

The Baby Plant Project

You are now the proud parent of several baby plants, ummm, actually seeds....which are really baby plants in arrested development.

You will be given several radish seeds:

- First, your task is to jump **START DEVELOPMENT** of your new “babies” by providing the necessary resources (water, soil, sunlight). They should be planted in clear plastic containers so you can watch (and record!) every aspect of growth and development (even root growth). It’s best to plant seed next to the inside of the cup to observe and document germination and root growth.
- Second, **SUPPORT GROWTH** and development as appropriate for your “babies”. Remember, resources should be provided in appropriate quantities (i.e. don’t over or under water!! Provide light.). As a parent you want to ensure the best conditions for your baby to start life. Research what optimal conditions for germination and growth would be. **MAKE SURE YOUR BABIES SURVIVE!** They will require care EVERY DAY!
- As your baby grows, **DOCUMENT** every aspect of growth, as any doting parent would. TAKE PICTURES OR MAKE COLORED DRAWINGS of key events in your plant’s life...first cotyledon, first leaf, first internode, etc. Be sure to include root growth, too! Write captions to go along with each picture.
- In between picture-worthy events, write journal entries to tell what is going on in your plants life.
- As any child matures it faces life challenges. Watch this movie or find others to help you better understand your growing and maturing radish.
“What Plants Talk About” Link: <http://www.pbs.org/wnet/nature/episodes/what-plants-talk-about/video-full-episode/8243/>
Describe some of your fears, hope and dreams for the life of your babies as they grow up and interact with the rest of the “world”. Journal about your observations as they grow to maturity.

The BABY BOOK:

- You may choose a “baby book” format OR use an electronic tool like photostory, power point, movie maker or other appropriate form.
- Pictures/drawings at least 3” square. No more than 4 frames per page.
- ALL frames MUST have a caption that includes important biological information about your plant and/or its stage of development.
- BE CREATIVE. 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. See rubric for details

- **SHARE** your favorite parenting resources for others to benefit from. Include your own reviews and use the 5-star rating system to share your great (and not so great) resources.

A Few Hints for Radishes:

- Depending on the size of your container, you will want to thin down to one or two healthy plants- sprouts and small (or tiny) radishes and greens are good to eat too.
- They will not bulb if grown too close together or it's too hot- It's OK if they don't get bulbs.
- Their roots do not like sunlight, but algae does. It is recommended you wrap a layer of aluminum foil around your cup to keep the root zone dark but allow you to peek on occasion. If your soil or the cup starts to develop a layer of green algae, just cover those parts of the cup, but not your sun-loving baby leaves!
- They Mature in 3-6 weeks : **START** your Baby's journey **NO LATER THAN JULY 20TH**. If you have vacation plans, Plan your growing time to avoid paying for a babysitter.
- They Form flower stalks (bolt) in hotter weather- this might be good if you're going for bonus points. (Look up how to make sure they form seeds.)
- **DON'T LET THEM DRY OUT!** Place your container of soil with holes in the bottom in a larger, shallow container filled with water to maintain moisture and reduce daily maintenance or develop your own watering system. Radishes don't like to have their feet too wet. The roots can actually drown from lack of oxygen if kept submerged.
- The goal is to observe growth and life cycles, not to harvest for your salad. If started early enough (about 6 weeks), bring in the flowering plant or seed pods.
- Bonus points for saving seeds to use next year even after class has begun and projects turned in! 😊

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
<p>Seed Structure & function noted & explained</p> <ul style="list-style-type: none"> ○ Labeled Drawing/photo <ul style="list-style-type: none"> ○ Embryo ○ Cotyledon ○ Endosperm ○ Captions explaining Structure and Function (S&F) <p>Germination explained</p> <ul style="list-style-type: none"> ○ Factors that may influence germination 			
<p>Young plant structure and function</p> <ul style="list-style-type: none"> ○ Labeled Drawing/photo <ul style="list-style-type: none"> ○ Terminal bud ○ Node/internode ○ Bud ○ Primary/lateral root ○ Root hairs ○ Leaf ○ Captions explaining S&F <p>Life cycle diagrammed & explained</p> <ul style="list-style-type: none"> ○ Flower parts (of Stamen, of Carpel, other) 			
<p>Nutrient, food & water delivery described & explained.</p> <ul style="list-style-type: none"> ○ Transpiration/turgor pressure ○ Vascular tissue- Xylem (S&F) and Phloem (S&F) ○ Leaves-Mesophyll, Stomata/guard cells (S&F) 			
<p>Family tree and relationships</p> <ul style="list-style-type: none"> ○ Name (scientific, common, your ‘nickname’) ○ Monocot/dicot characteristics-which is your baby? How can you tell? ○ Related species (at least 3 examples) 			
<p>Format</p> <ul style="list-style-type: none"> ○ Baby book or electronic format used ○ Neat, evidence of care & time taken ○ Any drawings are neatly done & accurate (scientific drawings) ○ Photos used are in focus & appropriate in size to show details ○ Plant ‘Parenting’ resources are referenced and rated- Bibliography. Don’t forget to credit people who have helped. ○ Journal entries & captions are word-processed or neatly written, grammar and spelling rules are correct ○ LIVE PLANTS or Mature plant with seed pods ARE BROUGHT IN WITH PROJECT 			