At Home Learning Resources

Grade 7 - Week 7

<table>
<thead>
<tr>
<th>Content</th>
<th>Time Suggestions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Reading</strong></td>
<td>At least 20 minutes daily (Could be about science, social studies, etc)</td>
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<tr>
<td>(Read books, watch books read aloud,</td>
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<tr>
<td>listen to a book)</td>
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<tr>
<td><strong>ELA</strong></td>
<td>45 minutes daily</td>
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<tr>
<td><strong>Math</strong></td>
<td>45 minutes daily</td>
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<tr>
<td><strong>Science</strong></td>
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<td><strong>Social Studies</strong></td>
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<tr>
<td><strong>Arts, Physical Education, or</strong></td>
<td>30 minutes daily</td>
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<tr>
<td><strong>Social Emotional Learning</strong></td>
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These are some time recommendations for each subject. We know everyone’s schedule is different, so do what you can. These times do not need to be in a row/in order, but can be spread throughout the day. Teachers will suggest which parts of the packet need to be completed or teachers may assign alternative tasks.
Grade 7 ELA Week 7

Your child can complete any of the activities in weeks 1-6. These can be found on the Lowell Public Schools website: https://www.lowell.k12.ma.us/Page/3803

This week begins a focus on memoir reading and writing. Your child should be reading, writing, talking and writing about reading, and exploring new vocabulary each week.

**Reading:** Students need to read each day. They can read the memoir included in this packet and/or read any of the memoir books that they have at home, or can access online at Epic Books, Tumblebooks, the Pollard Library online, or other online books. All resources are on the LPS website. There is something for everyone.

**Talking and Writing about Reading:** As students are reading, they can think about their reading, then talk about their reading with a family member and/or write about their reading using the prompts/questions included.

**Writing:** Students will be working on memoir writing for the next few weeks. The resources in this packet will be the same for next week for writing as well. These resources are charts with examples to help your child write. They are available online in an interactive form with video tutorials here: Memoir Writing Choice Board. This writing should last throughout the weeks. Students will be planning their writing, then writing, then making it even better by revising, writing some more, and at the end, fixing it up by editing. Your child might write 1 memoir and work to refine it throughout, or might write multiple memoirs, getting better each time.

**Word Work:** Students can work on learning new vocabulary about a topic they are interested in. Students can also explore these roots and see where they find them in their reading. Students can create lists of other words with the same root and then write a new sentence using these words.
Students in grade 7 have read memoirs this year.

A memoir provides factual information in a narrative style about a significant time, place, person, or event in the author’s life, and explains the significance.

Memoirs:
- Tell the story (memoir) of a significant time, place, or person, or event in a subject’s life
- Are told by a subject
- Use a narrative structure
- Provide factual information about the subject’s life
- Tell why the time or event is important enough to be written about
- Are written in first person
- Have a limited perspective (subjective)

Often:
- Include direct quotes
- Have photographs
- Tell the story at a significant point in subject’s life
- Tell the setting and the culture the person lived in and what influenced the subject
- Add factual statements as additional information
- Convey a larger message

The above taken from Genre Study, Fountas & Pinnell

As you are reading and writing memoirs, keep in mind the following questions:

1. What does one person’s story have to do with me?
2. How do authors transform real experiences into engaging literature?
3. What make a story of personal significance resonate with others?

After reading Superman and Me or another memoir, answer the following question in writing:

Based on the text, determine the theme of the text and analyze its development over the course of the text.
Superman and Me
Sherman Alexie

I learned to read with a Superman comic book. Simple enough, I suppose. I cannot recall which particular Superman comic book I read, nor can I remember which villain he fought in that issue. I cannot remember the plot, nor the means by which I obtained the comic book. What I can remember is this: I was 3 years old, a Spokane Indian boy living with his family on the Spokane Indian Reservation in eastern Washington state. We were poor by most standards, but one of my parents usually managed to find some minimum-wage job or another, which made us middle-class by reservation standards. I had a brother and three sisters. We lived on a combination of irregular paychecks, hope, fear and government surplus food.

My father, who is one of the few Indians who went to Catholic school on purpose, was an avid reader of westerns, spy thrillers, murder mysteries, gangster epics, basketball player biographies and anything else he could find. He bought his books by the pound at Dutch's Pawn Shop, Goodwill, Salvation Army and Value Village. When he had extra money, he bought new novels at supermarkets, convenience stores and hospital gift shops. Our house was filled with books. They were stacked in crazy piles in the bathroom, bedrooms and living room. In a fit of unemployment-inspired creative energy, my father built a set of bookshelves and soon filled them with a random assortment of books about the Kennedy assassination, Watergate, the Vietnam War and the entire 23-book series of the Apache westerns. My father loved books, and since I loved my father with an aching devotion, I decided to love books as well.

I can remember picking up my father's books before I could read. The words themselves were mostly foreign, but I still remember the exact moment when I first understood, with a sudden clarity, the purpose of a paragraph. I didn't have the vocabulary to say "paragraph," but I realized that a paragraph was a fence that held words. The words inside a paragraph worked together for a common purpose. They had some specific reason for being inside the same fence. This knowledge delighted me. I began to think of everything in terms of paragraphs. Our reservation was a small paragraph within the United States. My family's house was a paragraph, distinct from the other paragraphs of the LeBrets to the north, the Fords to our south and the Tribal School to the west. Inside our house, each family member existed as a separate paragraph but still had genetics and common experiences to link us. Now, using this
logic, I can see my changed family as an essay of seven paragraphs: mother, father, older brother, the deceased sister, my younger twin sisters and our adopted little brother.

At the same time I was seeing the world in paragraphs, I also picked up that Superman comic book. Each panel, complete with picture, dialogue and narrative was a three-dimensional paragraph. In one panel, Superman breaks through a door. His suit is red, blue and yellow. The brown door shatters into many pieces. I look at the narrative above the picture. I cannot read the words, but I assume it tells me that "Superman is breaking down the door." Aloud, I pretend to read the words and say, "Superman is breaking down the door." Words, dialogue, also float out of Superman's mouth. Because he is breaking down the door, I assume he says, "I am breaking down the door." Once again, I pretend to read the words and say aloud, "I am breaking down the door" In this way, I learned to read.

This might be an interesting story all by itself. A little Indian boy teaches himself to read at an early age and advances quickly. He reads "Grapes of Wrath" in kindergarten when other children are struggling through "Dick and Jane." If he'd been anything but an Indian boy living on the reservation, he might have been called a prodigy. But he is an Indian boy living on the reservation and is simply an oddity. He grows into a man who often speaks of his childhood in the third-person, as if it will somehow dull the pain and make him sound more modest about his talents.

A smart Indian is a dangerous person, widely feared and ridiculed by Indians and non-Indians alike. I fought with my classmates on a daily basis. They wanted me to stay quiet when the non-Indian teacher asked for answers, for volunteers, for help. We were Indian children who were expected to be stupid. Most lived up to those expectations inside the classroom but subverted them on the outside. They struggled with basic reading in school but could remember how to sing a few dozen powwow songs. They were monosyllabic in front of their non-Indian teachers but could tell complicated stories and jokes at the dinner table. They submissively ducked their heads when confronted by a non-Indian adult but would slug it out with the Indian bully who was 10 years older. As Indian children, we were expected to fail in the non-Indian world. Those who failed were ceremonially accepted by other Indians and appropriately pitied by non-Indians.

I refused to fail. I was smart. I was arrogant. I was lucky. I read books late into the night, until I could barely keep my eyes open. I read books at recess, then during lunch, and in the few minutes left after I had finished my classroom assignments. I read
books in the car when my family traveled to powwows or basketball games. In shopping malls, I ran to the bookstores and read bits and pieces of as many books as I could. I read the books my father brought home from the pawnshops and secondhand. I read the books I borrowed from the library. I read the backs of cereal boxes. I read the newspaper. I read the bulletins posted on the walls of the school, the clinic, the tribal offices, the post office. I read junk mail. I read auto-repair manuals. I read magazines. I read anything that had words and paragraphs. I read with equal parts joy and desperation. I loved those books, but I also knew that love had only one purpose. I was trying to save my life.

Despite all the books I read, I am still surprised I became a writer. I was going to be a pediatrician. These days, I write novels, short stories, and poems. I visit schools and teach creative writing to Indian kids. In all my years in the reservation school system, I was never taught how to write poetry, short stories or novels. I was certainly never taught that Indians wrote poetry, short stories and novels. Writing was something beyond Indians. I cannot recall a single time that a guest teacher visited the reservation. There must have been visiting teachers. Who were they? Where are they now? Do they exist? I visit the schools as often as possible. The Indian kids crowd the classroom. Many are writing their own poems, short stories and novels. They have read my books. They have read many other books. They look at me with bright eyes and arrogant wonder. They are trying to save their lives. Then there are the sullen and already defeated Indian kids who sit in the back rows and ignore me with theatrical precision. The pages of their notebooks are empty. They carry neither pencil nor pen. They stare out the window. They refuse and resist. "Books," I say to them. "Books," I say. I throw my weight against their locked doors. The door holds. I am smart. I am arrogant. I am lucky. I am trying to save our lives.
MEMOIR ESSENTIAL QUESTIONS

- How do writers convey what they know?

- How do writers write focused memoirs with a point of view that reveals an important message?

- How do writers use the details of the time period to shape a story?
What is a Memoir?

- When working on memoir, you as a writer are more likely to start with some big, important idea that you want to explore and to communicate—something that says to the world, “This is who I am.”

- Your idea will come first, and then you will begin to collect small moments around your idea, you will bring out themes through a variety of narrative and expository techniques you have already learned.

- You will draw on all you know about forwarding meaning through both storytelling and exposition and to weave these two together to craft a text that is ALL ABOUT YOU!

- For this reason you as a writer do not say that memoir belongs to the narrative genre or the opinion/argument genre, but rather it is created from the combination of the two.

Mentor Texts

MENTOR TEXTS AND ANTHOLOGIES:
- The Dumbest Idea Ever by Jimmy Gownley
- Brown Girl Dreaming by Jacqueline Woodson
- Enchanted Air: Two Cultures, Two Wings or Soaring Earth by Margarita Engle
- Under the Royal Palms by Alma Flor Ada
- Where the Flame Trees Bloom by Alma Flor Ada
- Marshfield Dreams by Ralph Fletcher
- Life in Motion: An Unlikely Ballerina by Misty Copeland
- Born a Crime by Trevor Noah (YA Version) by Trevor Noah
- When I Was Your Age by Amy Erlich
- El Deafo by Cece Bell
- Real Friends by Shannon Hale
- Guts by Raina Telgemeir
Memoir Structures

- **Chronological** - This is where you tell your story in the order in which it happened.
- **Before and After** - Tell your story as a big event, and explain the significance and impact it had on you.
- **Character Study** - This structure focuses on an important figure in your life. Share several moments that reveal who this person is and what they mean to you.
- **Symbolism** - Anchor you in an item or other symbol. Return to it throughout.
- **The List** - Create a list (of events, items, ideas, etc.) and explore how they are connected.
- **Journey Structure** - Start with an anecdote in which you, the writer, are on the cusp of learning.
- **Circular Structure** - Begin and end with a repeated image, scene or line.

What’s your story? Developing your ideas

“*Writer’s rely on what they already know.*”

To help you:

List out the strategies you’ve learned for collecting small moments

- **First times, last times, important people, places, things, issues**
  - Write these in your notebooks and use these to quickly develop new topics to write about.
- **Other ways to generate ideas include:**
  - Issues relating to what’s right and wrong, what’s difficult, what’s fair and unfair, or what people should or shouldn’t do”
Just Focus on Yourself

- Finding moments that matter
- Moments that reveal something essential (very important) about who you are
- To think thematically (in a way that relates to you)
- Getting to the heart of it

Growing our Memoirs

Prompts to Push Our Thinking

I used to think…
But now I’m realizing…

My ideas about… are complicated.
On the one hand I think… On the other hand, I think…

Some people think…
But I believe…

When I first…I thought…
But now when I … I realize that really….
Revision Strategies

1. Including details in your writing
   - One time...
   - Hint at the trouble right from the start...
   - What were you thinking?
   - What was being said?
   - What did you do?
   - Build out the world of the story. Where were you? What did it sound like? Look like?

2. Reading it out loud to self
   - “It helps to read it out loud to hear the sound of each word and rhythm of the sentences.”
   - “The sound of our words is powerful. Writers communicate with readers by choosing words that convey not only the content but also the mood, the tone, and the feeling they want to convey.”

Example: Original sentence: He was there when I was born I think.
Listening to my sentence it wasn’t creating the mood I wanted so I reworded: You were there when I was born, so I’ve been told.

Editing

Today I want to teach you that a great way to ensure that your editing choices are clear and powerful is to use checklist as your editing guide, zooming especially into the conventions section of your checklist.
### Narrative Writing Checklist

<table>
<thead>
<tr>
<th>Grade 7</th>
<th>Grade 8</th>
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<tbody>
<tr>
<td><strong>Structure</strong></td>
<td><strong>Structure</strong></td>
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<tr>
<td>Overall</td>
<td>Not yet</td>
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<tr>
<td>I created a narrative that has realistic, characters, tension, and change, and that not only conveys, but also develops an idea, lesson, or theme.</td>
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<td>Lead</td>
<td>Not yet</td>
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<td>Transitions</td>
<td>Not yet</td>
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<tr>
<td>Ending</td>
<td>Not yet</td>
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<tr>
<td>Organization</td>
<td>Not yet</td>
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<tr>
<td>Elaboration</td>
<td>Not yet</td>
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<tr>
<td>Development</td>
<td>Not yet</td>
</tr>
<tr>
<td>Elaboration (continued)</td>
<td>Not yet</td>
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<tr>
<td>Craft</td>
<td>Not yet</td>
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### Narrative Writing Checklist (continued)

<table>
<thead>
<tr>
<th>Grade 7</th>
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<tr>
<td><strong>Development</strong></td>
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The time I almost Died

It was the Winter of 2016. My family and I were on our way to have a fun day of snowboarding at Wildcat mountain. As I stepped out of the car a chilling wind struck my face. I waddled over to the trunk, wearing my gear, and hopped onto the tailgate of our Zaffre blue truck. The sides of the truck are heavily dusted with road salt. I pressed my finger against the side of the truck, wiping off the salt and drawing a smiley face, leaving my finger white. My brother moved aside and I stretched into the trunk and yanked my snowboard out from underneath other snowboards and gear. "MOM!" My brother called out in his annoying voice, "I need help!" My mom sighed in annoyance and went around the truck to help him. Once we were finally ready to head up to the mountain for a fun day of snowboarding.

Me and my dad were sitting side by side on the rickety chairlift mostly in silence. I looked down at my weird tan colored snowboard dangling from my left foot. Skiers rode quickly below us down the mountain and they occasionally fell and me and my dad both pointed and laughed (I know we are great people). The conditions weren’t great. It had rained the night before we went so ice coated the snow, making the snow shine. I was looking around as we slowly traveled up the mountain and I started thinking. "What would happen if you fell off the side of the trail?" I suddenly ask. "You’ll die." he responds. A chilling shiver goes up my spine and I almost picture slipping off the edge, slamming into trees until I look consciousness and fall hundreds of feet down. Thankfully the thought disappears fairly as we reach the top. I’m nervous to get off the lift. It has always been hard for me, I usually fall and panic because the skiers behind me might crash into me. The first time is always a little bit scary, but this time I land directly on my board and the chair pushes me down the small hill. My brother moved a little but my dad keeps me from falling. My mom and my brother, Mason, are already at the top because they were on the chair ahead of us. I fall down beside my mom and tighten the bindings onto my feet. I stand up and slide a little bit but I stop myself from going down the mountain. "I’m ready." I announce and we all start heading down the nearest green trail.

The first run is a little bit messy. I only fell a few times, but my brother could barely make it 5 feet without face planting into the snow. We do a few runs and we are finally used to it. I make it down without falling and my brother only fell a few times. The next time up we decided to try the blue trail instead. The trail was a lot more icy than the green trail and it was steeper, but the worst part was that it was thinner. My brother and I were still learning so we needed a lot of space to make wide turns. Suddenly the thought returned, what if I fall off the side of the trail I thought over and over.

I take one turn a few inches too wide and it feels as if the deep, dark woods that surround the trail suck me right in. I instantly scream in panic and my dad’s word replay over and over in my head, “you’ll die.” Almost before I can even process what is happening I slam into a tree. Thankfully the tree stops me from sliding any further. I can still see the top and the hammering in my heart slows a little. I try to jump, still wearing my board, but I struggle. I try to jump again and I slide right back down, almost passing the tree and sliding down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry. My parents were already too far ahead to see or hear me. I scream for help as I start to slide more down the mountain. Tears fill my eyes and everything turns blurry.
The Most Phenomenal Surprise

It was a normal day after school, and I was up in my room. The exact day? I can't remember. I think it was in September, maybe October. Anyway, I was in my room, doing anything I could to skip homework. Most likely looking at something One Direction related on Instagram. As I scrolled through the endless abyss, I could suddenly hear loud rock music playing outside. I could immediately tell that it was my uncle, he always has music playing in his car. I usually go downstairs to see him, but I don't know, I was apparently too busy to go down to see him right away. So I just stayed where I was, looking at my phone.

Not too long after my uncle had arrived, I heard him call my name. I have a feeling that I was probably comfortable where I was, and didn't want to move, but I did anyway. When I got downstairs I could see him standing in the doorway between the kitchen and the porch. He said "hi" and I said "hi" back, and I walked out into the porch where him and my mom were. I automatically sensed that something was going on because of the look on my mom's face. She was smiling, but not like she normally would. It was like the smile she had when she was lying or trying to hide something. Clearly she didn't do a good job. I knew something was up. I was a little worried actually. I don't think I questioned it though, I knew they would tell me eventually.

After a while of talking to my mom and uncle, my mom was still smiling like an idiot. I tried to ignore it, but it was quite annoying. Then my uncle turned his head and looked outside. "Oh, it looks like someone threw some trash in the yard." He said, glancing at my mom. "Go pick it up before Paul gets upset." Oh yeah, like this wasn't suspicious at all. I looked at him with a questioning look, and stepped outside toward whatever my uncle had planted in the yard (I knew it wasn't trash). As I got closer, I realized it looked familiar.

On multiple occasions, all of my family members have gone to concerts. A lot of those times, I had seen the tickets when they arrived at the house. All of them had been in the same thin envelope, that was much bigger than the tickets themselves. As I approached the object that was sitting in the yard up against the fence, I realized why it looked so familiar. I suddenly became very hopeful. This couldn't actually be what I think it is, could it?

I picked up the object, and sure enough it was the same envelope that I had seen a few times before. This one however, was folded. Probably to make me think that it was just trash that has been thrown into the yard. I still knew what it was though, despite this. I mean there was a part of me wondering what concert tickets were inside, but I had a feeling of who it was. "Oh, uh, why don't you open it? I mean I don't know, there could be something interesting in there." Said either my mom or uncle, I can't remember. I smiled because one, I knew what was in the envelope, and two, because of how bad they were at trying not to give it away.

I unfolded the envelope, and began to open it. I stuck my hand into the cardboard envelope but at first didn't feel anything. It's not like what was in it was very big and obvious to find, it's pieces of paper. Eventually I found what was inside, down near the bottom. I pulled them out, smiling. I could sense that my mom and uncle were smiling too. There was a lot of small words printed on the tiny rectangular pieces of paper. But the only ones I really noticed were "NIALL HORAN" printed in all caps. Even though I expected this since I recognized what was in the yard, I was still shocked. I never really expected to get tickets since they had sold out so fast!

I didn't know how to react. I've always felt weird with people watching me when opening presents, like on Christmas or my birthday. My family always expects big reactions to things, but as long as people are watching me, I'll most likely stay silent. Obviously on the inside I was extremely happy. I'm going to see Niall Horan, why wouldn't I be? But of course, me being me, with people watching, I didn't really show how happy I was. I remember shaking a little bit, but I didn't scream or cry or anything. I basically just stood there staring at the tickets and smiling.

After I had realized that I did in fact actually have tickets to see my favourite One Direction member in concert, and my uncle explained some non-important stuff, I ran to my phone. That's when I really showed how happy I was. I was jumping around in the living room, trying to put my password into my phone. The first thing I did was text my friend Christina, in all caps, misspelling pretty much every word. Despite all the spelling mistakes, she knew what was happening and responded in all caps as well. After I was done screaming at Christina, I told my other friend Amanda, with the same amount of spelling mistakes. She was just as happy as me and Christina were. Maybe a little more, since she wanted me to be able to go to the concert so bad too.

The next day at school I told the rest of my friends who I didn't already tell. Some of them were happy for me, some of them told me I was crazy. Either way, I was still happy and very excited for the concert, that was months away.
Use these resources to help you learn new vocabulary and think about the root of the words you encounter.

Look ALL Around a Word for Clues

√ Are there direct clues?
  → Synonyms?
  → Antonyms?
  → Gist clues?
  → Definitions?

√ What do you envision?

√ Is the word or phrase positive or negative?

√ What type of word is it?

Noun
Verb
Adjective

resistant
immune
receptive

"The strands are resistant to the pesticides..."
Resistant: unaffected by

regulation
Rule

productive
debilitating

+ crisis
# Ways to Sort Key Vocabulary

<table>
<thead>
<tr>
<th>Unfamiliar/Familiar Words</th>
<th>According to Central Ideas</th>
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<tbody>
<tr>
<td>organism</td>
<td>People are conflicted about GMOs</td>
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<tr>
<td>transgenic</td>
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<tr>
<td>regulation</td>
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<table>
<thead>
<tr>
<th>Positive/Neutral/Negative Words</th>
<th>Chronologically</th>
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<table>
<thead>
<tr>
<th>By Subtopic</th>
<th>By Part of Speech</th>
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<tr>
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<td>Nouns</td>
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<tr>
<td>Animals</td>
<td>Describing Words</td>
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<td>Verbs</td>
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<td>Prefix/Suffix</td>
<td>Meaning</td>
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Integer Rules - **ADDITION**

**SAME SIGNS:** add the value of the numerals and keep the sign

-6 + -3 = -9 and 6 + 3 = 9

**DIFFERENT SIGNS:** subtract the value of the numerals & keep the sign of the larger one

-6 + 3 = -3 and 6 + -3 = 3

-7 + -2 = _____    7 + 2 = _____    -7 + 2 = _____    7 + -2 = _____

-4 + -7 = _____    4 + 7 = _____    -4 + 7 = _____    4 + -7 = _____

-8 + -1 = _____    8 + 1 = _____    -8 + 1 = _____    8 + -1 = _____

-6 + -6 = _____    6 + 6 = _____    -6 + 6 = _____    6 + -6 = _____

0 + -5 = _____    0 + 5 = _____

(now mix up the order of the signs) ...

2 + -3 = _____    -2 + -3 = _____    -2 + 3 = _____    2 + 3 = _____

-9 + -4 = _____    9 + -4 = _____    -9 + 4 = _____    9 + -4 = _____

1) In your own words, what is the rule for adding two integers that have the same sign?

2) In your own words, what is the rule for adding two integers that have different signs?
3) *Can you use the same rules to add integers that have really big absolute values?*

4) *Add* -1,275 *and 325*
Integer Rules - SUBTRACTION

CHANGE TO ADDING:

-6 - (-3) = -6 + (+3) = -3

Change signs - keep the first,

6 - (+3) = 6 + (-3) = 3

change addition to subtraction,  

-6 - (+3) = -6 + (-3) = -9

change last sign to its opposite. 

6 - (-3) = 6 + (+3) = 9

(Keep, Change, Change)

-9 - -4 = _____  -9 - 4 = _____  9 - 4 = _____  9 - -4 = _____

-6 - -2 = _____  -6 - 2 = _____  6 - 2 = _____  6 - -2 = _____

-3 - -5 = _____  -3 - 5 = _____  3 - 5 = _____  3 - -5 = _____

-7 - -7 = _____  -7 - 7 = _____  7 - 7 = _____  7 - -7 = _____

0 - -8 = ______  0 - 8 = _____

(now mix up the order of the signs) ...

1 - -7 = _____  -1 - 7 = _____  -1 - -7 = _____  1 - 7 = _____

-8 - -2 = _____  8 - -2 = _____  8 - 2 = _____  -8 - -2 = _____

1) In your own words, what are the steps you need to take to subtract two integers?

2) Can you use these same steps and rules to subtract integers of any size?
3) Subtract -276 from 1,578

4) Subtract -276 from -1,578
Multiple Representations for Adding and Subtracting Integer Rules, Section 1.2

<table>
<thead>
<tr>
<th>Positive + Positive</th>
<th>Number Line Representation:</th>
<th>Color Chip Representation:</th>
<th>Rule:</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 + 2 =</td>
<td><img src="image1" alt="Number Line 1" /></td>
<td></td>
<td>When two positives combine....</td>
</tr>
<tr>
<td>Negative + Positive</td>
<td>Number Line Representation:</td>
<td>Color Chip Representation:</td>
<td>Rule:</td>
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<tr>
<td>-6 + 4 =</td>
<td><img src="image2" alt="Number Line 2" /></td>
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<td>When a negative is combined with a positive....</td>
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<tr>
<td>(same as 4 - 6)</td>
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<tr>
<td>Negative + Negative</td>
<td>Number Line Representation:</td>
<td>Color Chip Representation:</td>
<td>Rule:</td>
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<tr>
<td>-3 - 2 =</td>
<td><img src="image3" alt="Number Line 3" /></td>
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<td>When two negatives combine....</td>
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<tr>
<td>(same as -3 + -2)</td>
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<tr>
<td>Positive - Negative</td>
<td>Number Line Representation:</td>
<td>Color Chip Representation:</td>
<td>Rule:</td>
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<tr>
<td>4 - (-3) =</td>
<td><img src="image4" alt="Number Line 4" /></td>
<td></td>
<td>Rewrite the double negative as a positive to make a new problem.</td>
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<tr>
<td>(same as 4 + 3)</td>
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<tr>
<td>(double negative = +)</td>
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</tr>
<tr>
<td>Negative - Negative</td>
<td>Number Line Representation:</td>
<td>Color Chip Representation:</td>
<td>Rule:</td>
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<tr>
<td>-3 - (-2) =</td>
<td><img src="image5" alt="Number Line 5" /></td>
<td></td>
<td>Rewrite the double negative as a positive to make a new problem.</td>
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<tr>
<td>(same as -3 + 2)</td>
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</table>
Adding Integers

Directions: Each Group will be given one deck of cards (remove all jokers, etc.). Place the deck face down between the two players. Each person will draw a card from the top of the deck. The players should then lay their cards face up in the middle. Add the two numbers together. Black cards represent positive numbers and red cards represent negative numbers. The face cards are as follows: A-1, K-13, Q-12, J-11.

Record your problem and answers in the table below.

<table>
<thead>
<tr>
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- 1
- 13
- 12
- 11
Subtracting Integers

Directions: Each Group will be given one deck of cards (remove all jokers, etc.). Place the deck face down between the two players. Each person will draw a card from the top of the deck. The players should then lay their cards face up in the middle. Subtract the two numbers. Black cards represent positive numbers and red cards represent negative numbers. The face cards are as follows: A-1, K-13, Q-12, J-11.

Record your problem and answers in the table below.

<p>| | | | | | | | |</p>
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</tbody>
</table>
Find the Absolute Value and Opposite of each number below.

1.) Opposite of 8 = ______  
2.) Opposite of -3.5 = ______  
   \(|8| = \) ______  
   \(|-3.5| = \) ______  
3.) \(|8 - 11| = \) ______  
4.) \(|-3 + (-9)| = \) ______

Simplify the expressions below. Use the number line if you need to.

1.) \(-6 + 8 = \) ______  
2.) \(4 + (-12) = \) ______

3.) \(-3 - (-10) = \) ______  
4.) \(-5 + 3 = \) ______

5.) \(9 + (-6) + (-8) = \) ______  
6.) \(-5 + 12 - 19 = \) ______

7.) \(-30 + 12 = \) ______  
8.) \(-2 + 7 + (-20) - (-10) = \) ______

9.) \(18.3 - 25.59 = \) ______  
10.) \(-85 + (-36) - 19 = \) ______

11.) \(-36.9 + (-85.72) = \) ______  
12.) \(19.301 - (-5.62) + 2.8 = \) ______
Solve each word problem below using positive and negative integers.

13.) Tito Jackson had $30.85. He took a girl on a date to a nice restaurant, and the bill was $48.67. How much money does he have in his account after this dinner?
   I. Will it be positive or Negative?
   II. Sum or Difference?

14.) In a baseball game, the Cubs had 8 runs after losing 3 runs because of a rules violation. But then the umpire took away the 3-run violation. How many runs do they have now?

15.) One afternoon in January, the temperature outside was -4°F. By midnight, the temperature had dropped by 10°F. What was the temperature at midnight?

16.) Cyprian was playing football, and on 4 plays, here is how he did. He lost 8 yards. He gained 15 yards. He gained 7 yards. He lost 4 yards. How many total yards did he gain on these 4 plays?

17.) In Death Valley, California, the elevation is 15ft below sea level. In nearby San Diego, the average elevation is 50ft above sea level. How much higher is San Diego than Death Valley?
Find each sum.

1) \((-12) + 7\)

2) \((-10) + (-7)\)

3) \((-6) + 12\)

4) \(8 + 7\)

5) \(3 + 4\)

6) \((-45) + 9\)

7) \((-1) + (-46)\)

8) \((-30) + 10\)

9) \((-34) + 50\)

10) \(38 + (-5)\)

Find each difference.

11) \(2 - (-2)\)

12) \((-1) - 10\)

13) \(8 - 7\)

14) \((-8) - (-6)\)
15) 11 − 4  
16) 48 − (−31)  

17) 18 − 41  
18) (−38) − 30  

19) (−1) − (−3)  
20) (−1) − (−40)  

Evaluate each expression.

21) (−10) − 47  
22) (−29) − 29  

23) 13 + (−29)  
24) 38 + 22  

25) (−32) − 44  
26) (−12) + (−11)  

27) 2 + 15 + 4  
28) 16 + (−13) + 5  

29) 2 − (−9) − 8  
30) 10 + 3 − (−8)
Evaluate each expression.

1) \((-2) + 3\)

2) \((-14) + (-7)\)

3) \(3 - (-8)\)

4) \((-9) + 14\)

5) \((-8) - (-2)\)

6) \(5 + (-8)\)

7) \((-27) - 24\)

8) \((-41) + (-40)\)

9) \(38 - (-17)\)

10) \((-44) + (-9)\)

11) \((-16) - (-36)\)

12) \((-6) - 24\)

13) \((-16) - 6 + (-5)\)

14) \(15 - 13 + 2\)

15) \(16 - (-13) - (-5)\)

16) \((-7) - (-2) - 9\)
17) \((-11) - (-14) + 7\)  
18) \(7 + (-1) + 12 - 7\)

19) \(6 + (-7) + (-5) - (-2)\)  
20) \((-3) + 5 + (-5) + 12\)

21) \((-11) - 8 + 1 - (-6)\)  
22) \(10 - (-10) - 7 - 5\)

23) \(6 - 3.98\)  
24) \(5.8 + (-2.5)\)

25) \(1.8 - (-3.7)\)  
26) \(7 - 2.8\)

27) \((-0.8) + (-7.2) - 5.4\)  
28) \(1.7 - (-0.8) + 4.013\)

29) \((-\frac{3}{2}) + \frac{8}{5}\)  
30) \(\frac{7}{4} - \left(-\frac{1}{2}\right)\)

31) \((-\frac{1}{5}) + \frac{7}{4}\)  
32) \(\frac{2}{5} - \frac{4}{5}\)
Task

a. At the beginning of the month, Evan had $24 in his account at the school bookstore. Use a variable to represent the unknown quantity in each transaction below and write an equation to represent it. Then represent each transaction on a number line. What is the unknown quantity in each case?

i. First he bought some notebooks and pens that cost $16.

ii. Then he deposited some more money and his account balance was $28.

iii. Then he bought a book for English class that cost $34.

iv. Then he deposited exactly enough money so that he paid off his debt to the bookstore.

b. Explain why it makes sense to use a negative number to represent Evan’s account balance when he owes money.
7.NS Differences and Distances

Task

Conner and Aaron are working on their homework together to find the distance between two numbers, \( a \) and \( b \), on a number line. Conner counts the units between the numbers, while Aaron subtracts the least number from the greatest. While both methods can give the correct answer, Conner and Aaron do not always apply them correctly.

a. In the first question \( a = 1 \frac{1}{3} \) and \( b = 5 \frac{1}{4} \).

Conner finds the difference \( b - a \).

\[
b - a = 5\frac{1}{4} - 1\frac{1}{3} \\
= \frac{21}{4} - \frac{4}{3} \\
= \frac{63}{12} - \frac{16}{12} \\
= \frac{47}{12} \\
= 3\frac{11}{12}
\]

So Conner says that the distance between the two points is \( 3\frac{11}{12} \).
Aaron marks the two numbers on the number line and counts 3 whole units between them. Then he adds \( \frac{1}{4} \) and \( \frac{1}{3} \) to account for the additional fractional distances. Since
\[
\frac{1}{3} + \frac{1}{4} = \frac{7}{12}
\]
he says the distance between the two numbers is \( 3\frac{7}{12} \).

Which, if either of them, is correct? Find and correct any incorrect work.

b. In the second question, \( a = -3\frac{1}{3} \) and \( b = 2\frac{2}{5} \).

Conner finds the difference \( b - a \).

\[
b - a = 2\frac{2}{5} - 3\frac{1}{3} \\
= \frac{12}{5} - \frac{10}{3} \\
= \frac{36}{15} - \frac{50}{15} \\
= -\frac{14}{15}
\]

So Conner says that the distance between the two points is \( -\frac{14}{15} \).

Aaron marks the two numbers on the number line and counts 5 whole units between them. Then he adds \( \frac{1}{3} \) and \( \frac{2}{5} \) to account for the additional fractional distances. Since
\[
\frac{1}{3} + \frac{2}{5} = \frac{11}{15}
\]
he says that the distance between the two numbers is $5 \frac{11}{15}$.

Which, if either of them, is correct? Find and correct any incorrect work.

c. After talking with each other and understanding their mistakes, Aaron and Conner each obtain the correct answer with their preferred method when $a = -8 \frac{2}{3}$ and $b = -1 \frac{1}{2}$.

Show how each student might have arrived at his answer.
7.**NS Why is a Negative Times a Negative Always Positive?**

**Task**

Some people define $3 \times 5$ as $5 + 5 + 5$, which has a value of 15.

a. If we use the same definition for multiplication, what should the value of $3 \times (-5)$ be?

b. Here is an example of the distributive property:

$$3 \times (5 + 4) = 3 \times 5 + 3 \times 4$$

If the distributive property works for both positive and negative numbers, what expression would be equivalent to $3 \times (5 + (-5))$?

If we use the fact that $5 + (-5) = 0$ and $3 \times 5 = 15$, what should the value of $3 \times (-5)$ be?

c. We can multiply positive numbers in any order:

$$3 \times 5 = 5 \times 3$$

Use what you know from parts (a) and (b). If we can multiply signed numbers in any order, what should the value of $(-5) \times 3$ be?

If the distributive property works for both positive and negative numbers, what expression would be equivalent to $(-5) \times (3 + (-3))$?

d. Use what you know from parts (a), (b), and (c). What should the value of $(-5) \times (-3)$ be?
What is the source of energy for almost all ecosystems?

The Sun supports most of Earth’s ecosystems. Plants create chemical energy from abiotic factors that include solar energy. The food energy created by producers is passed through the food chain.

How Energy Flows Through Ecosystems

All living things need energy. They need it to power the processes of life. For example, it takes energy to grow. It also takes energy to produce offspring. In fact, it takes energy just to stay alive. Remember that energy can’t be created or destroyed. It can only change form. Energy changes form as it moves through ecosystems.

The Flow of Energy

Most ecosystems get their energy from the Sun. Only producers can use sunlight to make usable energy. Producers convert the sunlight into chemical energy or food. Consumers get some of that energy when they eat producers. They also pass some of the energy on to other consumers when they are eaten. In this way, energy flows from one living thing to another.
Food Chains

A food chain is a simple diagram that shows one way energy flows through an ecosystem. Pictured below is an example of a food chain (Figure 1.1). Producers form the base of all food chains. The consumers that eat producers are called primary consumers. The consumers that eat primary consumers are secondary consumers. This chain can continue to multiple levels.

At each level of a food chain, a lot of energy is lost. Only about ten percent of the energy passes to the next level. Where does that energy go? Some energy is given off as heat. Some energy goes into animal wastes. Energy also goes into growing things that another consumer can’t eat, like fur. It’s because so much energy is lost that most food chains have just a few levels. There’s not enough energy left for higher levels.

Food Webs

Food chains are too simple to represent the real world. They don’t show all the ways that energy flows through an ecosystem. A more complex diagram is called a food web (Figure 1.2). A food web consists of many overlapping food chains. Can you identify the food chains in the figure? How many food chains include the mouse?

Food webs also overlap. For example, an eagle is part of a land food web. But it might go to the sea to grab a fish. That fish is part of a marine food web.

Summary

• A food chain describes the passage of energy.
• A food web is a set of interconnected and overlapping food chains.
• Food webs are interconnected.
Chapter 1. Flow of Energy in Ecosystems

Review

1. What does a food chain depict?

________________________________________________________________________

2. Why do scientists usually use a food web instead of a food chain?

________________________________________________________________________

________________________________________________________________________

3. Start with the Sun. Describe what happens to energy as it moves through ecosystems.

________________________________________________________________________

________________________________________________________________________

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________________________________________________________________________

FIGURE 1.2
The owl in this food web consumes at two different levels. What are they?
Use the resource below to answer the questions that follow.

https://www.ck12.org/flx/render/embeddedobject/1497

1. What do all organisms require?

2. What provides the energy required by the ecosystem?

3. How is energy transferred from one organism to another?

4. How is some of the energy lost?

5. How do nutrients flow through an ecosystem?

6. How does the movement of energy and nutrients differ in ecosystems?
Continuity and Resistance to Change in the Greek World

The traditional date for the emergence of Classical Greek civilization is 776 BCE. This is the first recorded instance of the Ancient Olympic Games. But the Greek world did not simply fall from the sky in this year. Rather, Greeks had been living on mainland Greece and its islands for many centuries. In fact, the Classical Greeks shared many cultural, religious, and linguistic traits with the previous great Greek civilization, Mycenaean Civilization. And the Mycenaeans themselves adopted many of the cultural practices of the more distant civilization they replaced, Minoan Civilization. Nor did this process of continuity through change cease with the emergence of the Classical Greeks. Classical Greek civilization certainly did change over time, as do all civilizations. But it also maintained a level of continuity and resistance to change over the centuries.

Homer’s Epics?

One of the largest cultural features of Classical Greece, the pervasive influence of the works of Homer’s *Iliad* and *Odyssey*, is a perfect example of the degree of cultural continuity reflected in Classical Greek society. These epic poems tell of a great war in the Aegean that involved Greeks from all over the Greek world. Even though we attribute these epics to Homer, they weren’t actually created by him. Rather, these stories go back to the collapse of Mycenaean civilization in the twelfth century BCE and were preserved in oral traditions for centuries thereafter. Homer’s significant contribution to the epics was that he wrote them down. Therefore, the stories that were so influential as literature and as metaphors for life in Classical Greece were actually the cultural products of a much earlier time.

A Borrowed Script

The script that Homer used to write these epics down also demonstrates a degree of continuity. However, this continuity isn’t from Greece; but rather from the Near East. The Greek alphabet was adopted from the older Phoenician
alphabet. Though like all instances where an alphabet used to write one language was adopted to write another, the alphabet wasn’t accepted by the Greeks unchanged. Instead, the Greeks adapted the alphabet for their own needs. For instance, the Phoenician alphabet didn’t record vowels, only consonants. This means that a word spelled *tp* in the Phoenician language could be the word *top*, *tip*, or *tap*. The Greeks added vowels to the alphabet by taking letters that represented consonant sounds that didn’t exist in Greek and turning them into vowels.

**The Polis**

Possibly the most important political feature of the Classical Greek world was the Polis. The concept of the polis emerged during the Dorian period that followed the collapse of Mycenaean civilization. Essentially, the polis was an independent city–state that typically had an urban center surrounded by walls, was surrounded by agricultural land, and had its own political, judicial, and religious institutions. This form of community organization encouraged a deep respect and loyalty to one’s city, something we see in the histories of major poleis like Athens, Sparta, and Thebes. In fact, the polis was such an important feature of Greek life and identity that it persisted even after the Greek world was transformed by the Macedonian king Alexander the Great. When Alexander spread Hellenic culture around the Near East through conquest, he brought the concept of the polis with him. These poleis persisted even under Roman rule; however, the power of the empire did limit much of their political independence.

**The Spartan World**

Not everything in the Greek world is a reflection of continuity. There were many things the Greeks produced that represented radical departures from earlier traditions. Sparta is a powerful example of this phenomenon. Today we think of Sparta as having a powerful yet austere militaristic culture. The English adjective “Spartan,” meaning an indifference to luxury, reflects this common view of Sparta. But things weren’t always like this in Sparta. This austere militaristic culture for which Sparta has become internationally famous for began in the 8th century BCE with a series of reforms. Spartan legend attributes
these reforms to a lawgiver named Lycurgus; but most scholars suspect that there never was a real Lycurgus. Nevertheless, the reforms were real, and they transformed Spartan society. This militaristic society was instrumental in keeping the legions of agricultural slaves of Sparta in line. Over time, the militaristic social system became dependent on the slave labor, because the slaves allowed the Spartans to be free agricultural labor so they could focus on their military training.

**Primary Source Document Analysis**

As you read the short history above, take notes in the chart below. Be sure to write down important elements related to the ideas of continuity and resistance to change.

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<tr>
<th>Homer’s Epics?</th>
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Apply and Elaborate

Using what you learned about continuity in the Greek world from the examples of the Olympics, Homer’s Epics, the Polis, and the Greek Alphabet, write a short paragraph explaining how the example of Sparta might also demonstrate a resistance to change.
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<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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<tbody>
<tr>
<td>Choose a book page, magazine, or newspaper article. Tally how many times you find the words that start with letters: M R E</td>
<td>Go on a shape hunt. Find five things in your house for each shape: Hexagon Trapezoid Equilateral</td>
<td>How many words can you make from this word? educational</td>
<td>List 5 things that can be chemical changes. List 5 things that can be physical changes.</td>
<td>Imagine two of your friends went to your school when no one was there. Write or draw their adventure.</td>
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<tr>
<td>Monday</td>
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<td>Wednesday</td>
<td>Thursday</td>
<td>Friday</td>
</tr>
<tr>
<td>Hide something in your home. Make a treasure map and let a family member try to find it.</td>
<td>Find four things in your home that are transparent. Find four things in your home that are opaque.</td>
<td>If you had your own restaurant, what would you serve? Write a description of your restaurant and create a menu with prices.</td>
<td>Make a list of all the herbivores, carnivores, and omnivores in your neighborhood.</td>
<td>Get three cups. Put a little bit of soap into each cup. Fill the cups with different amounts of water. Count the minutes it takes for the bubbles to disappear. Which cup’s bubbles disappeared first?</td>
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