

Tater Tots

PART 1 - GENOTYPE TO PHENOTYPE

MATERIALS NEEDED - Egg with chromosomes, Sperm with chromosomes, Tater Tots and parts, Phenotype chart, data sheet

Procedure:

1. Students will work in pairs to create a Boy or Girl Tater Tot. Student pairs will each choose a sperm and an egg that contain chromosomes for their Tater Tot.
2. Students will mark down the genotype for the characteristics of their Tot based on the information in their chromosomes.
3. Students will fill in the next 2 parts of their data table.
4. Students will use the Phenotype chart to determine the traits of their Tater Tot and fill in the last column on the data table.
5. Once the chart is complete, students will go to the appropriate station and build their Tot.
6. Once the Tot is built, students will answer the Analysis Questions.

PART 2 - PROTEIN SYNTHESIS

MATERIALS NEEDED - amino acid sequence chart, codon chart, data table and or Tater Tot, part 1 answer document for each group

1. Students will use the amino acid sequence chart to find out what the amino acid sequence is for each characteristic for their Tater Tot.
2. Using the codon chart, students will find a codon for each of the amino acids in their sequence. They can choose whichever codon they want if there is more than one to choose from.
3. Once students have completed their mRNA strand, they will convert that into their DNA sequence.

PART 3 - EVOLUTION

You can use the different populations created to discuss gene pool and gene flow. You can also introduce a random trait and discuss things like:

1. How will the introduction of this allele into the population affect future generations?
2. What happens if an individual with a lone trait in the population leaves the population due to death or migration?

This section lends itself to really working on predicting trends.