

What does this look like in practice?

8th Grade

Take 5 minutes to read these texts considering the information that was just shared with you about passage selection.

- ✓ Are different genres and styles represented?
- ✓ Are the passages fair, interesting, and accessible to a wide variety of students?
- ✓ Can they be used to assess several learning standards?

View the Text Complexity Metrics for the passages. This will allow you to see and compare the range of text complexity represented on the whole assessment.

Take a minute to discuss with your colleagues how your classroom practice may change as a result of today's presentation.



New York State
EDUCATION DEPARTMENT
Knowledge > Skill > Opportunity



Directions

Read this article. Then answer questions 22 through 28.

Clash of the Condiments: Wasabi vs. the Chili Pepper

by Mary Beth Cox

Most condiments are peaceable enough. The sauces, spreads, and pickles of the world add flavor to our foods without kicking up much of a fuss. This is not true of the pungent or “hot” condiments. They are more aggressive. They get our attention by purposely causing us pain. These strong-armed seasonings are often the source of friendly 5 competitions. Loyal fans will contend that their favorite pungent condiment is the one that packs the most powerful punch. Ladies and gentlemen, you are cordially welcomed to just such a contest. Here it is, the Match of the Moment: Wasabi vs. the Chili Pepper.

IN YOUR CORNERS

Introducing in the Green Corner, hailing from the island nation of Japan, sushi’s inseparable sidekick: Wasabi! *Wasabia japonica* grows wild on the cool, damp banks of

10 Japan’s many mountain streams. The chill of its habitat is quite ironic since wasabi is famous for bringing the heat. The plant is a botanical relative of mustard and horseradish. Pungency runs in the family. Traditionally, wasabi is prepared by grating its rootstock on the abrasive skin of an angel shark. Authentic wasabi is relatively rare and difficult to come by. The emerald condiment that is served outside of Japan is almost always

15 horseradish pulp dyed with green food coloring. Whether the wasabi is real or whether it’s the more common substitute, a whopping snootful will make you cry for your momma!

And in the red corner, originating from the Central and South Americas, now an international culinary superstar: the Chili Pepper. Chili peppers are fruits of the plants of the botanical genus *Capsicum*. They are related to the tomato and the eggplant. They’re

20 the renegades in an otherwise mild-mannered botanical family. Chili peppers include but are not limited to the poblano, the cayenne, the jalapeño, the tabasco, the habanero, and the serrano. One of these culprits sometimes goes by the alias “chipotle.” A chipotle (pronounced chee-POHT-lay) is none other than a dried smoked jalapeño. Chilies were introduced to the non-American world by Christopher Columbus, who mistakenly

25 identified them as variants of black pepper. Chilies have since taken the culinary world by storm. They appear alongside dishes served around the globe, from the Basque provinces to North Africa and the Middle East, to India and Southeast Asia. A potent chili pepper in the kisser will make you rue the day you were born!

POWERFUL PUNCHES

Both wasabi and chilies are condiments of world-class pungency. But how do they
30 match up head to head? Each has its own unique tactical move. Each has its own special point of
attack. The active ingredient of the wasabi plant is stored stealthily in its cells. Under normal
growing conditions, this ingredient is completely harmless. It's not until the plant's cells are
ruptured (as by the grating action of angel shark skin) that the trouble begins. *Enzymes* convert
the ingredient into molecules of allyl isothiocyanate. It's the
35 chemical characteristics of these irritating molecules that are the secret to wasabi's pungency.
Allyl isothiocyanate molecules are lightweight. They are *volatile*. They are also soluble in water.
As a consequence, the consumption of wasabi launches an airborne assault on the consumer's
sinuses. Allyl isothiocyanate molecules waft up the nose and back of the throat. They dissolve in
the watery fluids they find there. They intercept nerve
40 endings in the nasal passages. Specifically, these molecules target pain receptors of the type
known as TRPA₁. TRPA₁ receptors respond to the attack by sending emergency signals to the
brain: "Yikes . . . we've gotten hold of something painfully hot!"

Chili peppers conduct operations of a different sort. Their active ingredient is a substance
called capsaicin. It's found in the spongy inner tissue of peppers, but it can leak
45 onto the seeds and inner wall of the fruit. Capsaicin molecules are heavier than the molecules of
wasabi's allyl isothiocyanate. They are not volatile. They prefer to dissolve in oils, so they aren't as
easily dissolved in water. Capsaicin molecules instigate an incendiary assault upon contact with
exposed vulnerable surfaces. They cling to the tender tissues of the lips, mouth, and throat. They
burn eyes that are rubbed with capsaicin-laced fingers.
50 Capsaicin molecules interact with pain receptors of the type TRPV₁. Again an alert is
expedited to the brain: "Mayday! Mayday! Let's not eat any more of that, please!"

WHERE'S THE REFEREE?

So which of these condiments causes the most pain? To settle any contest, a scoring system is
required. There is a way to compare the relative heat intensities of the various chili peppers. It's
called the *Scoville scale*. Scoville ratings are determined by brave human
55 test subjects who willingly sip extracts of chili pepper juice. Extracted juices are diluted again
and again until their heat can no longer be detected. A high rating on the Scoville scale means
that a lot of dilutions are necessary to eliminate the pain caused by a particular pepper.
Unfortunately, Scoville ratings are not applicable to wasabi. The method is specifically designed
to extract capsaicin from chili peppers. It doesn't work for allyl
60 isothiocyanate, or for anything else.

Pepper pungencies are also compared by using chromatography. *Chromatography* is an analytical technique that separates the chemical components of a mixture. After separation, the amounts of each component are quantified. Chromatography can determine how much capsaicin is in a pepper. It can also determine how much allyl
65 isothiocyanate is in wasabi. If two chili peppers have the same amount of capsaicin, it can be assumed that those peppers are equally “hot.” But the same assumption cannot be made when comparing chili peppers to wasabi. There’s no way to know if equal amounts of capsaicin and allyl isothiocyanate cause equal degrees of pain. So chromatography cannot definitively judge this contest.

70 It isn’t even possible to directly measure and compare nerve responses, since two different types of pain receptors are involved. Wasabi and chili peppers are like pungent apples and oranges. There’s no objective way to declare one more potent than the other. This friendly competition won’t be settled anytime soon. Everyone is free to chime
75 in with an opinion. You just have to try both of these pungent powerhouses, then root for your own favorite flavor of pain.

Directions

Read this story. Then answer questions 48 and 49.

Fifteen-year-old María, who was born in Puerto Rico, has moved to New York City with her father.

Excerpt from “Who Are You Today, María?” from *Call Me María*

by Judith Ortiz Cofer

Abuela¹ knocks on my bedroom door. She has come to my room this morning to watch me choose my outfit for Who You Are Day at school. This is a day when we are allowed to dress in clothes that we think tell the world who we really are. (Within reason, our principal warned—
5 word *extreme* is the same as my friend Whoopee’s. Nothing that she will put on this morning has ever been seen on this planet, much less at school.)

Abuela makes herself comfortable on my bed as I put on my costume of myself made up of pieces of my life. I thought about my Who You Are Day outfit a lot. Mr. Golden told us in English class to think about our choices: are you going to walk around as a joke or as
10 a poem? I have a suspicion that our teachers have allowed us this chance to dress up as ourselves for a reason. Our school is already a united nations, a carnival, and a parade all at once. There are students from dozens of different countries, and we do not always get along. Most of us are too shy to talk to others outside our little circles, and so misunderstandings come up. The principal has tried almost everything. The Who You Are
15 Day is another of her crazy ideas to get us to communicate. In each of my classes, the teacher said, let us know something about what has made you who you are by what you wear to school tomorrow. It all sounds like a conspiracy to me. But I like dressing up so I do not complain like the boys have been doing. Most of them hate the idea!

Abuela looks at my choices hanging on the door and shakes her head, smiling, like she
20 did when we went to see *Cats*. It is a smile that says, I do not understand, but if it is important to María, I will bear it the best I can. She is elegant even at 7:00 A.M. in her embroidered silk robe and red velvet slippers. She has wrapped a shawl over her shoulders because she is always cold in our *cueva*, as she calls the apartment. The shawl was handmade by her mother and it is Abuela’s most prized possession. As a little girl, I liked
25 to put it over my head because the pattern of sequins made a night sky full of stars and because it smelled like Abuela.

¹**abuela:** the Spanish word for grandmother

Abuela sips from her cup of café con leche as she watches me.

I feel a little strange about being in my underwear in front of her and go in my closet with my choices, which are:

30 My mother's red skirt that she wore when she had a part in a musical play on the Island. I have played dress-up with it since I was five years old, but it finally fits me perfectly. It is the kind of skirt that opens like an umbrella when you turn in circles.

A top I sewed together from an old sari² Uma's³ mother was going to throw away. It is turquoise blue with silver edges.

35 And finally, over my sari, I will wear my father's sharkskin suit jacket—it's big on me but I can roll up the sleeves. It is what he likes to wear when he sings at rent parties.⁴ Under the light, it changes colors and seems to come alive as the design shifts and moves. Papi says it is great for dancing; you don't even need a partner.

40 And finally, tall platform shoes we found buried deep in Whoopee's closet, circa 1974, she told me. Whoopee collects antique shoes to go with her science fiction outfits. It is a fashion statement; she will tell anyone who asks. No one knows what the statement means, and that is just fine with Whoopee.

45 When I part the clothes in my closet and come out like an actor in a play, Abuela's eyes open wide. Before she can say anything, I point to each piece of my outfit and say a name: Mami, Papi, Uma, and Whoopee.

Abuela's face changes as she begins to understand the meaning of my fashion statement.

"Ahora sé quién eres, María, y quién puedes ser, si quieres. Ven acá, mi amor."

50 Abuela says that she knows who I am and who I may be if I choose. I have heard those words before but I don't remember when or where. Abuela embraces me and kisses my face several times. This is a Puerto Rican thing. It goes on for a while. I close my eyes to wait it out and I suddenly inhale a familiar scent. When I open my eyes, I see a starry sky. Abuela has put her shawl over my head.

55 *"Algo mío para tu día de ser quien eres, mi hija,"* she tells me. *Something of mine for your day of being who you are.* She is letting me borrow her mother's beautiful shawl!

All day at school, I feel elegant. Whenever anyone tries to make fun of my costume, I think of the words my grandmother quoted to me: *I know who you are and who you may be if you choose.* And when I go into Mr. Golden's class and his eyes ask me, *Who are you today, María?* I will say by the way I walk in, head held high, that today I am a poem.

²**sari:** a long piece of cloth that is wrapped around the body and head or shoulder and worn by women in southern Asia

³**Uma:** one of María's school friends

⁴**rent party:** a party given to raise money for the host's rent

Text Complexity Metrics for 2017 Grade 8 Passages

	Lexile	Flesch Kincaid	Reading Maturity Metric*	Degrees of Reading Power*	
Excerpt from One-Eyed Cat	989	1190L	6.9	56	Appropriate
Clash of the Condiments: Wasabi vs. the Chili Pepper	1027	900L	9	65	Appropriate
Excerpt from Humans With Amazing Senses	785	1150L	8.5	61	Appropriate
Excerpt from Birdology	1005	1240L	8	61	Appropriate
Excerpt from No Horizon Is So Far: Two Women and Their Extraordinary Journey Across Antarctica	1033	1110L	8	59	Appropriate
Excerpt from World Without Fish	1009	1180L	9.4	65	Appropriate
Excerpt from I.Q. Rising	702	1150L	10	64	Appropriate
Excerpt from “Who Are You Today, Maria?” from Call Me Maria	926	900L	5.6	52	Appropriate
Excerpt from The Watcher	960	1180L	7.4	57	Appropriate

* Depending on when the passage was selected, either the Reading Maturity Metric or Degrees of Reading Power was used as the third quantitative metric.

New York State 2017 Quantitative Text Complexity Chart for Assessment and Curriculum

To determine if a text’s quantitative complexity is at the appropriate grade level, New York State uses the table below. In cases where a text is excerpted from a large work, only the complexity of the excerpt that students see on the test is measured, not the large work, so it is possible that the complexity of a book might be above or below grade level, but the text used on the assessment is at grade level. Because the measurement of text complexity is inexact, quantitative measures of complexity are defined by grade band rather than by individual grade level and then paired with the qualitative review by an educator.

Grade Band	ATOS	Degrees of Reading Power	Flesch Kincaid	The Lexile Framework	Reading Maturity	SourceRater
2 nd –3 rd	2.75 – 5.14	42 – 54	1.98 – 5.34	420 – 820	3.53 – 6.13	0.05 – 2.48
4 th –5 th	4.97 – 7.03	52 – 60	4.51 – 7.73	740 – 1010	5.42 – 7.92	0.84 – 5.75
6 th –8 th	7.00 – 9.98	57 – 67	6.51 – 10.34	925 – 1185	7.04 – 9.57	4.11 – 10.66
9 th –10 th	9.67 – 12.01	62 – 72	8.32 – 12.12	1050 – 1335	8.41 – 10.81	9.02 – 13.93
11 th –12 th	11.20 – 14.10	67 – 74	10.34 – 14.20	1185 – 1385	9.57 – 12.00	12.30 – 14.50

Source: Student Achievement Partners