Seed Germination Notesheet C. Kohn, Waterford WI

Name: Hour Date:

Date Assignment is due: *upon finishing PPT* Why late?
 Day of Week Date If your project was late, describe why

1. When we see a seed, what are we actually looking at?

	1. What is the function of the component of the seed?
2. Fill in the names of each of the structures below:

3. What is the immature plant inside the seed coat called?

	1. What are the plumules?
	2. What is the cotelydon?
	3. What is the radicle?
	4. What is the hypocotyl?
4. What is the function of the endosperm?
5. What is the first step of germination?

	1. What does this do for the plant?
6. What is the main criteria in whether or not a seed will germinate?
7. Complete the following stages:
	1. Pre-germination
		1.
		2.
		3.
		4.
		5.
		6.
	2. Germination
		1.
		2.
	3. Post-germination
		1.
		2.
		3.
8. What are the 3 functions of water in a germinating seed?
	1.
	2.
	3.
9. Does light help or hurt seed germination? Explain:
10. Why is oxygen necessary for seed germination?
11. As a rule of thumb, what is the best soil temperature for seed germination for most species of plants?

	1. What is the difference between germination percentage and rate of germination?
12. What is the first step of germination after the starch of the endosperm is converted into sugar and mitosis begins?

	1. How long does this take under warm conditions?
13. Why must the roots develop and leaves begin photosynthesis before the endosperm is completely consumed?
14. Why would soil compaction increase the time of emergence? Explain using the term “coleoptiles”.
15. Why is it that the seeds of temperate plants do not sprout after rain in fall?
16. What is vernalization?
17. What would it mean if a plant had facultative vernalization?

	1. What would obligatory vernalization mean?
18. What is one way in which seeds are stimulated to germinate in climates that are not temperate?
19. In the space below, provide two (2) ways in which germination rates and germination percentages can be improved in regards to each factor *and* explain why it would be effective:

	1. Moisture (what is appropriate? Could a seed be too wet?)

		1.
		2.
	2. Temperature (hint: warm or cold)

		1.
		2.
	3. Soil Compaction (hint: oxygen and coleoptiles could factor)

		1.
		2.
	4. Light (what is the difference between large seeds and small seeds?)

		1.