

Anna Blair GMO's plants and animals

- 1) What are 2 benefits from genetically modified crops?
Possible answers: increase nutritional value, resistance to disease/pests, grow faster, longer shelf life, taste better, increase in hardiness
- 2) How do you create GMO's without the use of technology (inserting or removing genes)?
answer: selective breeding

Valerie Carter Medical Genetics

- 1) Briefly describe "gene therapy" and give one example of a disease or condition for which it is currently being tested.
- 2) True or False: With regards to epigenetics, hypomethylation is known to delay the affects of aging

Colin Clark Myotonic Dystrophy

- 1) Where are the multinucleotide repeats located in the genes causing Myotonic Dystrophy?
- 2) At what age does DM manifest?

Mikki Eken Color blindness

- 1, What are the three types of cones?
2. What are the three types of color blindness?

Andrea Flynn Cri-du-Chat

- 1) Cri-du-chat is a random deletion. Where does this occur?
- 2) Which of the following symptoms is NOT associated with Cri-du-chat?
Cat-like cry in infants
Mental retardation
Elevated blood pressure
Single crease in the palm of the hand

Karl Hamre Polyploidy

- 1) Explain the difference between a monoploid set of chromosomes and a haploid set of chromosomes.
- 2) Explain the difference between sexual and asexual polyploidization.

Matt Haugstad Ancient DNA

1. What makes Mitochondrial DNA the most useful when determining lineages of ancient DNA?
2. What are some advantages of knowing the genome of ancient animals?

Tony Hewitt GMO's

- 1) Of the four techniques in inserting a gene, what is the most common way and what is one example of what scientists use to transfer the GOI?
Recombinant DNA and they usually use either a plasmid from bacteria or a virus
- 2) What type of technique is used to transfer the GOI in very large cells?
microinjection

Megan Knox GMO's

1. Name one purpose for genetically modifying an organism:
2. Give 3 examples of GMOs:

Brittany Logan Cystic Fibrosis

- 1a. What type of disease is Cystic Fibrosis
(Autosomal Recessive)
- 1b. If the mother has Cystic Fibrosis, and the father does not, what is the probability that their first child will have the disease?
(1/2 if the father is a carrier, 0 if the father is autosomal dominant)
- 2 Describe why Cystic Fibrosis is a good candidate for gene therapy.
(Located on a single gene, ect...)

Ashley Longbella Familial Down Syndrome

- 1) What type of translocation are children with Familial Down Syndrome carriers of?
Unbalanced Robertsonian translocation.
- 1) What type of translocation does a parent have to be a carrier of to have a child with Familial Down Syndrome? **Balanced** Robertsonian translocation.
- 3) True or False? The older a woman is the greater her chance of having a child with Familial Down Syndrome. **-False**

Amanda Niemann Sex chromosome aneuploidies

- 1) The SHOX gene is an X-linked gene associated with bone growth and development. What sex-chromosome aneuploidy might this gene play a role in? Is this condition a trisomy or monosomy?
- 2) List one reason why sex-chromosome trisomies result in milder phenotypic effects than autosomal trisomies.
- 3) Most individuals with Klinefelter's syndrome are sterile and unable to reproduce. However, a few are able to have children. Briefly describe how this may be possible. Are these individuals male, female or hermaphroditic?

Brittany Naumann SNP's

1. Briefly explain how SNPs are useful in detecting diseases.
2. Are most SNPs found in coding or non-coding sequences of DNA?

Beci Petersen Forensics/Paternity testing

- 1) What do you call a gene for which there is more than one relatively common allele in a population?
A polymorphic gene

(True or False)

- 2) The SSR's used in DNA typing are the same length as those used in genetic mapping?
False. DNA typing uses longer SSR's (14 – 500 bases)

Levi Pole Gene therapy SCID

- 1) What is one complication that occurs when treating SCID?
- 2) Is SCID recessive , dominant , or X-linked?

Rachel Shjerve Karyotyping

- 1.) explain the difference between chromosome painting and karyotyping
- 2.) name 2 of the 4 ways to obtain a DNA sample to test

Katie Schunk Trisomy 21-Down Syndrome

- 1.) What is the most common method of mutation in Trisomy 21?
- 2.) What is one method of testing used to determine birth defects during early pregnancy?

Hillary Simensen Huntington Disease

1. How is Huntington disease inherited?
A) Sex-Linked dominant
B) Autosomal dominant
C) Sex-Linked recessive
D) Autosomal recessive
2. Why does Huntington disease continue to be passed on?

Kelsey Velo RFLP's

- 1) What is a RFLP
- 2) What are two ways RFLP's are formed
- 3) What is a polymorphism