			104. _____ get energy directly from the sun and use it to make food.	Plants
			105. Plants are _____ because they use sun, air, water, and nutrients from the soil to produce food.	producers
			106. Some organisms do not get their energy directly from the sun. They get their energy by:	eating plants, or eating animals that have eaten plants
			107. Organisms that get their energy from eating plants or other animals are called:	consumers
			108.The sun's energy cycles through the ecosystem in this order	sun→ producers → consumers → decomposers
			109. _____, like fungi,break down organisms and recycle them back to the nutrient pool.	Decomposers
			110. All of the living and nonliving things (water, rocks, and soil) in an environment make up a(n) _____.	ecosystem
			111. Everything in an ecosystem depends on everything else. Humans often destroy ecosystems by:	polluting ponds, chopping down forests, etc.
			112. The niche (pronounced neesh) of every organism is different, and an organism's niche changes as it grows. A niche is the organism's role in the community, and includes what 5 things?	where it lives, what it eats, what eats it, what it does, and what it needs
			113. All organisms have _____ that allow it to survive in its environment.	adaptations
			114. In order to survive, all animals must have their 3 basic life's needs met. What are they?	food, water, and shelter

			115. _____ adaptations are body parts that help an organism survive, like long beaks, webbed feet, and camouflage.	Structural
			116. _____ adaptations are things that organisms do to survive.	Behavioral
			117. Migration, hibernation, instincts, and developing hunting skills are all _____ adaptations.	behavioral
			118. _____ is a structural adaptation organisms use to hide themselves from predators by looking like their surroundings so they become difficult to see. (An insect can look like a plant or a frog can be the same color as a rock.)	Camouflage
			119. _____ is a structural adaptation that makes an animal look bigger, or more dangerous, and can keep them safe. (A non-poisonous snake can look like a poisonous snake.)	Mimicry
			120. Plants also adapt. For example, a prickly desert cactus has all those sharp spines to keep _____ away.	predators
			121. A(n) _____ is a behavior that an animal is born with and does not need to be taught.	instinct
			122. All of the interrelated food chains in an ecosystem make up a: 	food web
			123. A cardinal's _____ is: nest builder in the dense areas along the edges of forests, eats flower buds and insects, spreads seeds, and is a source of food for owls, snakes, and red foxes.	niche (pronounced neesh)
			124.Food chains and food webs **always** start with a:	plant
			125. The food chain starts with a producer (a plant) and ends with a _____, who survives on the remains of dead and decaying plants and animals.	decomposer
			126. The _____ sits at the center of the life cycle and helps plants with photosynthesis.	sun
			127. _____ eat only animal.	Carnivores
			128. _____ eat both plants and animals.	Omnivores
			129. _____ eat only plants.	Herbivores
			130. Bears, wild turkeys, fish, and birds are examples of _____.	omnivores

			131. Mushrooms and maggots are examples of _____.	decomposers
			132. Deer, caterpillars, snails, rabbits, and squirrels are examples of _____.	herbivores
			133. Flowers, grasses, berries, seeds, and acorns are examples of _____.	producers
			134. Hawks, coyotes, bobcats, and red foxes are examples of _____.	carnivores
			135. A _____ is a group of the same organism living in the same place.	population
			136. The measure of the amount of heat energy in the atmosphere is called _____.	air temperature
			137. The amount of water vapor in the air is known as:	humidity
			138. The pull of gravity on the atmosphere at a particular place on Earth is called _____. (This is the force caused by the weight of air pushing on things.)	air pressure
			139. Air circulates the earth in big chunks called _____.	air masses
			140. The boundary between two air masses with different temperatures and water vapor content is called a _____.	front
			141. A warm front occurs when a warm air mass pushes out a cold air mass. A warm front usually brings what kind of weather and temperature?	steady rain or drizzle followed by warmer temperatures
			142. A cold front occurs when a cold air mass pushes out a warm air mass. A cold front usually brings what kind of weather and temperature?	a short period of heavy rain or thunder, followed by clear, colder weather
			143. A falling barometer often means:	rainy weather ahead
			144. What kind of cloudsbring stormy weather, thunderstorms, and sometimes even tornadoes?	cumulonimbus clouds
			145.Puffy white clouds that look like cotton balls are called _____. 	cumulus clouds
			146.High, thin, wispy fair-weather clouds are called:	cirrus clouds

				
			147. Which smooth, gray clouds form a gray blanket over the sky, often bringing steady rain or drizzle? These clouds block sunlight. 	stratus clouds
			148. The instrument that measures air pressure is a:  Face	barometer
			149. What instrument measures wind speed? 	anemometer
			150. What instrument measures precipitation? 	rain gauge (pronounced gayj)
			151. What severe storms usually form over water in the Caribbean?	hurricanes
			152. What device measures the temperature of the air and tells us	thermometer

			how hot or cold it is?	
			153. Air is always moving in the atmosphere. Air moves because of a difference in which two things?	air pressure and temperature
			154. The wind blows from areas of high pressure to areas of _____ pressure.	low
			155. Cooler air = more pressure = _____ pressure	high
			156. Warmer air = less pressure = _____ pressure	low
			157. A boundary between two different air masses that often brings big changes in the weather is a _____.	front
			158. Most of Earth's wild weather occurs near _____ (the edge between two different air masses).	fronts
			159. When a cold air mass is cutting under a warm air mass and lifting it, it is called a _____ front.	cold
			160. If a warm air mass is rising up over a cold air mass, it is a _____ front.	warm
			161. The most violent weather occurs with _____ fronts because the cold air mass shoves the warm air mass up quickly, creating low pressure.	cold
			162. Cold fronts often bring thunderstorms with high winds. In winter, they bring _____.	blizzards
			163. A warm front usually brings lots of clouds and then light _____ or snow.	rain
			164. A _____ front occurs when neither air mass is moving much at all. The weather will be "stuck" for a couple of days – often with drizzle or rain.	stationary
			165. _____ are scientists who study the atmosphere and weather.	Meteorologists
			166. Water that falls from the clouds to the Earth in the form of rain, snow, hail, or sleet is called _____.	precipitation
			167. Earth is one of _____ planets that revolve around the sun.	8
			168. Earth is the _____ planet from the sun.	third
			169. Name the four planets that are gas giants. Gas giants are huge compared to the terrestrial planets and are made of gasses	Jupiter, Uranus, Neptune, and

			(mostly helium and hydrogen).	Saturn (Join Us Non Solids!)
			170. What is the smallest planet?	Mercury
			171. What is the largest planet?	Jupiter
			172. List the planets in order from closest to farthest from the sun.	Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune (My Very Excellent Mama Just Served Us Noodles)
			173. List the 8 planets of our solar system in size order, starting with the largest.	Jupiter, Saturn, Uranus, Neptune, Earth, Venus, Mars, Mercury (Just Sing Until Noon. Every Voice Makes Melodies.)
			174. Because of its small size and irregular orbit, Pluto is now considered a _____ planet.	dwarf
			175. How long does it take for the Earth to revolve around the sun?	365 days (1 year)
			176. How long does it take for the moon to revolve around the Earth?	one month
			177. Seasons are cause by the _____ of the Earth as it revolves around the sun.	axial tilt
			178. This is a _____ moon. 	gibbous
			179. This is a _____ moon. 	crescent
			180. The moon can't be seen when it passes between the Earth and the sun because the illuminated side faces away from Earth. This phase is called:	a new moon

			181. How far is the Earth from the sun?	150 million km
			182. What two things does the Earth have that allows it to support life?	water and an oxygen rich atmosphere
			183. How does the Earth's atmosphere protect the Earth?	It blocks out most of the sun's damaging rays.
			184. _____ and Ptolemy incorrectly believed that the sun revolved around the Earth.	Aristotle
			185. Copernicus correctly thought that the Earth revolved around the sun, and _____ proved this.	Galileo
			186. Galileo used his invention of the _____ to observe the sky.	telescope
			187. The NASA Apollo missions sent astronauts to the _____.	moon
			188. The _____ is rocky, lifeless, freezing or super-hot, and totally silent.	moon
			189. In order to be a planet, you have to be so big that your own _____ makes you round like a ball.	gravity
			190. In order to be a planet, you have to circle around a _____, such as the sun.	star
			191. In order to be a planet, you have to have cleared a path of _____, which means you cannot have asteroids or any other space "stuff" in your path.	orbit
			192. About half of Virginia is considered to be in the Chesapeake Bay _____ because the surface water and all of the materials it carries drains into the Chesapeake Bay.	watershed
			197. Land drained by rivers west of Roanoke is part of the Mississippi / Gulf of Mexico _____.	watershed
			193. Much of Virginia is covered in _____, and important natural resource for Virginia.	forests
			194. An important energy resource mined in the southwestern part of Virginia is _____.	coal