Wonder STEAM Unit
The Country School

The fall STEAM unit in 7th Grade was based on the book *Wonder* by R.J. Palacio. Throughout the course of the unit, students explored the book and its messages about diversity, empathy, and inclusion through several avenues. In addition to reading, discussing, and writing about the book and its themes, 7th Graders engaged in cross-curricular activities involving science, technology, engineering, arts, and math, helping them delve more deeply into the subject matter and, ultimately, experience empathy as they were able to imagine life from someone else’s vantage point.

The overall literary theme for 7th Grade English is Diversity, and *Wonder*, the story of Auggie, a boy born with a cranial-facial difference, was a perfect vehicle for exploring the topic. English teachers Teresa Sullivan and Willa Ridinger collaborated with STEAM Coordinator and arts educator Stephanie Smelser to make the *Wonder* unit a multi-disciplinary experience.

At the outset, each student was assigned an ailment or condition to research and explore through a variety of formats. The elements of STEAM were used in the following ways:

**Science:** Research the condition you have been assigned (facts, symptoms, statistics, etc...)

**Technology:** Use technology for your research; use technology (via Prezi) to make a presentation

**Engineering:** Use plaster and other art materials to depict your topic in the form of a mask

**Arts:** Create and decorate your mask in a way that evokes empathy from the reader and viewer and allows you to put yourself in the place of the character you are studying; You will also write about your topic in several formats

**Math:** Research the statistics for the condition you have been assigned (for the state of Connecticut, the United States, and worldwide; compare the population affected by the condition with the general population)

Listed below are the actual assignments, designed to engage multiple intelligences.

**Writing, Research Project**
Students were asked to write an essay about the condition he/or she researched. Essays were to include: an explanation of the condition, the challenges of living with the condition, statistics about where it exists and how widespread it is (in Connecticut, in the United States, and worldwide), the services needed for someone with this condition, and a description of a typical day for a person with the condition.
Creation of Masks
Each student was assigned a partner and then, with that partner, instructed to make a Plaster of Paris mask. Based on the research they had each done on their particular condition, they were asked to decorate the mask to symbolize, reflect, and convey what it is like to live with that condition.

The mask at below (right) depicts dyslexia. A description from one of the students who created it:

*My partner and I researched together and found a lot about dyslexia. ... A little-known symbol of dyslexia is a circle with four circles inside it. The inner circles all touch the large outside one. This represents the letters p, q, b, and d, which are commonly confused by dyslexic people. ... We painted the mask black and used pipe cleaners to make the symbol, which we put over the eye. The black color represents the pain dyslexic people have to go through at school, work, home and the outside world, and also their frustration with reading and writing. We put the symbol over the eye to represent how what they see is altered by their brain to become something completely different.*

Below, a wall of masks in one of the 7th Grade classrooms. Among the conditions depicted are: autism, progeria, asthma, breast cancer, bipolar disorder, and disassociative identity disorder.
Peer evaluation
Students engaged in peer evaluations for the mask project, listing one factual take-away from each presentation, what he or she was moved by (the emotional component of the presentation/ailment), and whether symbolism was evident or not evident. They were asked to list one symbol on the mask and explain what it symbolizes.

Incorporating Music: Songs and Intros
In class, students listened to Natalie Merchant’s song “Wonder.” The lyrics begin the novel Wonder:

Doctors have come from distant cities
Just to see me
Stand over my bed
Disbelieving what they're seeing

They say I must be one of the wonders
Of god's own creation
And as far as they can see they can offer
No explanation

For an assignment related to the song, students were asked to: Pick a song that speaks to you (list title and singer/band) and write an intro that reflects what the class worked on. It should grab a reader’s attention by: beginning with an example or anecdote, beginning with a startling fact or opinion on a topic, using an appropriate quotation, giving some background information, and simply stating the thesis. Provide reasons about why the song speaks you and connect it to a novel you have read (explain why). Brainstorm your ideas and write five paragraphs.

Prezi Project
In Wonder, one of the characters, Mr. Browne, keeps a list of precepts, or words to live by. For this project, each student was responsible for a precept. Instead of writing an essay explaining its significance, they were asked to complete a Prezi (a Prezi is a cloud-based storytelling tool for presenting ideas on a virtual canvas). Class time was spent learning about Prezis and working on a sample together. The final Prezis, shared with the entire grade, asked students to include: a bio about the author of the quote (if it enhances your message), its link to Wonder, a personal connection, a YouTube clip (no more than 2 minutes), and images.

The following is a list of precepts assigned to students:
1. When given the choice between being right or being kind, choose kind. - Dr. Wayne Dyer
2. Your deeds are your monuments. - inscription of an Egyptian tomb
3. Have no friends not equal to yourself. - Confucius
4. Audentes fortuna iuvat. (Fortune favors the bold.) - Virgil
5. No man is an island, entire of itself. - John Donne
6. It is better to know some of the questions than all of the answers. - James Thurber
7. Kind words do not cost much. Yet they accomplish much. - Blaise Pascal
8. What is beautiful is good, and who is good will soon be beautiful.” - Sappho
9. Do all the good you can,
   By all the means you can,
   In all the ways you can,
   At all the times you can,
To all the people you can,  
As long as you ever can.  
- John Wesley’s Rule

10. Just follow the day and reach for the sun! - The Polyphonic Spree, “Light and Day”

11. It’s not enough to be friendly. You have to be a friend.

12. All you need is love. - The Beatles

13. To thine own self be true. - Hamlet, Shakespeare

14. Everyone in the world should get a standing ovation at least once in their life because we all overcometh the world.

Additional writing - Essay: How am I Ordinary?
Diversity, the 7th Grade’s literary theme, seems to be the opposite of normal or ordinary. In the book Wonder, the first chapter is entitled “Ordinary”, and the protagonist, August (Auggie) Pullman begins, “I know I’m not an ordinary 10 year old kid.” Students were asked to write an essay answering the question: How am I ordinary? Before writing, they were asked to find at least four examples of how they are ordinary. Other special instructions included the following:

**Introduction:** FOLLOW MY LEAD should be interesting. It should draw the reader in and connect to your thesis (topic sentence).

**3 Body Paragraphs:** Topic Sentence - This should have the topic of ordinary and whatever example you are providing in the paragraph. Remember show not tell. Use specific details.

**Conclusion:** Restate your thesis. Perhaps you will conclude that you are not ordinary after all?

**Writing Tips:** Do not use second person (you, your). This includes imperative sentences with you as the implied subject. Proofread. Fluency counts. (Try this: The beginning of a sentence should contain something from the previous sentence, and the second part of that sentence should have something that continues the idea.)

**Requirements** Typed 2 pages, 12 pt Times New Roman, double spaced, 1 inch margins

**Additional writing – Essay: Explain a relationship**
Inspired by a relationship in Wonder, describe the relationship you share with one of your grandparents. Five paragraph essay.

**New Vocabulary - from Word Voyage weekly lessons:**
extraordinary, flounder, professor, absolutely, incubator, auditorium, sarcastically, obnoxious, embarrass, accordion, shriveled, coincidence, apparently, Portuguese, disproportionately, mischievous, multifactoral, inheritance, mutant, sanitizer, unicorn, weird, archaeologist, illuminate, skeleton, sympathetic, potential, confrontation, suspension, audition, awkward, interrupt, monologue, theorem, syndrome, apprehension, pharaoh, transmitter, bionic, hysterically, congratulate, bungalow, precept, plaque, alignment, aluminum, tortoise, reaction, recital, phobia, aversion

**Assessment**
Throughout the project, the following assessments were used/made: peer evaluations, essays, masks, comprehension quizzes, weekly vocab lessons, Prezi.