BIOLOGY PROJECTS FOR CLASS 12 ON GENETICS pdf

1: BIO PROJECT | Mohammed Ismail - www.enganchecubano.com

Huge List of Biology Class 12 Projects| Investigatory Biology Projects, Experiments Topics, Models Ideas for Kids and also for Middle school, Elementary School for class 5th Grade,6th,7th,8th,9th 10th,11th, 12th Grade and High School,CBSE, ISC Class 12 and MSC and College Students.

Techniques to alter the chemistry of genetic material DNA and RNA to introduce into host organisms and thus change the phenotype of the host organism. Conceptual development of the principle of genetic engineering: Asexual reproduction preserves the genetic identity of species. Sexual reproduction creates variation and creates unique combinations of genetic makeup. Traditional hybridization procedures used in plant and animal breeding lead to inclusion of undesirable genes along with desired genes. The techniques of genetic engineering which includes creation of recombinant DNA, use of gene cloning and gene transfer, overcome this limitation and allows us to isolate and introduce only one or a set of desirable genes without introducing undesirable genes into target organism Three basic steps in genetically modifying an organism â€" Identification of DNA with desirable gene Introduction of the identified DNA into the host. In the year two enzymes discovered from Escherichia coli which restrict the growth of bacteriophage in it. One of these added methyl groups to DNA. Other cut the phage DNA. Hind II always cut DNA molecule at particular point by recognizing a specific sequence of six base pairs. This is called recognition sequence for Hind II. Till date around restriction enzymes isolated from strains of bacteria each of which recognize different recognition sequences. Restriction enzyme belongs to nucleases. There are two kind of nucleases: Exonuclease Exonuclease removes nucleotides from the free ends of the DNA. Endonucleases make cuts at specific positions within the DNA. Each restriction endonuclease recognizes a specific palindromic nucleotide sequences in the DNA. Palindromes are the group of letters that read same both forward and backward, e. The palindrome in DNA is a sequence of base pairs that reads same on the two strands when orientation of reading is kept same. The restriction enzyme cut the strand of DNA little away from the centre of the palindrome sites, but between the same two bases on the opposite strand. This leaves single stranded portions at the ends. There are overhanging stretches called sticky ends on each strand. This stickiness of the ends facilitates the action of the enzyme DNA ligases. Convention for naming restriction endonuclease: The first letter of the name comes from the genus. Second two letters come from the species of the prokaryotic cell from which the enzyme isolated The fourth letter is in capital form derived from the Strain of microbes. The Roman letter followed is the order of discovery Best example: These fragments are separated by a technique called gel electrophoresis. Most commonly used matrix is agarose, a natural polymer extracted from sea weed. DNA fragments separate according to their size through sieving effect provided by the agarose gel. Hence the smaller the fragment size, farther it moves. The separated fragments are visualized by staining them with Ethidium bromide followed by exposure to UV radiation. The separated bands of DNA are cut out from the agarose gel and extracted from the gel piece. This step is called elution. The plasmid and bacteriophages have the ability to replicate within bacterial cells independent of the control of chromosomal DNA. Alien DNA linked with the vector multiply its number equal to the copy number of the plasmid or bacteriophage. Features of cloning vector: This is the sequence where the replication starts called ori gene. The alien DNA linked with vector also replicates. Controls the copy number of the linked DNA. It is required to identify recombinant from the non-recombinant. Helps in identifying and eliminating non-transformants and selectively permitting the growth of the transformants. Transformation is a procedure through which a piece of foreign DNA is introduced in a host bacterium. Normally, the gene coding resistance to antibiotics such as ampicilin. Tetracycline, chloramphenicol or kanamycins etc are considered as useful selectable markers for E. Hare Krushna Giri Email Id:

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2: biology projects for class 12 on genetics

class 12 biotech projects, biology projects on biotechnology for class 12, class12th boilogy project for case study, biotech projects for class 12, Title: physics projects for class 12 pdf Page Link: physics projects for class 12 pdf -.

Genesmartnoter - Coined the term Slipped-Strand Mispairing Gitana talk - epigenetics, evolutionary genetics and cancer genetics and genomics Gorton k talk - About to become a genetics student, will update Wikipedia as I go. A big fan of model organisms. Gsimmer - Equine Coat Color Genetics specifically. Harsh - Doing B. Interested in plant Genetics. Kingofaces43 Entomology PhD, background in crop genetics that comes along with a general crop protection background. Knight of Gloucestershire -Interested in genetic engineering. JGDo - Biotechnology and genetic engineering, medical genetics and scientific education. Interested in experimental evolution and ornithology. Specialist in museum science. LarryBoy79 talk - Population Genetics, evolution of mutation rates. L5tardust talk - Small non-coding RNAs, transposon silencing. Liveste talk - Genomics, epigenetics, gene regulation esp. Lunakeet na ke et Interested in pretty much everything genetics related. Maonao - bacterial evolution, bioinformatics Manoj Prajwal - Currently studying the genetics behind ageing. Very interested in understanding the genetic network that governs the process or rather magic - as I think of it that is responsible for us being what we are and not a bunch of chemicals floating around somewhere. Mark viking - Human genetics and genomics, statistical genetics, bioinformatics Medical geneticist talk - Practicing clinical geneticist could you guess? Parashar Dhapola - Interested in molecular genetics, biological shapes, modelling biological processes PLindenbaum - Bioinformatics, genotyping, history of Sciences. PiWi - Biochemistry, molecular biology, protein biosynthesis. Puppysizedellephant - Biology student with an interest in agronomy and genetics, hopefully together. Daniel P - Undergraduate senior working in genetics lab. Interested in population genetics. One more year and then graduate school. Radman - General interest in genetics. Rcej talk - Interested in articles about inherited metabolic disorders, and autosomal recessive inheritance. Richard talk - Interested in working on basic genetics articles in the near future Saltwolf [User talk: Saltwolf talk]] - B. Skittleys - Undergraduate work in bioinformatics computer and life-science perspectives , genomics, molecular genetics, human genetics and disease, personalized medicine, genetics of psychopathologies; research in neurogenetics, pharmacogenetics. Teokey -Cell and Molecular Biology.

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3: Wikipedia:WikiProject Genetics - Wikipedia

BIOLOGY class 12 Project, Giving a report on Human Genome Project (HGP) BIOLOGY CLASS XII CBSE INVESTIGATORY PROJECT ON ANTIBIOTICS.. Biology Investigatory Project.

Signature of the teacher: Mercy Abraham Signature of the invigilator: Name of the Candidate: I would also like to express my gratitude to my friends for the cooperation and the teamspirit they extended for the successful completion of this project. The century that we left behind has witnessed giant strides in almost all spheres of human life. Currently, biotechnology is looked upon as one of the most promising branches of science. And it is Genetic Engineering that makes most biotechnological applications possible. It involves the introduction of foreign DNA or synthetic genes into the organism of interest. The introduction of new DNA does not require the use of classical genetic methods; however traditional breeding methods are typically used for the propagation of recombinant organisms. Humans have altered the genomes of species for thousands of years through artificial selection and more recently mutagenesis. Genetic engineering as the direct manipulation of DNA by humans outside breeding and mutations has only existed since the s. The most common form of genetic engineering involves the insertion of new genetic material at an unspecified location in the host genome. This is accomplished by isolating and copying the genetic material of interest using molecular cloning methods to generate a DNA sequence containing the required genetic elements for expression, and then inserting this construct into the host organism. Other forms of genetic engineering include gene targeting and knocking out specific genes via the most common form of genetic engineering involves the insertion of new genetic material at an unspecified location in the host genome. Genetic engineering alters the genetic makeup of an organism using techniques that introduce heritable material prepared outside the organism either directly into the host or into a cell that is then fused or hybridized with the host. This involves using recombinant nucleic acid DNA or RNA techniques to form new combinations of heritable genetic material followed by the incorporation of that material either indirectly through a vector system or directly through micro-injection, macro-injection and micro- encapsulation techniques. Genetic engineering techniques have been applied in numerous fields including research, agriculture, industry, and medicine. This project seeks to focus on some most promising areas of biotechnological applications These techniques, generally known as recombinant DNA technology, use DNA molecules from different sources, which are combined into one molecule to create a new set of genes. This DNA is then transferred into an organism, giving it modified or novel genes. GMOs are used in biological and medical research, production of pharmaceutical drugs, experimental medicine e. The term "genetically modified organism" does not always imply, but can include, targeted insertions of genes from one species into another. For example, a gene from a jellyfish, encoding a fluorescent protein called GFP, can be physically linked and thus co-expressed with mammalian genes to identify the location of the protein encoded by the GFP-tagged gene in the mammalian cell. Such methods are useful tools for biologists in many areas of research, including those who study the mechanisms of human and other diseases or fundamental biological processes in eukaryotic or prokaryotic cells. These organisms are now used for several purposes, and are particularly important in producing large amounts of pure human proteins for use in medicine. Genetically are used to produce the protein insulin to treat diabetes. Similar bacteria have been used to produce clotting factors to treat hemophilia and human growth hormone to treat various forms of dwarfism. Gene therapy uses genetically modified viruses to deliver genes that can cure disease into human cells. Although gene therapy is still relatively new, it has had some successes. It has been used to treat genetic disorders such as severe combined immunodeficiency. In , researchers reported that a genetically-modified virus that exploits the selfish behaviour of cancer cells might offer an alternative way of killing tumours. Genetically modified virus and bacteria b Genetically Modified Crops Transgenic plants have been engineered to possess several desirable traits, such as resistance to pests, herbicides, or harsh environmental conditions, improved product shelf life, and increased nutritional value. Since the first commercial cultivation of genetically modified plants in , they have been modified to be tolerant to the herbicides glufosinate and glyphosate, to be resistant to virus damage as in Ring spot virus-

resistant GM papaya, grown in Hawaii, and to produce the Bt toxin, an insecticide that is non-toxic to mammals. Most GM crops grown today have been modified with "input traits", which provide benefits mainly to farmers. Golden Rice is a transgenic variety of rice, with genes for the synthesis of b-carotene taken from the temperate garden favourite Narcissus pseudonarcissus daffodil and inserted into the genome of a temperate strain of rice, using Agrobacterium tumefaciens as the vector, to effect the transfer. The gene construct also contains some genes for enzymes of the biosynthetic pathway of b-carotene, from another bacterium Erwinia uredovora. Genetically modified organisms have had specific changes introduced into their DNA by genetic engineering techniques. These techniques are much more precise[1] than mutagenesis mutation breeding where an organism is exposed to radiation or chemicals to create a non-specific but stable change. Other techniques by which humans modify food organisms include selective breeding; plant breeding, and animal breeding, andsomaclonal variation. GM foods were first put on the market in Typically, genetically modified foods are transgenic plant products: Animal products have also been developed, although as of July none are currently on the market. Genetically Engineered Roses c Transgenic Animals A transgenic animal is one that carries a foreign gene that has been deliberately inserted into its genome. The foreign gene is constructed using recombinant DNA methodology. In addition to the gene itself, the DNA usually includes other sequences to enable it to be incorporated into the DNA of the host and to be expressed correctly by the cells of the host. Transgenic animals are used as experimental models to perform phenotypic and for testing in biomedical research. Genetically Modified Genetically Engineered animals are becoming more vital to the discovery and development of cures and treatments for many serious diseases. By altering the DNA or transferring DNA to an animal, we can develop certain proteins that may be used in medical treatment. Stable expressions of human proteins have been developed in many animals, including sheep, pigs, and rats. Human-alphaantitrypsin,[29] which has been developed in sheep and is used in treating humans with this deficency and transgenic pigs with human-histo- compatibility have been studied in the hopes that the organs will be suitable for transplant with less chances of rejection. Transgenic livestock have been used as bioreactors since the s. Many medicines, including insulin and many immunizations are developed in transgenic animals. This field is growing rapidly and new pharming uses are being discovered and developed. The extent that trangenic animals will be useful in the medical field as well as other fields is very promising based on results thus far. The Glow Fish, a fluorescent red zebra fish sold as a novel pet, has become the first transgenic animal sold to U. Zhiyuan Gong and his colleagues at the National University of Singapore were working with a gene called green fluorescent protein GFP , originally extracted from a jellyfish, that naturally produced bright green fluorescence. Their goal was to develop a fish that could detect pollution by selectively fluorescing in the presence of environmental toxins. The development of the constantly fluorescing fish was the first step in this process. Shortly thereafter, his team developed a line of red fluorescent zebra fish by adding a gene from a sea coral, and orange-yellow fluorescent zebra fish, by adding a variant of the jellyfish gene. Later, a team of researchers at the National University of Taiwan, headed by Professor Huai-Jen Tsai succeeded in creating a medaka rice fish with a fluorescent green color, which like the zebrafish is a model organism used in biology. Transgenic Rat Fruit flies In biological research, transgenic fruit flies Drosophila melanogaster are model organisms used to study the effects of genetic changes on development. Mosquitoes In , scientists created "malaria-resistant mosquitoes" in the laboratory. The World Health Organization estimated that Malaria killed almost one million people in Genetically modified male mosquitoes containing a lethal gene have been developed in order to combat the spread of Dengue fever. Around 50 - million people are affected by Dengue fever every year and 40, people die from it. Mammals Genetically modified mammals are an important category of genetically modified organisms. Transgenic mice are often used to study cellular and tissue-specific responses to disease. In , scientists at the University of Guelph in Ontario, Canada created the genetically engineered Enviropig. The Enviropig excretes from 30 to In , scientists in Japan announced that they had successfully transferred a gene into a primate species marmosets and produced a stable line of breeding transgenic primates for the first time. In , scientists in China released news that they have introduced human genes into dairy cows to produce milk with the same properties as human breast milk. Aside from milk production, the researchers claim these transgenic cows to be identical to regular cows. An important technical

breakthrough was the development of procedures for generation of stably transgenic hydras and sea anemones by embryo microinjection. It has got numerous applications in medicine ranging from vaccines to transgenic organ transplants. An artificial blood also would virtually eliminate the risk of contracting AIDS, hepatitis and other viral diseases through transfusions. Development of emulsion technologies resulted in the production of compounds which utilized smaller chain perfluorocarbon molecules to more effectively emulsify the perfluorocarbons, allowing higher concentrations of active agent in the emulsion and thus higher oxygen carrying capabilities. Artificial Haemoglobin b Cloned Pigs Modified for Use in Human Transplants Two competing teams have cloned pigs that have been genetically modified to produce organs more suitable for transplantation into humans. Pig organs are well suited for transplantation; they are approximately the same size as human organs and have similar plumbing, which makes reconnecting blood vessels much easier. Also, the size of pig litters tends to be large and pigs reproduce quickly, raising the prospect of a large supply of "spare" organs. A problem with using pig organs, however, is that they are coated with sugar molecules that trigger acute rejection in people. Human antibodies attach themselves to these sugar molecules and quickly destroy the newly transplanted pig organ. To circumvent the rejection, scientists are working to produce pigs that lack the sugar-producing gene. The hypothalamus adjusts the production of FSH depending upon the levels of other hormones such as estrogen. More follicles are needed in ART cycles because some do not fertilize or do not continue to develop. Follistim and Gonal-F are produced by genetic engineering using mammalian culture cells. Bravelle and Repronex are derived from the urine of postmenopausal women. Several companies and government agencies are funding efforts to reduce capital and operating costs and make algae fuel production commercially viable. High oil prices, competing demands between foods and other biofuel sources, and the world food crisis, have ignited interest in alga culture farming algae for making biodiesel, bioethanol, biogasoline, biomethanol, biobutanol and other biofuels, using land that is not suitable for agriculture Biodiesel Currently most research into efficient algal-oil production is being done in the private sector, but predictions from small scale production experiments bear out that using algae to produce biodiesel may be the only viable method by which to produce enough automotive fuel to replace current world diesel usage. This compares highly favourable to other biofuels. Because the cells grow in aqueous suspension, where they have more efficient access to water, CO2 and dissolved nutrients, microalgae are capable of producing large amounts of biomass and usable oil in either high rate algal ponds or photo bioreactors. This oil can then be turned into biodiesel which could be sold for use in automobiles. Regional production of microalgae and processing into biofuels will provide economic benefits to rural communities. But they also have severe implications for international peace and security because they open up tremendous avenues for the creation of new biological weapons. Much more alarming, from an arms- control perspective, are the possibilities of developing completely novel weapons on the basis of knowledge provided by biomedical researchâ€”developments that are already taking place. Such weapons, designed for new types of conflicts and warfare scenarios, secret operations or sabotage activities, are not mere science fiction, but are increasingly becoming a reality that we have to face. The history of biological warfare is nearly as old as the history of warfare itself. In ancient times, warring parties poisoned wells or used arrowheads with natural toxins. By using genetic engineering, biological researchers have already developed new weapons that are much more effective than their natural counterparts. Countless examples from the daily work of molecular biologists could be presented here, not least the introduction of antibiotic resistance into bacterial pathogens, which today is routine work in almost any microbiology laboratory.

BIOLOGY PROJECTS FOR CLASS 12 ON GENETICS pdf

4: Biology- Introduction to Important Biology Topics for Class 6

Biology Projects For Class 12 Biology Projects for Class 12 The study of biology projects are very much important in order to understand various kinds of biological processes that occur within the animals and even the humans.

It is my utmost pleasure to express deep sense of gratitude towards Mrs. Mercykutty, my Biology teacher, who directed me to complete this project successfully. I am also thankful to Mr. Mathew, the Biology lab assistant. Their valuable guidance, support and supervision are considerably responsible for helping this project attain its present form. I also wish to acknowledge my heart full thanks to Sir Sebastian T Joseph, the Principle of our school, my parents and friends who helped me to complete the project in time. It is a set of technologies used to change the genetic makeup of cells, including the transfer of genes within and across species boundaries to produce improved or novel organisms. New DNA may be inserted in the host genome by first isolating and copying the genetic material of interest using molecular cloning methods to generate a DNA sequence, or by synthesizing the DNA, and then inserting this construct into the host organism. Genes may be removed, or "knocked out", using a nuclease. Gene targeting is a different technique that uses homologous recombination to change an endogenous gene, and can be used to delete a gene, remove exons, add a gene, or introduce point mutations. An organism that is generated through genetic engineering is considered to be a genetically modified organism GMO. Insulin-producing bacteria were commercialized in and genetically modified food has been sold since Enzymes used in laundry detergent and medicines such as insulin and human growth hormone are now manufactured in GM cells, experimental GM cell lines and GM animals such as mice or zebra fish are being used for research purposes, and genetically modified crops have been commercialized. The century that we left behind has witnessed giant strides in almost all spheres of human life. Currently, biotechnology is looked upon as one of the most promising branches of science. And it is Genetic Engineering that makes most biotechnological applications possible. The introduction of new DNA does not require the use of classical genetic methods; however traditional breeding methods are typically used for the propagation of recombinant organisms. Humans have altered the genomes of species for thousands of years through artificial selection and more recently mutagenesis. Genetic engineering as the direct manipulation of DNA by humans outside breeding and mutations has only existed since the s. The most common form of genetic engineering involves the insertion of new genetic material at an unspecified location in the host genome. This is accomplished by isolating and copying the genetic material of interest using molecular cloning methods to generate a DNA sequence containing the required genetic elements for expression, and then inserting this construct into the host organism. Other forms of genetic engineering include gene targeting and knocking out specific genes via the most common form of genetic engineering involves the insertion of new genetic material at an unspecified location in the host genome. Genetic engineering alters the genetic makeup of an organism using techniques that introduce heritable material prepared outside the organism either directly into the host or into a cell that is then fused or hybridized with the host. This involves using recombinant nucleic acid DNA or RNA techniques to form new combinations of heritable genetic material followed by the incorporation of that material either indirectly through a vector system or directly through micro-injection, macro-injection and micro- encapsulation techniques. Paul Berg Rudolf Jaenisch 4 Although the concept of gene transfer is relatively simple, its execution presents considerable technical obstacles. The first person to surmount these obstacles was the American biochemist Paul Berg , often referred to as the "father of genetic engineering. Then, later that year, the American biochemists Stanley Cohen at Stanford University, and Herbert Boyer at the University of California at San Francisco discovered an enzyme that greatly increased the efficiency of the Berg procedure. The gene-transfer technique developed by Berg, Boyer, and Cohen formed the basis for much of the ensuing progress in genetic engineering. In Herbert Boyer and Stanley Cohen created the first transgenic organism by inserting antibiotic resistance genes into the plasmid of an E. These achievements led to concerns in the scientific community about potential risks from genetic engineering, which were first discussed in depth at the Asilomar Conference in One of the main recommendations from this meeting was that government oversight of recombinant DNA

research should be established until the technology was deemed safe. In Genentech, the first genetic engineering company, was founded by Herbert Boyer and Robert Swanson and a year later the company produced a human protein in E. Genentech announced the production of genetically 5 engineered human insulin in In , the U. Supreme Court in the Diamond v. Chakrabarty case ruled that genetically altered life could be patented. The insulin produced by bacteria, branded humulin, was approved for release by the Food and Drug Administration in In , scientists at the J. Craig Venter Institute, announced that they had created the first synthetic bacterial genome. The researchers added the new genome to bacterial cells and selected for cells that contained the new genome. To do this the cells undergoes a process called resolution, where during bacterial cell division one new cell receives the original DNA genome of the bacteria, whilst the other receives the new synthetic genome. When this cell replicates it uses the synthetic genome as its template. Plants, animals or micro organisms that have changed through genetic engineering are termed genetically modified organisms or GMOs. Bacteria were the first organisms to be genetically modified. Plasmid DNA containing new genes can be inserted into the bacterial cell and the bacteria will then express those genes. These genes can code for medicines or enzymes that process food and other substrates. Plants have been modified for insect protection, herbicide resistance, virus resistance, enhanced nutrition, tolerance to environmental pressures and the production of edible vaccines. Genetically modified animals have been used for research, model animals and the production of agricultural or pharmaceutical products. They include animals with genes knocked out, increased susceptibility to disease, hormones for extra growth and the ability to express proteins in their milk. This DNA is then transferred into an organism, giving it modified or novel genes. GMOs are used in biological and medical research, production of pharmaceutical drugs, experimental medicine e. The term "genetically modified organism" does not always imply, but can include, targeted insertions of genes from one species into another. For example, a gene from a jellyfish, encoding a fluorescent protein called GFP, can be physically linked and thus co-expressed with mammalian genes to identify the location of the protein encoded by the GFP-tagged gene in the mammalian cell. Such methods are useful tools for biologists in many areas of research, including those who study the mechanisms of human and other diseases or fundamental biological processes in eukaryotic or prokaryotic cells. Genetically Modified microbes Bacteria were the first organisms to be modified in the laboratory, due to their simple genetics. These organisms are now used for several purposes, and are particularly important in producing large amounts of pure human proteins for use in medicine. Genetically are used to produce the protein insulin to treat diabetes. Similar bacteria have been used to produce clotting factors to treat hemophilia and human growth hormone to treat various forms of dwarfism. Gene therapy uses genetically modified viruses to deliver genes that can cure disease into human cells. Although gene therapy is still relatively new, it has had some successes. It has been used to treat genetic disorders such as severe combined immunodeficiency. In , researchers reported that a genetically-modified virus that exploits the selfish behavior of cancer cells might offer an alternative way of killing tumors. Genetically modified virus and bacteria II. Genetically Modified Crops Transgenic plants have been engineered to possess several desirable traits, such as resistance to pests, herbicides, or harsh environmental conditions, improved product shelf life, and increased nutritional value. Since the first commercial cultivation of genetically modified plants in , they have been modified to be tolerant to the herbicides glufosinate and glyphosate, to be resistant to virus damage as in Ring spot virus-resistant GM papaya, grown in Hawaii, and to produce the Bt toxin, an insecticide that is non-toxic to mammals. Most GM crops grown today have been modified with "input traits", which provide benefits mainly to farmers. Golden Rice is a transgenic variety of rice, with genes for the synthesis of b-carotene taken from the temperate garden favourite Narcissus pseudonarcissus daffodil and inserted into the genome of a temperate strain of 8 rice, using Agrobacterium tumefaciens as the vector, to effect the transfer. The gene construct also contains some genes for enzymes of the biosynthetic pathway of b-carotene, from another bacterium Erwinia uredovora. Genetically modified organisms have had specific changes introduced into their DNA by genetic engineering techniques. These techniques are much more precise. Other techniques by which humans modify food organisms include selective breeding; plant breeding, and animal breeding, and soma clone variation. GM foods were first put on the market in Typically, genetically modified foods are transgenic plant products:

Animal products have also been developed, currently on the market. In a pig was controversially engineered to produce omega-3 fatty acids through the expression of a roundworm gene. Transgenic Animals A transgenic animal is one that carries a foreign gene that has been deliberately inserted into its genome. The foreign gene is constructed using recombinant DNA methodology. Transgenic animals are used as experimental models to perform phenotypic and for testing in biomedical research. Genetically Modified Genetically Engineered animals are becoming more vital to the discovery and development of cures and treatments for many serious diseases. By altering the DNA or transferring DNA to an animal, we can develop certain proteins that may be used in medical treatment. Stable expressions of human proteins have been developed in many animals, including sheep, pigs, and rats. Human-alphaantitrypsin, which has been developed in sheep and is used in treating humans with this deficiency and transgenic pigs with human-histo-compatibility have been studied in the hopes that the organs will be suitable for transplant with less chances of rejection. Transgenic livestock have been used as bioreactors since the s. Many medicines, including insulin and many immunizations are developed in transgenic animals. In March , the bioactive recombinant Human Lysozyme was expressed in the milk of cloned transgenic cattle. This field is growing rapidly and new farming uses are being discovered and developed. The extent that transgenic animals will be useful in the medical field as well as other fields is very promising based on results thus far. Zhiyuan Gong and his colleagues at the National University of Singapore were working with a gene called green fluorescent protein GFP , originally extracted from a jellyfish, that naturally produced bright green fluorescence. Their goal was to develop a fish that could detect pollution by selectively fluorescing in the presence of environmental toxins. The development of the constantly fluorescing fish was the first step in this process. Shortly thereafter, his team developed a line of red fluorescent zebra fish by adding a gene from a sea coral, and orange-yellow fluorescent zebra fish, by adding a variant of the jellyfish gene. Later, a team of researchers at the National University of Taiwan, headed by Professor Huai-Jen Tsai succeeded in creating a medaka rice fish with a fluorescent green color, which like the zebra fish is a model organism used in biology. Mosquitoes In , scientists created "malaria-resistant mosquitoes" in the laboratory. The World Health Organization estimated that Malaria killed almost one million people in Genetically modified male mosquitoes containing a lethal gene have been developed in order to combat the spread of Dengue fever. Around 50 - million people are affected by Dengue fever every year and 40, people die from it. Mammals Genetically modified mammals are an important category of genetically modified organisms. Transgenic mice are often used to study cellular and tissue-specific responses to disease. In , scientists at the University of Guelph in Ontario, Canada created the genetically engineered Enviropig.

5: Life Science and Biology Science Fair Projects | www.enganchecubano.com

Huge List of Biology Project for Class 12 CBSE| Biology Projects for Class 12 CBSE, Experiments Topics, Models Ideas for Kids and also for Middle school, Elementary School for class 5th Grade, 6th, 7th, 8th, 9th 10th, 11th, 12th Grade and High School,CBSE, ISC Class 12 and MSC and College Students.

6: biology projects for class 12 on genetics

When I was in Class XII, I had prepared a project on Drug Dependence. I used NCERT and Pradeep's Biology to make my project. I had collected some of the plants samples that were usually available such as Datura, to make it more interesting.

7: Biology Projects for Class 12 CBSE @ BYJU'S

Class 12th biology theory project is very important. Biology being life science is itself very interesting subject. I chose "hereditary traits" and worked on this project.

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BIOLOGY PROJECTS FOR CLASS 12 ON GENETICS pdf

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9: biology projects on genetic disorders pdf class 12

BIO PROJECT. Uploaded by. Mohammed Ismail PROJECT IN BIOLOGY GENETIC ENGINEERING- A GLANCE AT ITS LATEST APPLICATIONS PREPARED BY: MOHAMMED ISMAIL.K CLASS XII.

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