The Baby Plant Project

(Adapted from Greta von Bargen, biologyforlife.com)

You are now the proud parent of several baby plants -- aka seeds….which are really baby plants in arrested development.

You will be given several monocot seeds (corn) and several dicot seeds (beans, tomatoes, peppers)

- Your first task is to jump start development of your new babies by providing the necessary resources (moisture and soil). They should be planted in clear plastic containers so you can watch and record every aspect of growth and development (even root growth).
- Second, support growth and development as appropriate for your baby plants. Remember, resources should be provided in appropriate quantities (i.e. don't over or under water!! Provide sunlight.). MAKE SURE THEY SURVIVE!
- As your plants grow, DOCUMENT every aspect of growth, as any doting parent would. TAKE PICTURES OR MAKE COLORED DRAWINGS of key events in your plants life…first cotyledon, first leaf, first internode, etc. Be sure to include root growth, too! Write captions to go along with each picture.

The Baby Book:

At each phase outlined above, write or record a description of the biology behind the growth -- what is going on in your plant's life?

You may choose a "baby book" format OR use an electronic tool like photostory or powerpoint

Submit at least 4 pictures/drawings

With each picture, provide a caption (or description, if making a video) to include important biological information about your plant and/or it's stage of development.

Make it fun and interesting. Play the role of the loving, doting parent.

Include commentary (captions or journaling) that tell as much about the biology of the plants as you can. Label structures. Include functions of structures noted.

Here's the rubric I use....

Baby Plant Project Rubric

	Neglectful Parent & Beginner Plant Biologist **1 point**	Loving but Busy Parent & Apprentice Plant Biologist **2-4 points**	Loving, Doting Parent & Plant Biologist Extraordinaire **5 points**
Seed Structure & function noted & explained o Labeled Drawing/photo o Embryo o Cotyledon o Endosperm o Captions explaining S&F			
Germination explained o Imbibition & other factors that may influence germination			
Young plant structure and function o Labeled Drawing/photo o Terminal bud o Node/internode o bud o Cotyledon/coleoptile o Adventitious/tap root o Primary/lateral root o Root hairs o Leaf o Cuticle & dermal tissue			
Growth explained (shoot & root) o Meristem o Primary/secondary growth o Vascular & cork cambium o Hormones involved: (tell about at least 2: auxin, cytokinin, ABA, gibberelin) o At least ONE seen tropism explained			
Nutrient & water delivery described & explained.			

o Transpiration/turgor pressure o Vascular tissue o Xylem (S&F) o Stomata/guard cells (S&F) o How soil contributes to plant growth o Role of casparian strip			
Food delivery described & explained o Translocation o Phloem (S&F)			
Life cycle diagrammed & explained o Gametophyte/sporophyte			
EC: Reproduction described & explained o Labeled drawing/photo of flower o Stamen/filament/anther o Carpel/stigma/style/ovary o Petals/sepals o Pollen/ovule o Double fertilization			
Family relationships o Monocot/dicot characteristics o Related species to each (examples of other monocots/dicots)			
Format o Baby book or electronic format used o Neat, evidence of care & time taken o Any drawings are neatly done & accurate (scientific drawings) o Photos used are in focus & appropriate in size to show details o Journal entries & captions are word-processed or neatly written, GUM and spelling rules are followed o LIVE PLANTS ARE BROUGHT IN WITH PROJECT			