Plant Life Cycle - Life Science Investigation

Adapted from Wisconsin Fast Plants at fastplants.org

Part A: EXPLORE: Make a Germination Necklace

1. Look at each of the seeds every day at about the same time.
2. Once you see growth of the root or the shoot (leaves), use your ruler to measure the length in millimeters (mm). This is the smallest unit on the metric side of your ruler.
3. It may be difficult to take the seedlings out of the bags and then to put them back in without
4. breaking the roots. To prevent the breakage of roots, measure the roots through the bag instead.
5. The roots will curl, so you may need to measure them in sections, add the lengths of the sections, and then estimate the total length.
6. Make observations about the seed every day. Are you seeing fuzz? Has the seed coat cracked? Has it been pushed off? Are the shoots green?

	Corn Kernel 1			Corn Kernel 2		
	Root Length	**Shoot Length**	**Observations**	**Root Length**	**Shoot Length**	**Observations**
Day 0	*0 mm*	*0 mm*	*The seed is smooth and no growth is visible*	*0 cm*	*0 cm*	*The seed is smooth and no growth is visible*
Day 1						
Day 2						
Day 3						
Day 4						
Day 5						
Day 6						
Day 7						

DATA CHART

Growth Chamber 1: 2 seeds with NO FERTLIZER PELLETS					
Date	**Day of Growth**	**Plant 1 Height (mm)** **Toothpick Color** _____	**Plant 2 Height (mm)** **Toothpick Color** _____	**Total Height for both plants** **Height 1 + Height 2 =**	**Average Heights for both plants** **Total Height ÷ 2 =**
	0	**0**	**0**	**0 + 0 = 0**	**0 ÷ 2 = 0**
	2				
	4				
	6				
	8				
	10				
	12				
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

FINAL DATA:

Plant 1: Number of Pods _____ Number of Seeds _____
Plant 2: Number of Pods _____ Number of Seeds _____

DATA CHART

Growth Chamber 2: 2 seeds with 3 FERTLIZER PELLETS					
Date	**Day of Growth**	**Plant 3 Height (mm)** **Toothpick Color** _____	**Plant 4 Height (mm)** **Toothpick Color** _____	**Total Height for both plants** **Height 3 + Height 4 =**	**Average Heights for both plants** **Total Height ÷ 2 =**
	0	**0**	**0**	**0 + 0 = 0**	**0 ÷ 2 = 0**
	2				
	4				
	6				
	8				
	10				
	12				
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

FINAL DATA:

Plant 3: Number of Pods _____ Number of Seeds _____
Plant 4: Number of Pods _____ Number of Seeds _____

DATA CHART

Growth Chamber 3: 2 seeds with 6 FERTLIZER PELLETS					
Date	**Day of Growth**	**Plant 5 Height (mm)** **Toothpick Color** _____	**Plant 6 Height (mm)** **Toothpick Color** _____	**Total Height for both plants** **Height 5 + Height 6 =**	**Average Heights for both plants** **Total Height ÷ 2 =**
	0	**0**	**0**	**0 + 0 = 0**	**0 ÷ 2 = 0**
	2				
	4				
	6				
	8				
	10				
	12				
	14				
	16				
	18				
	20				
	22				
	24				
	26				
	28				
	30				
	32				
	34				
	36				
	38				
	40				

FINAL DATA:

Plant 5: Number of Pods _____ Number of Seeds _____
Plant 6: Number of Pods _____ Number of Seeds _____

Final Conclusions to Discuss as a Family

1. Which of your plants was most successful? _____

2. How did you decide your answer? What makes a plant more successful?

3. Why do you think we needed to grow two plants in each chamber?

4. Why do you think it is important to average the heights for both plants in the chamber?

5. What was the most surprising thing that you learned about keeping a plant healthy?

6. What is a pod? Why do you think these plants make pods? Can you think of vegetables we eat that have pods?

7. Is fertilizer important for a garden? How do you know?

8. If you were going to grow some plants in your garden, how much fertilizer would you use? Why?

Extension:

Plant the corn from your Germination Necklace in a pot filled with potting soil. How much fertilizer will you add? How often will you water your new plant? How will you know that your plant is healthy?