**Unit Title: Phenology of California poppy Grade level: 3-5**

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| **Lesson # 4 Title: Meet your state wildflower!** | **Number of Minutes: 30 minutes plus ongoing activity** |
| Mathematical purpose (if applicable): | Scientific Purpose: Learn how to grow the state flower. California poppy is an excellent species for phenology observations. It dies back during fall and winter and leaves emerge before spring. It has beautiful flowers, and the changes in the center of the flower as the seed pod matures are dramatic and visible. The whole life cycle will be visible within a single school year. |
| Materials needed:  A packet of California poppy seeds or baby plants to put in the ground. Some schools might already have a patch of California poppy on campus and that might work also. However, the native variety is unlikely to be on school campus and it will “perform” according to the seasons better than the Caltrans poppy. | Academic vocabulary: state symbol, life cycle, state flower, perennial, annual |
| Common Core Standards (copy and paste): Michael will do | Next Generation Science Standards (copy and paste): Michael will do |
| When students are finished they will understand:   * What a state symbol is | What are teacher questions or prompts?   * Have you ever heard of a state symbol? * Did you know our state has a state tree, reptile, insect, flower, fish, bird, and so much more! * Do you know what our state wildflower is? * Would you like to grow the plant from seed? |
| What are questions you anticipate students will have? Ashley | What are misconceptions students might have? Ashley |
| General outline of the lesson:  Seems like gleaning cool information about California poppy, the history, Native American use and putting it in an accessible outline form will help teachers.  Decent links to information and history of state symbols:  <http://www.statesymbolsusa.org/states/united-states/california>  <https://www.library.ca.gov/history/symbols.html>  I am a fan of the USDA NRCS Plant Guides. If you follow this link, you will find another link to a pdf of a 7 page plant guide all about CA poppy:  http://plants.usda.gov/core/profile?symbol=ESCA2  I think a brief note to teachers in the outline about the difference between human created cultivars of CA poppy vs. our local native is warranted. Here is a tiny blip: <http://kymkemp.com/2008/04/10/caltrans-or-local-california/> To my knowledge, the local subspecies does not tend to become invasive like the Caltrans poppy does.  I’ll put the copy of “Life-cycle books by Althea, Flowers” in the box at Fuente. The book features a poppy and has some nice drawings. If you like the book, it could be a suggested reading. This lesson plan might also be a good place to include your drawings of flower parts?? Learning flower parts as a suggested supplementary activity?  Ongoing activity--how to grow our state wildflower:  I will pick my friend Josh Koepke or his business partner Eric Johnson’s brain (the people who run Samara native plant nursery) about growing CA poppy. In this lesson plan outline I hope you can create step by step instructions for growing CA poppy (I will try to get the details from Josh). When to plant the seeds, when to expect them to flower. I’ve only tried to grow the native cultivar once in my yard, but it didn’t survive as a perennial as did the individuals I planted at Fuente. Around town I notice Caltrans poppy has a hugely wide range of bloom time (I just noticed some blooming during the end of February). I’m hoping that if it is planted at the right time it will indeed be an excellent “performer” for phenology observations. I’m pretty sure we can get it to flower and set fruit before the end of the school year in June. I don’t think kids will observe seeds until they come back from summer break, but I’m not sure?? | |

Supplemental files/resources will follow