



Josh Leonard

Dandelion Phenology

- Best time of year: early May through June. Appropriate for grades 3 - 12. Adaptable for younger students.
- Note: The outside portion of this activity requires green space with dandelions. If students are unable to safely make observations on their own, please have students make observations using this [Observation Page](#) (or see below)

Focus Question: Where do you find the most dandelion flowers around a building?

Lesson Phase	Description
Engage	Ecology <ul style="list-style-type: none"> - What do flowers need to bloom? - What do seeds need to set? - Which side of the building would produce the most dandelion seeds? - H_0 – all sides of the building have the same amount of dandelion seeds - H_1 – more seeds on the south side of building - H_2 – more seeds on the north side of building
Explore	Go to the south side of the house or building.
Explore	Measurements: <ul style="list-style-type: none"> - Plant growth phase(s) (leaves, flowers, seeds) - Temperature (thermometer is best, or be able to compare warmer/cooler temps from different sides of the building) - Light guesstimate
Explore	Go to the north side of the house or building
Explore	Measurements: <ul style="list-style-type: none"> - Plant growth phase(s) (leaves, flowers, seeds) - Temperature - Light guesstimate
Explain Discussion Students respond via Schoology or Notable	Questions: <ul style="list-style-type: none"> - Did dandelions look the same in both places? - Where are the most dandelion seeds growing? - What could explain the difference(s)? - What were the INDEPENDENT (shade/temp) and DEPENDENT (dandelion flowering/seeding) variables?
Elaborate Design another investigation	Where will other plants grow best? Are there any plants that grow better on the north side of buildings?
Evaluate	Apply your understanding of microclimates to a new situation.

	<p>Teacher notes:</p> <p>What to expect: Students should find dandelions are more “phenologically advanced” on the south side of the building. That means earlier in the spring (mid to late April) - dandelions will be flowering on the south side of the building, and only leafy green on the east, west and north sides of the building. Later in the spring the south side dandelions will be in seed, while dandelions growing on the east and west side of the building are in flower, and north side dandelions are only green. Still later, the South side dandelions have dropped their seeds, the E/W dandelions have puff ball seed heads, and maybe the north-side dandelions are finally blooming. All of this is true closest to the building as you look at the lawn farther away from the building walls, they will be less and less affected by the building.</p> <p>Other plants: Look for moss on the north side of the building (usually present at most SPPS school buildings). Usually moss is not growing on South sides of buildings.</p>
Teacher Extension	<p>Tulip Test Gardens - SPPS Urban Heat Island Cohort - Please contact Josh Leonard (joshua.leonard@spps.org) if you would like to learn how observing beautiful tulips blooming can help your students connect to climate literacy.</p>

Data Sheet

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Plant Phases	NORTH SIDE		SOUTH SIDE		NOTES
	CIRCLE ONE		CIRCLE ONE		
	Warmer	Cooler	Warmer	Cooler	
	CIRCLE ONE		CIRCLE ONE		
	Brighter	Shadier	Brighter	Shadier	
Leaves	<u>Circle one</u> Y N ?		<u>Circle one</u> Y N ?		
Flower buds	Y N ?		Y N ?		
Open flowers	Y N ?		Y N ?		
Seeds	Y N ?		Y N ?		
Seed drop	Y N ?		Y N ?		



Observation Page

Harding High School

