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Students design and test their hypothesesInvestigation: What Are the Processes of Science students design an experiment about lung capacity; requires spirometers, AP BiologySponge Capsules quick lab using capsules and water (toys) to collect data on how fast the animals growSponge Animals: Growing Insects this lab grows sponge animals, graphs and calculates the growth rate (slope of line)Plop Plop Fiz Fiz measure the rate of dissolving in alka-seltzer tablets in both hot and cold water (a basic experiment for introducing the scientific method)Water in Living Things investigate how much water is stored in grass clippingsGummi Bear Experiment inquiry lab investigating the dissolving properties of gummi bearsMystery Eggs students use the scientific method to guess how many nails are hidden inside plastic eggsSaving Sam using paperclips rescue Sam, the gummy worm by putting a life preserver on himObservation opener lab, using the senses to investigate hardware items, then describe itemsPendulum Project Inquiry based, experimental design and data analysis (physical science)Penny Lab conduct an experiment on surface tension, water drops are added to a penny and compared with soapy waterCarbon Dioxide Production determine how activity changes the amount of CO2 expelledMaking Slime instructions for creating a polymerMeasuring Lung Capacity graphing and data gatheringMeasure a Bean basic lab where students work with volume and mass, as well as common lab equipmentScientific Processes Tools and Measurements work with graduated cylinders and other tools to practice measuring (metric system)What is the Effect of Exercise on Heart Rate aligned to NGSS, feedback mechanisms and homeostasis. Students design and conduct an experiment.Investigation: What Factors Effect the Heart Rate of Daphnia expose a tiny crustacean to ethanol and gather data on its heart rateVirtual LabsUsing the Scientific Method Plant Experiment change variable such as soil type and addition of soapCan Crickets Tell the Temperature? change the temperature and count the number of chirpsVirtual Lab Independent and Dependent VariablesList of Virtual Labs by Glencoe some of these are inquiry labs where you can manipulate variablesAnalyzing and Graphing DataAnalyzing Data make and interpret graphs, summarize data trendsGraphing Data Flow Rates graph the flow rate of liquids in a pipe, simple plot and draw two linesGraphing Practice given data sets, such as video games scores and shirt colors, students create line and bar graphs, activity paired withgrowing sponge animalswhile students wait on resultsInterpreting Graphs and English Usage simple graph showing tadpoles, this is more of a vocabulary lesson on words used to interpret graphs, such as fluctuate, decline, stabilizeInterpreting Graphs shows a pie chart with grades, a scatter plot, and a few line graphs with questions to answer about each.Data Collection is Fun(gi) use notes gathered in a field journal to create a data table to organize information about fungi and graph the relationship between fruiting body size and number.Microscope UseHow to Use a Microscope basic guidelines, tips and troubleshooting for the classroom light microscope |PresentationMicroscope Labeling image, no labelsMicroscope Coloring learn the parts of the microscope by coloringMicroscope E Lab use a microscope to examine the letter eMicroscope E Lab online version, for students who miss the lab in classMicroscope Virtual Lab uses an online virtual microscope, students can actually focus and adjust light using the simulatorMicroscope Lab (advanced) for AP BiologyLab ReportsLab Report Template & RubricScientific Method Flowchart this flow chart can be used for any experimental design. 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measure the surface area and volume of boxes as a cell modelCell Size Experiment use agar and a basic solution to illustrate how fast fluids can diffuse into a cell, dependent on cell sizeCell ReproductionMitosis in an Onion view picture, identify the stages of mitosis in each of the cellsCell Cycle Label label a picture of the stages of mitosis, identify parts of the cell such as the centriole and spindleOnion Root Tip Lab view real cells with a microscope, requires lab equipment and prepared slidesOnion and Whitefish view cells, if you missed the classroom lab; virtual version of the mitosis labMitosis Internet Lesson view animations of mitosis; questionsMeiosis Internet Lesson view animations of meiosis, compare to mitosisCell Cycle Cut and Paste students arrange words and draw arrows to illustrate mitosisCancer: Out of Control Cells article describing how the cell cycle relates to cancer, includes questionsOsmosis and DiffusionDiffusion model diffusion using a plastic baggie, iodine and a beaker. Thisarticleexplains what happens.Cell Membrane Transport simple diagram shows how molecules enter the cell through diffusion, facilitated diffusion, and osmosisCell Membrane Images work in groups to create captions and titles for images depicting the cell membrane and transport across it.Case Study: Cystic Fibrosis for AP Biology, examines the role of cell membrane proteins in clearing mucus from the lungs.Observing Osmosis use an egg, vinegar, corn syrup, will take a few daysSalt and Elodea quick lab to observe the effects of salt water on elodea cellsDiffusion and Osmosis Crossword Puzzle vocabulary reviewDiffusion and Osmosis Review Guide with questions, definitions and imagesOsmosis in Cells AP Lab 1, modified, using dialysis tubes and sugar solutions to observe water movementCellular Respiration and PhotosynthesisPhotosynthesis and Respiration Model image shows the two processes are connected; students answer questions related to a graphiChemiosmosis Coloring color the membrane and the steps involved in the production of ATPConverting Light Energy into Chemical Energy label of graphic of photosystems I and IICellular Respiration Concept Map map of the steps involved in cellular respirationCellular Respiration AP Biology Lab using peas and respirometersCellular Respiration Virtual Lab AP Lab that can be performed onlineCase Study: The Cyanide Murders explores cellular respiration and why we need oxygenPlant Pigments AP Lab 4, modifiedPhotosynthesis Simulation use simulator online to adjust light settings and gather data on ATP productionPhotosynthesis Simulation this simulator uses light and varying levels of carbon dioxide to explore rates of photosynthesis, replaces the waterweed simulatorPhotosynthesis Lab AP Lab, uses spinach leafs and light to measure the rate of photosynthesis. Oxygen bubbles cause leaf disks to float when they are exposed to light.BiochemistryAcids and Bases basic coloring showing how water dissociates into ions, pH scaleEnzyme Lab use liver to show how catalase breaks down hydrogen peroxide into oxygen and water, bubbling is used to measure the reaction at different temperatures.Virtual Enzyme Lab this simulator allows the user to change substrate concentrations and pH levels and then observe reaction rates.Organic Compounds concept map, students fill in terms related to organic chemistry (carbohydrates, nucleotides..etcEvolution & TaxonomyEvolution is often called the unifying theory of biology because it organizes all of the observations gathered by biologists and proposes and explanation for those observations. All state standards for teaching science include a section on evolution (sometimes called adaptation or change over time).EvolutionPeppered Moth Simulation newspaper and colored paper simulated natural selectionPeppered Moth Simulation Kit similar to above, only uses a purchased kit from Neo Sci.Peppered Moth Online Simulation uses shockwave to simulate capturing mothsStickleback Fish This HHMI virtual lab requires students to count the phenotypes of stickleback fish in two distinct lakes. Activity includes descriptions of the fish, how glacial lakes form, and allows students to develop their own understanding about selective pressuresModeling Natural Selection use tools such as spoons to capture beans and determine the best adaptatonsSex and the Single Guppy uses pbs site that models sexual selection in guppies, students fill out data table and answer questionsSex and the Single Guppy advanced, lab report required and the lab is more open-ended, and allows for more explorationEvolution Lab simulator models mutation rates and selection strengths with imaginary creaturesNatural Selection with Bunnies and Wolves interactive simulation at phet.colorado.edu where students manipulate variables such as climate, color of bunny fur, presence of predator, or food limitations.Evolution Concept Map graphic organizer, shows terms related to evolution and how they are connectedEvolution Crossword Puzzle terms related to topic of evolution; darwin, galapagos, selection..etcExamining the Fossil Record organize paper fossils to show change over time and determine when a species split into twoExplorations Through Time explore Berkeley website on evolution, answer questions about geologic timeUnderstand Homology and Analogy also Berkeley website, focuses on specific body parts and how they compare acrossorganismsUnderstanding Evolution The Arthropod Story Berkeley interactive activity with questionsComparing Life History to the Hours of a Clock place events, such as bacteria evolve on a clockThe Decay Curve of Twizzlers use twizzlers candy to understand the decay of isotopes and how that decay is used for carbon datingPBS Series Evolution watch video clips, answer questions, the series is hours long, but the clips can be shown in class as part of the unitPBS Series: Darwins Dangerous Idea watch video and construct a concept map that illustrates Darwins development theThеory of Evolution by Natural Selection. This is video #1 of the evolution series and has dramatic performances showing Darwins life and history.Becoming Human video clips and information website; questions that focus on human evolution and various hominid speciesTaxonomyInterpreting Graphics uses a map to show groups of animals and how they are related; such as canines, felines, carnivores..etcPractice with Taxonomy and Classification: reinforcement activity, focuses on kingdoms and scientific namesDichotomous Keys (Norns) practice using keys, imaginary creatures from an old computer gameDichotomous Keys (Aliens) more practice using keys, with alien creatures called pamishansDichotomous Keys (Smilies)more practice using keys, with smiley facesFingerprint Classification look at fingerprints and develop a way to classify themTaxonomy Project students create their own kingdoms, phyla..etc and design organismsAlien Taxonomy group and categorize alien speciesAnalyze and Construct Cladograms very simple cladograms showing how animals are organized by derived charactersZoobook project that explores orders and naming of species, taxonomic structuresAnimal Report (chart) go to zoo sites and fill out a chart on a specific animal (diet, habitat..etc)Evolution Notes and PresentationsThe Theory of evolution|Taxonomy NotesPresentations on Evolution and TaxonomyEcologyEcology is a large theme, and often not given full coverage in a biology class due to time constraints. Below are some basic lessons on ecology and environmental science.EcologyEstimating Population Size|Online Simulation mark and recapture techniqueOwl Pellets dissect owl pellets, reconstruct skeletonsPredator Prey Graph graph data on deer and wolf populations (growth curves)Lesson of the Kaibab another deer graphing exerciseRandom Sampling estimate a population of sunflowersRandom Sampling with Dandelions estimate the number of weeds on your school grounds using string and counting the number of plants within a plotted areaInterpreting Ecological Data graphs and data tablesPopulation Biology (Virtual Lab) growth of parameciumDemography Lab collect cemetery data, construct survivorship curvePredator Prey Simulation collect data, growth curves, analyze how reproductive rates of predator and prey affect growth curvesPredator Prey Simulation with Notecards use notecards to demonstrate how predator and prey numbers change over timeExamine an Ecosystem observation of jar/pond waterExamine Succession graphic shows how species are replaced as a pond dries up.Build an Ecosystem use bags, water BTB, oxygen dataFood Web Label image; label producers, consumers, carnivores..etcFood Web Label II another image to identify producers, consumers..etcBiomes Concept Map research biomes, create graphic organizer from scratchBiomes Concept Map Fill In concept map is already created, students fill in wordsBiome Project research biomes, create a presentation, travel brochure or similar artifact to showcase your biomeBiomes (Ecosystem) Venn Diagram compare two biomes and complete diagramBiomes at MOBot web lesson, research site, fill out table and answer questionsBiome Map color N. Americas biomesIsopod Behavior Lab AP Lab 11, modifiedEnvironmental IssuesRecycle City web lesson, view EPAs site on recycling with questionsSmog City web lesson, use simulator to adjust environmental conditionsEcology Project create a powerpoint presentation about an environmental issueChoosing a Dog be a responsible pet owner, choose your dog wisely (web lesson)Designer Dogs Examines the cost associated with breeding designer dogs (such as Puggles); students to consider alternatives to buying pets.Exotic Pets a set of activities over wild and exotic animals and the risks of owning themEndangered Species Project create a publication (website or prezi) that explores a species that is threatenedInvestigate the Causes Endangered Species using earthsendangered.com, create a graphic organizer that compares 4 different threatened animals from an area of the planetFood for Thought model the amount of food resources each country has using Hershey kissesZebra Mussels read an article about exotic (invasive) species, answer questionsHuman Population Graph use data to graph growth and analyzeEnvironmental Action as a group, allocate resources to different causesEcology Listmania an introductory discussion where students list ideas or issues related to the environmentPowerpoint LecturesIntroduction to Ecology species, communities, ecosystems and the biosphere. Focus on vocabulary and methods of studying ecology.Biomes showcases each major biome, its characteristics and species of plants and animalsPopulations discussions population growth curves, population pyramids and limits to growthDemography focuses on human population trends Interested in online learning? Edukatico will keep you updated from time to time. (You can stop this at any time.) Directory of 8,051 video courses from 50+ providers Transparency note: Some course providers support the operation of our search portal with referral commissions. Home Know Your Class Science Science Fair Project Ideas Project Parts Backboard Topics Lab Reports Foods Biology Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material. Interested in online learning? Edukatico will keep you updated from time to time. (You can stop this at any time.) More filters Less filters ...go to top Extend Your Knowledge with Online Courses in BiologyAre you studying Biology and wish to supplement your specialist knowledge from lectures, seminars, or scientific exercises? Or are you generally interested in this scientific field?You will find a broad spectrum of online courses in specialized subjects of Biology, Biochemistry, and Biotechnology. These courses and other related fields are available in our directory.Biology as a Multi-Faceted DisciplineBiology is the area of natural sciences described as the study of living things. In particular, it investigates the construction, organisation, and development of life. It can be subdivided into many subject areas.These subject areas can be defined by the living things being studied. Botany is the study of plants. This subject area originated from the study of medicinal plants. Similarly, Zoology is dedicated to the analysis of animals. Human Biology, which is a crossover with the study of Human Medicine, focusses on humans. It only became a scientific discipline in its own right in the second half of the 20th century. The smallest living things bacteria, fungi, viruses are studied in Microbiology.Other specialist areas of biology include Molecular Biology, Cell Biology, Development Biology, Behavioural Biology, Genetics, and Ecology. These disciplines encompass all species.You can find interesting online courses in many of these categories on our site. These e-learning offerings are continually expanded. Independent further study in the field of Biology is thus possible via the digital route.What Online Offers Are Available in the Area of Biology?Online courses provide an outstanding opportunity to study Biology. With online learning, you can review a topic at any time or pause at particular points. In contrast, some explanations might get lost in a typical two-hour university lecture. You can also prepare for practical activities and tests with the help of online courses or deepen certain areas of interest with additional information.You will find a great selection of online courses in the subject of Biology in our directory. The courses come from large platforms like edX or Coursera. Biology courses and Biology MOOCs (massive open online courses) by top international universities are made available through these platforms. And, as with all of the courses in our directory, these courses are purely online offers with no attendance requirements.Browse all the available courses now! ...go to top Chegg costs money, GradeSaver solutions are free! 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FreemanISBN978-1-46412-526-3PublisherCengage ISBN978-1-28574-062-1PublisherBrooks ColeISBN978-1-43904-957-0PublisherPearsonISBN978-0-32194-734-5PublisherCengage LearningISBN978-1-28574-155-0PublisherCengage LearningISBN978-1-33761-392-7PublisherPearsonISBN978-0-32174-900-0PublisherPearsonISBN978-0-32177-565-8PublisherPearsonISBN978-0-13409-341-3PublisherPearsonISBN978-0-13518-874-3PublisherPearsonISBN978-0-13429-601-2PublisherSinauer Associates ISBN978-1-60535-290-9PublisherBrooks/Cole Publishing Co.ISBN978-1-13361-066-3PublisherPrentice HallISBN978-0-13252-576-3PublisherMcGraw-Hill Publishing CompanyISBN978-0-07802-151-0PublisherMcGraw-Hill Publishing CompanyISBN978-0-07802-152-7PublisherPearsonISBN978-0-32194-317-0PublisherCengage LearningISBN978-1-13361-109-7PublisherPrentice HallISBN978-0-32180-924-7PublisherW. W. 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H. FreemanISBN978-1-42929-019-7PublisherWileyISBN978-1-11848-689-4PublisherPearsonISBN978-0-32174-090-8PublisherPearsonISBN978-0-13394-265-1PublisherPearsonISBN978-0-32162-592-2PublisherPearsonISBN978-0-32190-308-2PublisherPearsonISBN978-0-32195-504-3PublisherPearsonISBN978-0-32197-907-0PublisherPearsonISBN978-0-13421-742-0PublisherPearsonISBN978-0-13446-914-0PublisherPearsonISBN978-0-32193-104-7PublisherBrooks ColeISBN978-1-30507-175-9PublisherWileyISBN978-1-11877-456-4PublisherSouth-Western CollegeISBN978-1-28516-587-5PublisherCL EngineeringISBN978-1-30538-710-2PublisherW. J. FreemanISBN978-1-46415-641-0PublisherSouth-Western College ISBN978-1-28516-591-2PublisherPrentice HallISBN978-0-13379-502-8PublisherSouth-Western CollegeISBN978-1-28516-590-5PublisherMcGraw-Hill EducationISBN978-0-07339-820-4PublisherPearsonISBN978-0-32175-593-3PublisherW. W. Norton & CompanyISBN978-0-39392-972-0PublisherPearsonISBN978-0-32198-958-1PublisherPearsonISBN978-0-32175-727-2PublisherPearsonISBN978-0-32175-594-0PublisherPearsonISBN978-0-32169-255-9PublisherPearsonISBN978-0-13315-154-1PublisherMcGraw-Hill EducationISBN978-0-07339-806-8Publisher McGraw-Hill EducationISBN978-0-07339-817-4PublisherPearsonISBN978-0-32186-732-2PublisherPearsonISBN978-0-32187-896-0PublisherPearsonISBN978-0-32167-177-6PublisherPearsonISBN978-0-13421-743-7PublisherCengage LearningISBN978-1-11182-685-7PublisherMcGraw-Hill EducationISBN978-0-07352-459-7PublisherWadsworth PublishingISBN978-1-28587-434-0PublisherPearsonISBN978-0-32199-958-0PublisherPearsonISBN978-0-32197-361-0 Biology is the study of life. The word "biology" is derived from the Greek words "bios" (meaning life) and "logos" (meaning "study"). In general, biologists study the structure, function, growth, origin, evolution and distribution of living organisms.Biology is important because it helps us understand how living things work and how they function and interact on multiple levels, according to the Encyclopedia Britannica. Advances in biology have helped scientists do things such as develop better medicines and treatments for diseases, understand how a changing environment might affect plants and animals, produce enough food for a growing human population and predict how eating new food or sticking to an exercise regimen might affect our bodies.Four principles unify modern biology, according to the book "Managing Science" (Springer New York, 2010):You may like Cell theory is the principle that all living things are made of fundamental units called cells, and all cells come from preexisting cells.Gene theory is the principle that all living things have DNA, molecules that code the structures and functions of cells and get passed to offspring.Homeostasis is the principle that all living things maintain a state of balance that enables organisms to survive in their environment.Evolution is the principle that describes how all living things can change to have traits that enable them to survive better in their environments. These traits result from random mutations in the organism's genes that are "selected" via a process called natural selection. During natural selection, organisms that have traits better-suited for their environment have higher rates of survival, and then pass those traits to their offspring.Although there are only four unifying principles, biology covers a broad range of topics that are broken into many disciplines and subdisciplines.On a high level, the different fields of biology can each be thought of as the study of one type of organism, according to "Blackie's Dictionary of Biology" (S Chand, 2014). For example, zoology is the study of animals, botany is the study of plants and microbiology is the study of microorganisms.A botanist is a biologist who studies plants. (Image credit: Shutterstock)Within those broader fields, many biologists specialize in researching a specific topic or problem. For example, a scientist may study behavior of a certain fish species, while another scientist may research the neurological and chemical mechanisms behind the behavior.There are numerous branches and subdisciplines of biology, but here is a short list of some of the more broad fields that fall under the umbrella of biology:Biochemistry: The study of the chemical processes that take place in or are related to living things, according to the Biochemical Society. For example, pharmacology is a type of biochemistry research that focuses on studying how drugs interact with chemicals in the body, as described in a 2010 review in the journal Biochemistry.Ecology: The study of how organisms interact with their environment. For example, an ecologist may study how honeybee behavior is affected by humans living nearby.Genetics: The study of heredity. Geneticists study how genes are passed down by parents to their offspring, and how they vary from person to person. For example, scientists have identified several genes and genetic mutations that influence human lifespan, as reported in a 2019 review published in the journal Nature Reviews Genetics. Physiology: The study of how living things work. Physiology, which is applicable to any living organism, "deals with the life-supporting functions and processes of living organisms or their parts," according to Nature. Physiologists seek to understand biological processes, such as how a particular organ works, what its function is and how it's affected by outside stimuli. For example, physiologists have studied how listening to music can cause physical changes in the human body, such as a slower or faster heart rate, according to the journal Psychological Health Effects of Musical Experiences. .Biology is often researched in conjunction with other fields of study, including mathematics, engineering and the social sciences. Here are a few examples:Astrobiology is the study of the evolution of life in the universe, including the search for extraterrestrial life, according to NASA. This field incorporates principles of biology with astronomy.Bioarchaeologists are biologists who incorporate archaeological techniques to study skeletal remains and derive insights about how people lived in the past, according to George Mason University.Bioengineering is the application of engineering principles to biology and vice versa, according to the University of California Berkeley. For example, a bioengineer might develop a new medical technology that better images the inside of the body, like an improved Magnetic Resonance Imaging (MRI) that scans the human body at a faster rate and higher resolution, or apply biological knowledge to create artificial organs, according to the journal Cell Transplant.Biotechnology involves using biological systems to develop products, according to the Norwegian University of Science and Technology. For example, biotechnologists in Russia genetically engineered a better-tasting and more disease-resistant strawberry, which the researchers described in their 2007 study published in the journal Biotechnology and Sustainable Agriculture 2006 and Beyond. Biophysics employs the principles of physics to understand how biological systems work, according to the Biophysical Society. For example, biophysicists may study how genetic mutations leading to changes in protein structure impacts protein evolution, according to the Journal of the Royal SocietyA 3d Illustration of the chain of amino acids that make up protein. (Image credit: Getty Images)Biologists can work in many different fields, including research, healthcare, environmental conservation and art, according to the American Institute of Biological Sciences. Here are a few examples:Research: Biologists can perform research in many types of settings. Microbiologists, for instance, may study bacterial cultures in a laboratory setting. Other biologists may perform field research, where they observe animals or plants in their native habitat. Many biologists may work in the lab and in the field for example, scientists may collect soil or water samples from the field and analyze them further in the lab, like at North Carolina University's Soil and Water Lab.Conservation: Biologists can help with efforts in environmental conservation by studying and determining how to protect and conserve the natural world for the future. For example, biologists may help educate the public on the importance of preserving an animal's natural habitat and participate in endangered species recovery programs to stop the decline of an endangered species, according to the U.S. Fish & Wildlife Service.An ecologist taking a water samples from a creek. (Image credit: Getty Images)Healthcare: People who study biology can go on to work in healthcare, whether they work as doctors or nurses, join a pharmaceutical company to develop new drugs and vaccines, research the efficacy of medical treatments or become veterinarians to help treat sick animals, according to the American Institute of Biological Sciences.Art: Biologists who also have a background in art have both the technical knowledge and artistic skill to create visuals that will communicate complex biological information to a wide variety of audiences. One example of this is in medical illustration, in which an illustrator may perform background research, collaborate with experts, and observe a medical procedure to create an accurate visual of a body part, according to the Association of Medical Illustrators.Additional resourcesIf youre curious about just how wide-reaching biology is, The University of North Carolina at Pembroke has listed a number of biology subdisciplines on their website. Interested in a career in biology? Check out some options at the American Institute of Biological Sciences website.Bibliography Lornande Loss Woodruff, History of Biology, The Scientific Monthly, Volume 12, March 1921, . P.N. Campbell, Biology in Profile: A Guide to the Many Branches of Biology, Elsevier, October 2013.The University of North Carolina at Pembroke, Biology Sub-disciplines, October 2010.University of Minnesota Duluth, What is Biology?, January 2022.Eric J. Simon et al, Campbell Essential Biology, Pearson Education, January 2018. Welcome to the Biology Library. This Living Library is a principal hub of the LibreTexts project, which is a multi-institutional collaborative venture to develop the next generation of open-access texts to improve postsecondary education at all levels of higher learning. The LibreTexts approach is highly collaborative where an Open Access textbook environment is under constant revision by students, faculty, and outside experts to supplant conventional paper-based books. Campus BookshelvesBookshelvesLearning Objects Home is shared under a not declared license and was authored, remixed, and/or curated by LibreTexts. FSHS Biology 20 OutlineTeacher:Mr. GraingerTextbook:Inquiry into BiologyABOUT THE COURSEBiology 20 is a rigorous science program designed for students with a strong aptitude and keen interest in the biological world and who are intending to pursue post-secondary studies in a science program especially in health sciences or environmental sciences. Students will explore living systems using matter and energy from the cellular level to the global level and develop an understanding of technology as it affects everyday life and experiences.The recommended prerequisites for Biology 20 are: 65% in Science 10REQUIRED MATERIALS binder exclusively for class with tab dividersUnit II Exchange of Matter and Energy in the Human Organism (8 weeks) Cells, Biochemistry and EnzymesDigestionCirculation, Blood and ImmunityBreathingExcretionUnit II Cellular Energy (3 weeks) PhotosynthesisRespirationUnit III Ecology (5 weeks) BiosphereBiogeochemical CyclesAquatic EcosystemsTerrestrial EcosystemsThermodynamics(Energy Flow)Unit IV Adaptation and Change (2 weeks) 10% Chapter 4Fossils and Geological TimeStructures and Other EvidenceNatural SelectionAdaptationField Trips: A field study is a mandatory part of the Biology 20 program. Further information will be provided in class.Class Mark : Quizzes, Summative Assignments, and ExamsStudents will be required to complete all of these in order to have a term mark.The key to