

# **Birds and Bees of Plants**

## **(6<sup>th</sup> – 8<sup>th</sup> Grade Rotational Version)**

### **Morning Learning Stations for Students –**

#### **STATION 1: Seeds, Flowers and Pollination (Needs 2 – 4 Adults)**

- (15 min) Seed dissection
  - o Learn the parts of a seed
  - o Explore the differences between a Monocot and a Dicot seed
  - o Understand seed structures
- (15 min) Flower dissection
  - o Learn the parts of a complete flower
  - o Explore the essential parts of a complete flower
  - o Understand plant structures
- (15 min) How pollination works
  - o Learn the types of pollination (Self- vs Cross-Pollination)
  - o Understand the role of pollinators

#### **STATION 2: Selecting Traits (Needs 2 – 4 Adults)**

- (15 min) Traits and why they are important
  - o Understand types of reproduction in plants (Asexual vs Sexual)
  - o Learn ways that traits can be passed on (Artificial vs Natural)
  - o Explore how plant populations can adapt over time
- (30 min) Flower Power Genetics Activity
  - o Understand how alleles on a gene work (Dominant vs Recessive)
  - o Learn ways that genes can pass on traits to offspring (Homozygous vs Heterozygous)
  - o Explore how new species are created

### **LUNCH BREAK**

### **Afternoon Learning Stations for Students –**

#### **STATION 3: Explore IQhub & Drive Tractor Simulator (Needs 2 – 4 Adults)**

- (60 min) IQhub Scavenger Hunt (2 students at a time go drive tractor simulator)

#### **STATION 4: Punnett Squares (Needs 2 – 4 Adults)**

- (10 min) Genetic Vocabulary
  - o Review important genetic terms
- (20 min) DNA Dog Recipe Activity
  - o Discuss how living organisms have a set amount of chromosomes (Humans = 23 pairs & Dogs = 39 pairs)
  - o Examine how chromosomes help code for the traits of the organism
  - o Explore how DNA is the “recipe” for a dog species
- (25 min) Monohybrid Cross Activity
  - o Review important genetic terms
  - o Understand how a Punnett Square works
  - o Examine how Punnett Squares can determine the probability of passing on a certain trait
- (5 min) Mutations
  - o Learn the types of mutations (insertion, deletion, substitution)
  - o Understand the role mutation play on a species

## Michigan Learning Standards for today's IQhub visit –

- Science Standards:
  - MS-LS1-4 Animal Behavior and Plant Structures
  - MS-LS1-5 Environmental and Genetic Growth Factors
  - MS-LS3-1 Mutations – Harmful, Beneficial or Neutral
  - MS-LS3-2 Asexual and Sexual Reproduction
  - MS-LS4-4 Natural Selection
  - MS-LS4-5 Artificial Selection
  - MS-LS4-6 Adaptation of Populations Over Time
- Math Standards:
  - MS-6.RP Ratios and Proportional Relationships
  - MS-6.SP Statistics and Probability
  - MS-7.RP Ratios and Proportional Relationships
  - MS-7.SP Statistics and Probability
  - MS-8.RP Ratios and Proportional Relationships
  - MS-8.SP Statistics and Probability
- Career Awareness for 6<sup>th</sup> Grade:
  - Target 3: Engage Students in Career Awareness Activities
    - Identify jobs in a Career Zone; include what is a nontraditional job
    - Basic soft skills/work ethic discussions
- Career Exploration for 7<sup>th</sup> – 8<sup>th</sup> Grade:
  - Target 3: Engage Students in Career Awareness Activities
    - Identify personal traits and characteristics that may later link to career interests
    - Soft skills/work ethics

## Possible Careers Discussed in today's IQhub visit –

- Farmer
- Botanist
- Horticulturist
- Landscaper
- Environmentalist
- Ecologist
- Geneticist
- Mechanic
- Soil Scientist
- Agronomist
- Entrepreneur