

The Hidden Colors of Autumn – 5E’s Lesson Plan  
Standards: **NS.1.5.1, NS.1.5.2, NS.1.5.3, NS.1.5.5, NS.1.5.12**

Engage: (Day 1: Tuesday 12:30)

- View: Aerial Fall Foliage video clip.
- Read: Leaf Trouble by Jonathan Emmett.
- In the story Pip says that he understands that autumn leaves are beautiful colors because they are the color of the sunset. What do you think about his statement? (Assess current knowledge and misconceptions about leaf color here. Write on the whiteboard any vocabulary appropriate to task that comes out of this discussion.)

Explore: (Day 2: Wednesday 11:15)

- Collect leaves from school grounds.
- (12:30 same day) Cut leaves into very tiny bits. Cover in one tablespoon of rubbing alcohol. Smash for 5 minutes in bottom of clear cup. Allow to sit for 30 minutes in alcohol solution. Remove leaf bits with plastic spoon. Cover sides and top loosely with black construction paper.
- (2:15 same day) Remove dark covering. What do students notice?
- Add coffee filter strips marked “tree leaf” and team number. Secure to side of cup. What do students believe will happen? What scientific knowledge is behind their prediction? Chart expectations. Recover and return to waiting location.
- (Day 3: Thursday 12:30) Based on what you know about (fill in vocabulary that was used by students, if any), what do you expect to see today?
- Remove coverings and observe; notate what they observe. Discuss. Chart our thoughts.

Explain: (Day 3: Thursday 12:45)

- Students will access differentiated reading passage on iPads at Google Classroom: Autumn Leaves and Fall Foliage – Why Do Fall Leaves Change Color?. Students will also read excerpt from Layers of Learning website. Students will read and jot a few notes in preparation for discussion.
- (Day 4: Friday 12:30) – Students will create a “photosynthesis anchor chart” in their Science ISNs from the illustration in the passage. Students will discuss what they gleaned from the passage. Students will create and ask own questions and revisit passage to answer questions and make meaning of the concept of photosynthesis.
- Students will write a few sentences on their exit ticket to explain their understanding thus far. (What level of vocabulary usage is noted? Is there in-depth understanding of the process of photosynthesis or is reteach needed?)

Elaborate: (Day 4: Friday 12:30)

- Could you compare the color molecules in different plant sources? What other plants have color to them? (Students might suggest red cabbage, blueberries, carrots, beets, spinach, flowers.)
- How would you apply what you know from this investigation to help you explore color molecules in other plant sources? Students may be interested in designing this new investigation. What support do they think they need from me?

Evaluate:

- Evaluation will be ongoing throughout this process.
- Exit Slips will be collected to check student understanding and determine if more “Explain” is needed.
- Students who choose to investigate further will be supported in their investigations and evaluated as well.