Christina School District Instructional Board

Grade Level: 6th

Week of April 6th, 2020

		Monday	Tuesday	Wednesday	Thursday	Friday
ELA		Read and annotate the text, *The Third Wish*, by Joan Aiken. Circle or highlight characters' names, details that describe the setting, examples of conflict, and label the conflicts as external or internal.	Answer the text-dependent questions, numbers 1-7.	Complete the attached **Vocabulary Log** for the selected words from the text.	Complete the attached **CSET** response using evidence from the text to support your ideas completely.	
Math	**6**	*Comparing Rates* See Problem 7-1 (attached) Look at the table and complete the following as a Journal Entry. What can we compare? Which fundraising activity do you think raises money the fastest? Which raises money the slowest? Explain your reasoning.	Refer back to Problem 7-1 and complete Problem 7-3 (attached). Then look back at your Journal Entry from Monday. Would you make any changes? If so, revise your entry.	Read pages 118-119 (attached). Use the examples as a guide. Complete p. 119 #1-4.	Read pages 118-119 (attached). Use the examples as a guide. Complete p. 119 #5-7.	
	6+	*Composing Integers* Complete Problem 2-31 (attached).	Read pages 29-30 (attached). Use the examples as a guide. Complete p. 30 #1-30.	Complete Integers Practice Problem Set #1-3 (attached)	Complete Puzzle Investigator Problem (PIP) 1 - Long Distance. (attached)	
Science		**Renewable/Non-Renewable Energy:** Energy is the power we use	**Solar Energy:** Read and complete "Solar Energy" Activity sheet (1 page)	**Alternative Sources of Energy:** Write down your answers to the following:	**Home Energy Conservation:** Read and complete "Home Energy Conservation Tips" Activity sheets	

	everyday, for transportation, to heat and light our homes, and to manufacture all types of products. Energy sources are divided into two groups: renewable (an energy source that can be replenished and can be used over and over again) and nonrenewable (an energy source that we are using up and cannot be replenished). Write the following list: oil, wind, natural gas, coal, solar, biomass, nuclear, geothermal, water. Put "R" in front of the renewable resources and "N" in front of the non renewable resources. On the back of your paper, draw one renewable energy resource and one nonrenewable energy resource.	On the back of the sheet, draw and label at least one example of a product that uses photovoltaic (solar) cells.	a) List five ways in which you use energy today. b) Where does most of our energy come from? c) Burning fossil fuel creates _____ and increases the _____. d) Explain why fossil fuels will not last forever. e) List three sources of energy that will not run out for many more millions of years. f) People have been using wind as a source of power for thousands of years. What are some techniques for using natural sources of power, such as wind? g) What are some ways in which people use alternative sources of energy in your region? (*Hint:Remember people-power and low-tech uses of alternative energy.)* **Challenge:** Find out about the World Solar Challenge car race. What is the highest recorded average speed for a solar-powered car in the race?	(2 pages). Share your home energy conservation ideas with your family.	
Social Studies	**Civics 1a & 1b: Government** Complete Activity 1 from the document titled, "Government Civics 1a"	**Civics 1a & 1b: Government** Complete Activity 2 from the document titled, "Government Civics 1a"	**Civics 1a & 1b: Government** Complete Activity 3 from the document titled, "Government Civics 1b"	**Civics 1a & 1b: Government** Complete Activity 4 from the document titled, "Government Civics 1b"	

Christina School District Instructional Board

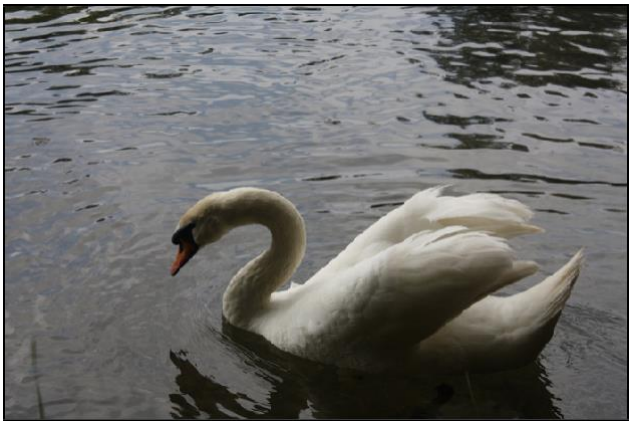
Name:_____ Class: _____

The Third Wish

By Joan Aiken
1974

Joan Delano Aiken (1924-2004) was an English writer who specialized in supernatural fiction and children's alternative history novels. In this short story, a man receives three wishes after saving a swan who turns out to be the King of the Forest. Unfortunately, his wishes do not pan out as he expects them to. As you read, take note of how the characters change throughout this short story.

[1] Once there was a man who was driving in his car at dusk on a spring evening through part of the forest of Savernake.[1] His name was Mr. Peters. The primroses[2] were just beginning but the trees were still bare, and it was cold; the birds had stopped singing an hour ago.



"Swan" by Mark Doliner is licensed under CC BY 2.0

As Mr. Peters entered a straight, empty stretch of road he seemed to hear a faint crying, and a struggling and thrashing,[3] as if somebody was in trouble far away in the trees. He left his car and climbed the mossy bank beside the road. Beyond the bank was an open slope of beech trees leading down to thorn bushes through which he saw the gleam of water. He stood a moment waiting to try and discover where the noise was coming from, and presently heard a rustling and some strange cries in a voice which was almost human — and yet there was something too hoarse about it at one time and too clear and sweet at another. Mr. Peters ran down the hill and as he neared the bushes he saw something white among them which was trying to extricate[4] itself; coming closer he found that it was a swan that had become entangled in the thorns growing on the bank of the canal.

The bird struggled all the more frantically[5] as he approached, looking at him with hate in its yellow eyes, and when he took hold of it to free it, hissed at him, pecked him, and thrashed dangerously with its wings which were powerful enough to break his arm. Nevertheless he managed to release it from the thorns, and carrying it tightly with one arm, holding the snaky head well away with the other hand (for he did not wish his eyes pecked out), he took it to the verge of the canal and dropped it in.

1. a forest located in Wiltshire, England
2. pale yellow flowers
3. violent movement
4. to free from a trap or difficulty
5. **Frantic *(adjective):*** feeling or showing a lot of fear and worry through wild, hurried activity

The swan instantly assumed great dignity[6] and sailed out to the middle of the water, where it put itself to rights with much dabbling and preening,[7] smoothing its feathers with little showers of drops. Mr. Peters waited, to make sure that it was all right and had suffered no damage in its struggles. Presently the swan, when it was satisfied with its appearance, floated to the bank once more, and in a moment, instead of the great white bird, there was a little man all in green with a golden crown and long beard, standing by the water. He had fierce glittering eyes and looked by no means friendly.

[5] "Well, Sir," he said threateningly, "I see you are presumptuous[8] enough to know some of the laws of magic. You think that because you have rescued — by pure good fortune — the King of the Forest from a difficulty, you should have some fabulous reward."

"I expect three wishes, no more and no less," answered Mr. Peters looking at him steadily and with composure.[9]

"Three wishes he wants, the clever man! Well, I have yet to hear of the human being who made and good use of his three wishes — they mostly end up worse off than they started. Take your three wishes then — "he flung three dead leaves in the air " — don't blame me if you spend the last wish in undoing the work of the other two."

Mr. Peters caught the leaves and put two of them carefully in his notecase. When he looked up the swan was sailing about in the middle of the water again, flicking the drops angrily down its long neck.

Mr. Peters stood for some minutes reflecting on how he should use his reward. He knew very well that the gift of three magic wishes was one which brought trouble more often than not, and he had no intention of being like the forester who first wished by mistake for a sausage, and then in rage wished it on the end of his wife's nose, and then had to use his last wish in getting it off again.[10] Mr. Peters had most of the things which he wanted and was very content with his life. The only thing that troubled him was that he was a little lonely, and had no companion for his old age. He decided to use his first wish and to keep the other two in case of an emergency. Taking a thorn he pricked his tongue with it, to remind himself not to utter rash[11] wishes aloud. Then holding the third leaf and gazing round him at the dusky[12] undergrowth, the primroses, great beeches and the blue-green water of the canal, he said:

[10] "I wish I had a wife as beautiful as the forest."

A tremendous[13] quacking and splashing broke out on the surface of the water. He thought that it was the swan laughing at him. Taking no notice he made his way through the darkening woods to his car, wrapped himself up in the rug and went to sleep.

When he awoke it was morning and the birds were beginning to call. Coming along the track toward him was the most beautiful creature he had ever seen, with eyes as blue-green as the canal, hair as dusky as the bushes, and skin as white as the feathers of swans.

6. **Dignity *(noun):*** a sense of importance and value; pride; self-respect
7. Dabble means to dip one's hands or feet in water and move them around gently. Preen refers to when a bird straightens and cleans its feathers with its beak.
8. **Presumptuous *(adjective):*** going beyond what is proper; too confident, especially in a way that is rude
9. **Composure *(noun):*** calmness of mind, manner, or appearance
10. a reference to a French literary fairy tale titled "The Ridiculous Wishes" by Charles Perrault
11. **Rash *(adjective):*** doing something quickly and without thinking carefully about the results
12. darkish in color
13. **Tremendous *(adjective):*** very great in amount, size, or degree

"Are you the wife that I wished for?" asked Mr. Peters.

"Yes I am." she replied. "My name is Leita."

[15] She stepped into the car beside him and they drove off to the church on the outskirts of the forest, where they were married. Then he took her to his house in a remote[14] and lovely valley and showed her all his treasures — the bees in their white hives, the Jersey cows, the hyacinths,[15] the silver candlesticks, the blue cups and the luster bowl for putting primroses in. She admired everything, but what pleased her most was the river which ran by the foot of his garden.

"Do swans come up here?" she asked.

"Yes, I have often seen swans there on the river," he told her, and she smiled.

Leita made him a good wife. She was gentle and friendly, busied herself about the house and garden, polished the bowls, milked the cows and mended[16] his socks. But as time went by Mr. Peters began to feel that she was not happy. She seemed restless, wandered much in the garden, and sometimes when he came back from the fields he would find the house empty and she would only return after half an hour or so with no explanation of where she had been. On these occasions she was always especially tender and would put out his slippers to warm and cook his favorite dish — Welsh rarebit[17] with wild strawberries — for supper.

One evening he was returning home along the river path when he saw Leita in front of him, down by the water. A swan had sailed up to the verge[18] and she had her arms round its neck and the swan's head rested against her cheek. She was weeping, and as he came nearer he saw that tears were rolling, too, from the swan's eyes.

[20] "Leita, what is it?" he asked, very troubled.

"This is my sister," she answered. "I can't bear being separated from her."

Now he understood that Leita was really a swan from the forest, and this made him very sad because when a human being marries a bird it always leads to sorrow.

"I could use my second wish to give your sister human shape, so that she could be a companion to you," he suggested.

"No, no," she cried, "I couldn't ask that of her."

[25] "Is it so very hard to be a human being?" asked Mr. Peters sadly.

"Very, very hard," she answered.

"Don't you love me at all, Leita?"

14. **Remote** ***(adjective):*** far away from the main population; distant or isolated
15. a bulbous plant of the lily family
16. **Mend** ***(verb):*** to fix or repair
17. a dish of melted cheese and various other ingredients, served over toast
18. a British English term for a narrow strip of grass bordering a pathway

"Yes, I do, I do love you," she said, and there were tears in her eyes again. "But I miss the old life in the forest, the cool grass and the mist rising off the river at sunrise and the feel of the water sliding over my feathers as my sister and I drifted along the stream."

"Then shall I use my second wish to turn you back into a swan again?" he asked, and his tongue pricked to remind him of the old King's words, and his heart swelled with grief inside him.

[30] "Who would darn[19] your socks and cook your meals and see to the hens?"

"I'd do it myself as I did before I married you," he said, trying to sound cheerful.

She shook her head. "No, I could not be as unkind to you as that. I am partly a swan, but I am also partly a human being now. I will stay with you."

Poor Mr. Peters was very distressed on his wife's account and did his best to make her life happier, taking her for drives in the car, finding beautiful music for her to listen to on the radio, buying clothes for her and even suggesting a trip round the world. But she said no to that; she would prefer to stay in their own house near the river.

He noticed that she spent more and more time baking wonderful cakes — jam puffs, petits fours, éclairs, meringues. One day he saw her take a basketful down to the river and he guessed that she was giving them to her sister.

[35] He built a seat for her by the river, and the two sisters spent hours together there, communicating in some wordless manner. For a time he thought that all would be well, but then he saw how thin and pale she was growing.

One night when he had been late doing the accounts he came up to the bed and found her weeping in her sleep and calling:

"Rhea! Rhea! I can't understand what you say! Oh, wait for me, take me with you!"

Then he knew that it was hopeless and she would never be happy as a human. He stooped down and kissed her goodbye, then took another leaf from his notecase, blew it out of the window, and used up his second wish.

Next moment instead of Leita there was a sleeping swan lying across the bed with its head under its wing. He carried it out of the house and down to the brink of the river, and then he said "Leita! Leita!" to waken her, and gently put her into the water. She gazed round her in astonishment for a moment, and then came up to him and rested her head lightly against his hand; next instant she was flying away over the trees toward the heart of the forest.

[40] He heard a harsh laugh behind him, and turning round saw the old King looking at him with a malicious[20] expression.

19. to fix an article of clothing
20. **Malicious *(adjective):*** having or showing a desire to cause harm

"Well, my friend! You don't seem to have managed so wonderfully with your first two wishes, do you? What will you do with the last? Turn yourself into a swan? Or turn Leita back into a girl?"

"I shall do neither," said Mr. Peters calmly. "Human beings and swans are better in their own shapes."

But for all that he looked sadly over toward the forest where Leita had flown, and walked slowly back to his empty house.

Next day he saw two swans swimming at the bottom of the garden, and one of them wore the gold chain he had given Leita after their marriage; she came up and rubbed her head against his hand.

[45] Mr. Peters and his two swans came to be well known in that part of the country; people used to say that he talked to the swans and they understood him as well as his neighbors. Many people were a little frightened of him. There was a story that once when thieves tried to break into his house they were set upon by two huge white birds which carried them off bodily and dropped them in the river.

As Mr. Peters grew old everyone wondered at his contentment. Even when he was bent with rheumatism[21] he would not think of moving to a drier spot, but went slowly about his work, milking the cows and collecting the honey and eggs, with the two swans always somewhere close at hand.

Sometimes people who knew his story would say to him:

"Mr. Peters, why don't you wish for another wife?"

"Not likely," he would answer serenely. "Two wishes were enough for me, I reckon. I've learned that even if your wishes are granted they don't always better you. I'll stay faithful to Leita."

[50] One autumn night, passers-by along the road heard the mournful[22] sound of two swans singing. All night the song went on, sweet and harsh, sharp and clear. In the morning Mr. Peters was found peacefully dead in his bed with a smile of great happiness on his face. In between his hands, which lay clasped on his breast, were a withered leaf and white feather.

21. "Rheumatism" is any disease marked by inflammation and pain in the joints, muscles, or connecting tissue.
22. **Mournful *(adjective):*** expressing sadness, regret, or grief

Text-Dependent Questions

Directions: For the following questions, choose the best answer or respond in complete sentences.

1. PART A: Which statement identifies the theme of the short story?
    A. Love can be powerful but is often brief.
    B. While wishes may appear appealing, they often come with consequences.
    C. Nature is an imposing force that is not meant to be altered.
    D. Love cannot be wished or willed, but must occur naturally.

2. PART B: Which detail from the text best supports the answer to Part A?
    A. “Taking a thorn he pricked his tongue with it, to remind himself not to utter rash wishes aloud.” (Paragraph 9)
    B. “She was gentle and friendly, busied herself about the house and garden, polished the bowls, milked the cows and mended his socks. But as time went by Mr. Peters began to feel that she was not happy.” (Paragraph 18)
    C. “Now he understood that Leita was really a swan from the forest, and this made him very sad because when a human being marries a bird it always leads to sorrow.” (Paragraph 22)
    D. “’Two wishes were enough for me, I reckon. I’ve learned that even if your wishes are granted they don’t always better you. I’ll stay faithful to Leita.’” (Paragraph 49)

3. PART A: What is the meaning of “contentment” in paragraph 46?
    A. State of happiness
    B. State of misery
    C. One’s lack of companionship
    D. One’s strength

4. PART B: Which section from the text best supports the answer to Part A?
    A. "Even when he was bent with rheumatism he would not think of moving to a drier spot..."(Paragraph 46)
    B. “’Mr. Peters, why don’t you wish for another wife?’” (Paragraph 48)
    C. “One autumn night, passers-by along the road heard the mournful sound of two swans singing.” (Paragraph 50)
    D. “In the morning Mr. Peters was found peacefully dead in his bed with a smile of great happiness on his face.” (Paragraph 50)

5. PART A: How does Leita’s character change throughout the story?
    A. While Leita begins the story loving Mr. Peters, her love eventually fades.
    B. Leita resents Mr. Peters from the beginning, and is relieved when she becomes a swan again.
    C. Leita goes from enjoying her life with Mr. Peters, to missing her life as a swan.
    D. Leita wants to be a human from the beginning, and is upset when Mr. Peters goes against her wishes and returns her to her original form.

6. PART B: Which section from the text best supports the answer to Part A?

   A. "'Yes, I do, I do love you,' she said, and there were tears in her eyes again. 'But I miss the old life in the forest,'" (Paragraph 28)

   B. "She shook her head. 'No, I could not be as unkind to you as that. I am partly a swan, but I am also partly a human being now. I will stay with you.'" (Paragraph 32)

   C. "One day he saw her take a basketful down to the river and he guessed that she was giving them to her sister." (Paragraph 34)

   D. "She gazed round her in astonishment for a moment, and then came up to him and rested her head lightly against his hand" (Paragraph 39)

7. How does paragraph 7 contribute to the development of ideas in the text?

Discussion Questions

Directions: Brainstorm your answers to the following questions in the space provided. Be prepared to share your original ideas in a class discussion.

1. In your opinion, should Mr. Peters have used his last wish? If so, what do you think he should have wished for?

2. In your opinion, did Mr. Peters make the right choice when he returned Leita to her swan form? Why or why not?

3. In the context of the story, how are we changed by love? How did Mr. Peters's love for Leita influence the decisions he made throughout the story? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

4. What is the relationship between humans and nature? How does Mr. Peter's relationship with nature change throughout the story?

Vocabulary Log
The Third Wish

Word	Definition	What it is not (Opposite)	Sentence Using Word	Picture to help you understand the word
1. Frantic (adj)			.	
2. Presumptuous (adj)				
3. Rash (adj)				
4. Remote (adj)				
5. Malicious (adj)				

“The Third Wish”
CSET

How does Mr. Peters’s relationship with nature change throughout the story?

Include:	**C**: Make a claim. Answer the questions above in a complete sentence or two.
	S: Set up your evidence with the source or speaker information.
	E: Evidence- Provide details **from the text** to support your claim.
	T: Tie in: Explain what your evidence means and how it helps to answer the question.

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Math 6 – Week of April 6th

Comparing Rates

Whenever you are trying to describe how quickly or slowly something occurs, you are describing a **rate**. To describe a rate, you need to provide two pieces of information. If two people each walk 10 miles, for example, it may seem like they are doing the same thing. But if you find out that one person walked the whole distance in 3 hours while the other person took 8 hours, then it becomes clear that they were traveling at different speeds.

7-1

The sixth graders at Shasta Middle School are planning a class trip to Washington, D.C. They need to raise enough money for all 140 sixth graders to travel, so they have a lot of work to do! The class officers have collected the data below about different kinds of fundraisers. They want your help with choosing a fundraising activity.

Type of Fundraiser	Time	Expected Profit
Cookie Sales	3 weeks	$500
Car Washes	4 weeks	$700
Recycling	1 week	$150
Yardwork	2 weeks	$320

a. How much will the class earn if they spend 6 weeks doing yardwork? How much will they earn if they spend 6 weeks having car washes? Be prepared to explain your reasoning.
b. How much would they earn if they recycled for 3 weeks?

7-3

Isabelle decided to see how long it would take to earn $5000 with each kind of fundraiser.

a. For how many weeks would the class need to sell cookies in order to earn $5000?
b. For how many weeks would the class need to have car washes to earn $5000?
c. How can this help Isabelle decide which way will earn more money?

RATES AND UNIT RATES

Rate of change is a ratio that describes how one quantity is changing with respect to another. Unit rate is a rate that compares the change in one quantity to a one-unit change in another quantity. Some examples of rates are miles per hour and price per pound. If 16 ounces of flour cost \$0.80 then the unit cost, that is the cost per one ounce, is $\frac{\$0.80}{16} = \$0.05$.

For additional information see the Math Notes boxes in Lesson 7.1.3 of the *Core Connections, Course 1* text, Lesson 4.2.4 of the *Core Connections, Course 2* text, or Lesson 7.2.5 of the *Core Connections, Course 3* text. For additional examples and practice, see the *Core Connections, Course 2* Checkpoint 9 materials or the *Core Connections, Course 3* Checkpoint 3 materials.

Example 1

A rice recipe uses 6 cups of rice for 15 people. At the same rate, how much rice is needed for 40 people?

The rate is: $\frac{6 \text{ cups}}{15 \text{ people}}$ so we need to solve $\frac{6}{15} = \frac{x}{40}$.

The multiplier needed for the Giant One is $\frac{40}{15}$ or $2\frac{2}{3}$.

Using that multiplier yields $\frac{6}{15} \cdot \frac{2\frac{2}{3}}{2\frac{2}{3}} = \frac{16}{40}$ so 16 cups of rice is needed.

Note that the equation $\frac{6}{15} = \frac{x}{40}$ can also be solved using proportions.

Example 2

Arrange these rates from least to greatest:

30 miles in 25 minutes 60 miles in one hour 70 miles in $1\frac{2}{3}$ hr

Changing each rate to a common denominator of 60 minutes yields:

$\frac{30 \text{ mi}}{25 \text{ min}} = \frac{x}{60} \Rightarrow \frac{30}{25} \cdot \frac{2.4}{2.4} = \frac{72}{60} \frac{\text{mi}}{\text{min}}$ $\frac{60 \text{ mi}}{1 \text{ hr}} = \frac{60 \text{ mi}}{60 \text{ min}}$ $\frac{70 \text{ mi}}{1\frac{2}{3} \text{ hr}} = \frac{70 \text{ mi}}{100 \text{ min}} = \frac{x}{60} \Rightarrow \frac{70}{100} \cdot \frac{0.6}{0.6} = \frac{42 \text{ mi}}{60 \text{ min}}$

So the order from least to greatest is: 70 miles in $1\frac{2}{3}$ hr < 60 miles in one hour < 30 miles in 25 minutes. Note that by using 60 minutes (one hour) for the common unit to compare speeds, we can express each rate as a unit rate: 42 mph, 60 mph, and 72 mph.

Example 3

A train in France traveled 932 miles in 5 hours. What is the unit rate in miles per hour?

Unit rate means the denominator needs to be 1 hour so: $\frac{932 \text{ mi}}{5 \text{ hr}} = \frac{x}{1 \text{ hr}}$. Solving by using a Giant One of $\frac{0.2}{0.2}$ or simple division yields $x = 186.4$ miles per hour.

Problems

Solve each rate problem below. Explain your method.

1. Balvina knows that 6 cups of rice will make enough Spanish rice to feed 15 people. She needs to know how many cups of rice are needed to feed 135 people.

2. Elaine can plant 6 flowers in 15 minutes. How long will it take her to plant 30 flowers at the same rate?

3. A plane travels 3400 miles in 8 hours. How far would it travel in 6 hours at this rate?

4. Shane rode his bike for 2 hours and traveled 12 miles. At this rate, how long would it take him to travel 22 miles?

5. Selina's car used 15.6 gallons of gas to go 234 miles. At this rate, how many gallons would it take her to go 480 miles?

6. Arrange these readers from fastest to slowest: Abel read 50 pages in 45 minutes, Brian read 90 pages in 75 minutes, and Charlie read 175 pages in 2 hours.

7. Arrange these lunch buyers from greatest to least assuming they buy lunch 5 days per week: Alice spends \$3 per day, Betty spends \$25 every two weeks, and Cindy spends \$75 per month.

8. A train in Japan can travel 813.5 miles in 5 hours. Find the unit rate in miles per hour.

9. An ice skater covered 1500 meters in 106 seconds. Find his unit rate in meters per second.

10. A cellular company offers a price of \$19.95 for 200 minutes. Find the unit rate in cost per minute.

11. A car traveled 200 miles on 8 gallons of gas. Find the unit rate of miles per gallon and the unit rate of gallons per mile.

12. Lee's paper clip chain is 32 feet long. He is going to add paper clips continually for the next eight hours. At the end of eight hours the chain is 80 feet long. Find the unit rate of growth in feet per hour.

Math 6+ – Week of April 6th

Composing Integers

Units of length can be placed one after another in a line to find a measure of an object's length. Today you will look at how to compose (put together) different lengths to create a new total length.

2-31.

CROSSING THE TIGHTROPE

Cecil is an acrobat in a local circus. His job is to move across a tightrope from point A to point B while blindfolded! He can only move using the distances that you tell him to move in your instructions. He needs to reach the end of the tightrope (point B) to take his bow and go down a ladder. Assume the platforms on both sides of the tightrope extend infinitely (have no end). Cecil may go past the ladder. However, if he does, make sure he turns around and goes back toward the ladder.

Find different combinations of the lengths that will allow Cecil to move from point A to point B (the end of the tightrope). You may use each length as many times as you like.

For each problem, look for at least 3 different ways to get the acrobat across. For each solution, draw a diagram on your paper that shows how the available lengths can be combined to get Cecil across the tightrope.

a. Span of tightrope: 24 feet Given lengths: 2, 4, 8, 10 feet

b. Span of tightrope: 17 feet Given lengths: 2, 3, 10 feet

c. Span of tightrope: 15 feet Given lengths: 3, 4, 6, 11 feet

d. Span of tightrope: 27 feet Given lengths: 4, 8, 12, 19 feet

e. Span of tightrope: 23 feet Given lengths: 7, 11, 13 feet

OPERATIONS WITH INTEGERS

ADDITION OF INTEGERS

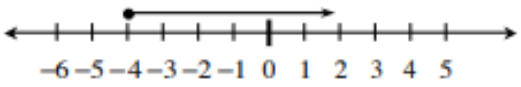
Students review addition of integers using two concrete models: movement along a number line and positive and negative integer tiles.

To add two integers using a number line, start at the first number and then move the appropriate number of spaces to the right or left depending on whether the second number is positive or negative, respectively. Your final location is the sum of the two integers.

To add two integers using integer tiles, a positive number is represented by the appropriate number of (+) tiles and a negative number is represented by the appropriate number of (–) tiles. To add two integers start with a tile representation of the first integer in a diagram and then place into the diagram a tile representative of the second integer. Any equal number of (+) tiles and (–) tiles makes "zero" and can be removed from the diagram. The tiles that remain represent the sum. For additional information, see the Math Notes boxes in Lesson 3.2.3 of the *Core Connections, Course 1* text, or Lesson 2.2.4 of the *Core Connections, Course 2* text.

Example 1

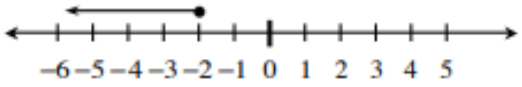
$-4+6$



$-4+6=2$

Example 2

$-2+(-4)$



$-2+(-4)=-6$

Example 3

$5+(-6)$

Start with tiles representing the first number.

+ + + + +

Add to the diagram tiles representing the second number.

+ + + + +
– – – – – –

Circle the zero pairs. –1 is the answer.

$5+(-6)=-1$

Example 4

$-3+7$

$-3+7=4$

ADDITION OF INTEGERS IN GENERAL

When you add integers using the tile model, zero pairs are only formed if the two numbers have different signs. After you circle the zero pairs, you count the uncircled tiles to find the sum. If the signs are the same, no zero pairs are formed, and you find the sum of the tiles. Integers can be added without building models by using the rules below.

- If the signs are the same, add the numbers and keep the same sign.
- If the signs are different, ignore the signs (that is, use the absolute value of each number.) Subtract the number closest to zero from the number farthest from zero. The sign of the answer is the same as the number that is farthest from zero, that is, the number with the greater absolute value.

Example

For $-4 + 2$, -4 is farther from zero on the number line than 2, so subtract: $4 - 2 = 2$.
The answer is -2, since the "4," that is, the number farthest from zero, is negative in the original problem.

Problems

Use either model or the rules above to find these sums.

1. $4+(-2)$	2. $6+(-1)$	3. $7+(-7)$
4. $-10+6$	5. $-8+2$	6. $-12+7$
7. $-5+(-8)$	8. $-10+(-2)$	9. $-11+(-16)$
10. $-8+10$	11. $-7+15$	12. $-26+12$
13. $-3+4+6$	14. $56+17$	15. $7+(-10)+(-3)$
16. $-95+26$	17. $35+(-6)+8$	18. $-113+274$
19. $105+(-65)+20$	20. $-6+2+(-4)+3+5$	21. $5+(-3)+(-2)+(-8)$
22. $-6+(-3)+(-2)+9$	23. $-6+(-3)+9$	24. $20+(-70)$
25. $12+(-7)+(-8)+4+(-3)$	26. $-26+(-13)$	27. $-16+(-8)+9$
28. $12+(-13)+18+(-16)$	29. $50+(-70)+30$	30. $19+(-13)+(-5)+20$

Integers Practice Problem Set

1.

a. Clare has $54 in her bank account. A store credits her account with a $10 refund. How much does she now have in the bank?

b. Mai owes the bank $60. She gets $85 for her birthday and deposits it into her account. How much does she now have in the bank?

c. Tyler is overdrawn at the bank by $180. His brother has $70 more than him. How much money does Tyler's brother have?

d. Andre has $37 in his bank account and writes a check for $87. After the check has been cashed, what will the bank balance show?

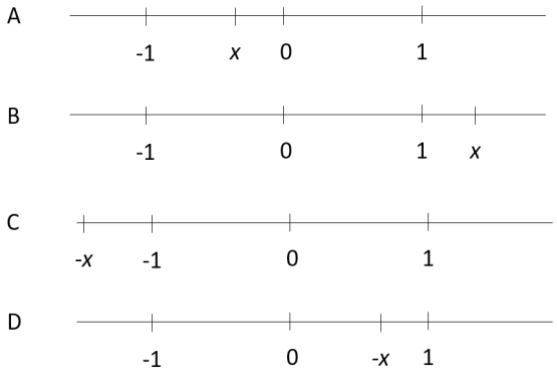
2. The table shows five transactions and the resulting account balance in a bank account, except some numbers are missing. Fill in the missing numbers.

	transaction amount	**account balance**
transaction 1	200	200
transaction 2	-147	53
transaction 3	90	
transaction 4	-229	
transaction 5		0

3. In each diagram, x represents a different value. For each diagram,

a. What is something that is *definitely* true about the value of x?

b. What is something that *could be* true about the value of x?



PUZZLE INVESTIGATOR PROBLEM (PIP) 1 - LONG DISTANCE

The odometer (which measures the distance traveled) on Mario's parents' car reads 28,882 when his father fills it up. Since Mario's family is going on vacation, his father set the trip odometer to 0 so he will know how many miles long the trip is. To keep Mario and his sister busy during the trip, he gives them the following problems.

a. Mario noticed that there are only 2 different digits in the number 28,882. How far will the car need to travel before all the digits are different? What is that number?

b. The numbers 101, 1221, and 1357531, among many others, are all **palindromes** because their digits read the same left-to-right as they do right-to-left. When are the next five times that the digits of the car odometer will be a palindrome?

c. When is the next time that both the car odometer and the trip odometer will be a palindrome?

Name _____ Class _____ Date _____

Solar Energy

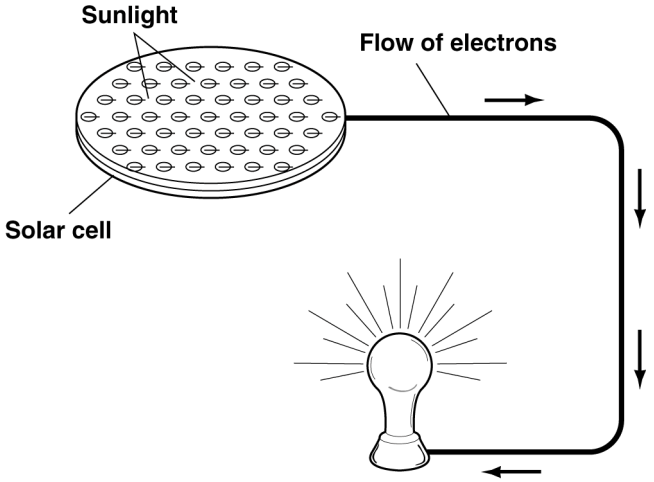
Enrichment Activity

Skills: *interpreting diagrams, applying concepts*

Read the information and study the diagram below. Then, answer the questions.

The Sun produces energy as a result of nuclear reactions. Some of this solar energy reaches Earth in the form of light. Green plants are able to use energy from sunlight to make their own food. There are other ways in which sunlight can be used. One of these ways is in a device called a photovoltaic cell.

A solar cell, or photovoltaic cell, is a sandwich of very thin layers of silicon and metal. The amount of electricity produced by a single solar cell is very small. Huge numbers of cells are needed to produce useful amounts of electricity. Another disadvantage of solar cells is their cost. The cost of electricity from a solar cell is about $6 per watt. In order to compete with fuels such as coal and natural gas, solar cells would have to produce electricity at a cost of about $1 per watt.



1. According to the diagram, what happens when sunlight strikes the solar cell?

_____

_____

2. What useful product is obtained from the solar cell? How is it obtained?

_____

_____

3. What changes in forms of energy are involved in this process? _____

_____

4. What are two disadvantages of solar cells? _____

_____

5. Photovoltaic cells are used very efficiently in pocket calculators. Why do you think this is a practical use of solar cells? _____

_____

_____

Name _____ Date _____

Science and Math

Home Energy Conservation Tips

Making the Connection: Apply what you know about percent to learn different ways to save energy in your home.

Here is a scary fact: As much energy leaks through American windows every year as oil flows through the Alaskan pipeline.

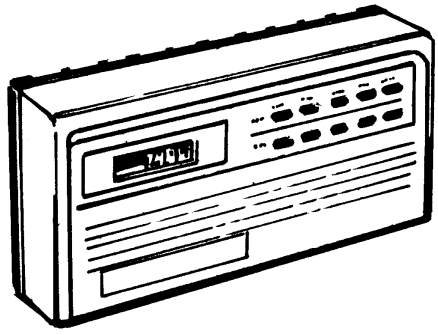
Try an experiment. Take a walk past the windows and outside doors in your home. Do you feel a draft? Then your home, like most homes in America, is losing heat. Other heat losses may occur in your home through the roof or attic and through walls, joints, and cracks. Not only does your family waste hundreds of dollars a year if your home leaks energy, but those leaks can also promote air pollution, acid rain, and global warming.

But all is not lost. You can help! Yes, there are many ways your family can weatherize your house. Your family can save some money and help save the planet at the same time!

First, test your windows and doors for leaks. You and an adult can move a lighted candle around the frames and sashes of your doors and windows. If the flame "dances," the frames are leaking. By eliminating these leaks, your family could reduce the yearly heating bill by 10%.

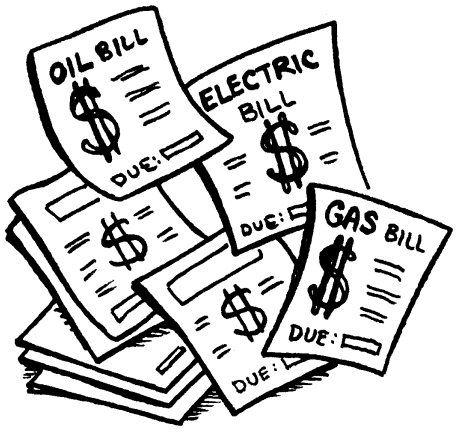
Second, check the insulation in your attic or top floor ceiling. If you have 3 inches or less of old insulation in your attic, the Department of Energy recommends that you add more. Weather-stripping and fiberglass batts can be used to help prevent the loss of energy. By adding insulation, your family could save as much as 30% of the yearly heating bill.

Finally, think about installing a clock thermostat for your heating system. The clock thermostat turns the heat down for you automatically at a regular hour before you go to bed and turns it up again before you get up in the morning. So, even if you forget, you are saving energy as you sleep!



Name _____ Date _____

Let's look at some home heating bills and the conservation actions some families took to reduce them. Use your knowledge of percent to calculate the savings.



Use the table to answer the questions. You may use a calculator to help you.

Family	Annual Heating Bill Before Weatherization	Weatherization Action Taken	Savings
Jones	$360	fixed window and door leaks	10%
Smith	$240	insulated attic	25%
Kwan	$300	installed thermostat	18%
Martinez	$250	insulated attic and fixed window and door leaks	30%

1. How much money did each family save?

_____

2. What are the new annual heating bills for each family?

_____

3. Who saved more, the Smith family or the Kwan family? Explain.

_____

4. How could your family conserve energy and save money on your heating bill?

_____

_____

5. Why is it important that you do not waste energy in your home?

_____

_____

GOVERNMENT – Civics 1a
Social Studies Home Learning Activities

Standard Benchmark **Civics 1a**	Students will understand why governments have the authority to make, enforce, and interpret laws and regulations, such as levying taxes, conducting foreign policy, and providing for national defense.
Grade Band	6-8
Vocabulary/Key Concepts	Authority (of government), enforce, interpret, regulations, conduct, foreign policy, national defense.

Activities: *Government Civics 1a*

Focus Question: Why are governments granted the powers that they have?

Directions:
Activity 1: Work alone or with other people in your home to create a big wish list of things that you love government to do. Feel free to be greedy (but just for this activity ;)

Survey at least 4 other people and add their wants to your list. What would they love to have government do?

Imagine that you surveyed the 327 million people who live in the United States! How HUGE would that list be?

Look at your list and consider all of the things people ask governments to do. Most importantly, create a list of powers that any government would need if it had the responsibility to do all of the things that appear on your survey.

Draw Your Conclusion: why are governments granted the powers that they have?

Activity 2: Follow developments in the news – newspapers, television, internet - relating to the Corona virus (COVID-19). Create a two column chart in which you list the powers that governments in the United States (federal, state, local) are assuming or exercising to address the pandemic in Column 1, and the purposes for which they are exercising them in Column 2.

Reflect:
How are American citizens reacting to the exercise of these powers – supporting or opposing them? How might these reactions illustrate the important role that citizens should play in (a) monitoring and perhaps checking governments as they wield power, and (b) fulfilling their civic responsibilities by responding to the exercise of those powers in ways that consider their own well-being as well as the well-being of others?

Government – Civics 1b
Social Studies Home Learning Activities

Standard Benchmark	**Civics 1b:** Students will analyze the different functions of federal, state, and local governments in the United States and examine the reasons for the different organizational structures each level of government employs.
Grade Band	6-8
Vocabulary/Key Concepts	Functions, Federal Government, Structures of Government

Activity: *Government Civics 1b*

Focus Question: Why is government in the United States broken up into local, state, and national governments?

Directions:
Activity 3**:** Create a list of many problems that might exist in any school (e.g., student is not doing her homework, student is selling candy in class, steps leading into school are icy etc.). Then create a 3-column chart with the words parent, teacher, and principal at the top of each column. Write the problems in the column that you think identifies the person who can best handle each problem i.e. parent, teacher or principal.

Then, do exactly the same thing but this time the list should include many problems that might exist in any community or country (e.g. pothole on your street, blackout in large parts of Delaware, massive hurricane hits the east coast etc.) and substitute local, state, and national government for parent, teacher, and principal as the three column headers.

Draw the important conclusion: how might this activity help explain why government in the United States is broken up into local, state, and federal units?

Activity 4**:** Read the article “The Relationship Between the States and the Federal Government.” Reflect on the answer you provided to the above question, “Why is government in the United States broken up into local, state, and federal units?” After reading the article, explain why or why you would not change your answer to the question “Why is government in the United States broken up into local, state, and federal units?”

THE RELATIONSHIP BETWEEN THE STATES AND THE FEDERAL GOVERNMENT

From Khan Academy https://www.khanacademy.org/humanities/us-government-and-civics/us-gov-foundations/us-gov-relationship-between-the-states-and-the-federal-government/a/relationship-between-the-states-and-the-federal-government-article

Key points

- Federalism describes the system of shared governance between national and state governments.
- The states and the federal government have both exclusive and concurrent powers, which help to explain the negotiation over the balance of power between them.
- The federal government can encourage the adoption of policies at the state-level through federal aid programs.

What is federalism?

Before we start talking about federalism, take a moment and see if you can count the number of government entities that have jurisdiction over the place you are right now.

What did you come up with? One? Three? More than that?

Your answer might differ quite a bit depending on where you are. You might be obligated to abide by the laws of your country, your state, your province, your district, your county, your city, or your town. In some countries, a citizen might be governed by three or more layers of government. In others, they might only be governed by a single national government.

In the United States, the two major layers of government are at the state and national levels. This system, where more than one layer of government has jurisdiction over the same territory, is called federalism. Although it seems natural to US citizens that government is divided into multiple layers, in fact, there are only 15 federal republics in the world.

In the United States, the federalist system emerged because the states evolved from separate colonies, which had diverse populations and different needs. The Framers of the Constitution envisioned that state governments, not the national government, would be the main unit of government for citizens on a day-to-day basis.

In some ways, that's still the case. States issue marriage licenses and set the terms for divorce. State governments issue driver's licenses and car registrations. They decide statewide speed limits and inspection requirements for cars.

But the Framers would likely be surprised to discover the extent to which the federal government and state governments are intertwined today. The balance of power between the two levels has varied over time as the needs of society have changed.

Article IV

Article IV of the US Constitution establishes the responsibilities of the states to each other and the responsibilities of the federal government toward the states.

Section 1 of Article IV requires that the states give "full faith and credit" to the public acts and judicial proceedings of every other state. In other words, states must honor each other's decisions and legal judgments: a person who gets married in one state is still married if they move to another state, and an individual convicted of a crime is still in trouble if they go to another state.

Section 2 stipulates that the citizens of each state are entitled to all "privileges and immunities" of citizens in other states. This means that states can't treat newcomers worse than their own citizens. For example, the Supreme Court ruled that a California law denying new residents welfare benefits for a year was unconstitutional.^1

Exclusive and Concurrent Powers

One reason for the ongoing negotiation over the balance of power between states and the federal government is their exclusive and concurrent powers. Exclusive powers are those powers reserved to the federal government or the states. Concurrent powers are powers shared by the federal government and the states.

Only the federal government can coin money, regulate the mail, declare war, or conduct foreign affairs. These powers make a lot of sense: imagine if Wyoming could declare war on Canada, or Michigan could coin the Michigan Dollar. The exclusive powers of the federal government help the nation operate as a unified whole.

The states retain a lot of power, however. States conduct all elections, even presidential elections, and must ratify constitutional amendments. So long as their laws do not contradict national laws, state governments can prescribe policies on commerce, taxation, healthcare, education, and many other issues within their state.

Notably, both the states and the federal government have the power to tax, make and enforce laws, charter banks, and borrow money.

The changing distribution of power between states and the federal government

As we noted above, the balance of power between states and the federal government has changed a great deal over time. In the early United States, the division between state powers and federal powers was very clear. States regulated within their borders, and the federal government regulated national and international issues.

But since the Civil War in the 1860s, the federal government's powers have overlapped and intertwined with state powers. In times of crisis, like the Great Depression, the federal government has stepped in to provide much-needed aid in areas typically controlled at the state level.

Although the general trend has been toward an increase in federal power, the states have also pushed back. For example, in the 1995 case US v. Lopez, the Supreme Court ruled that the federal government had overstepped its bounds by claiming the authority to ban guns from school grounds under the Commerce Clause. Because guns on school grounds aren't related to interstate commerce, the Supreme Court ruled the gun ban unconstitutional.

One way that the federal government can influence the states is through the distribution of grants, incentives, and aid. State and local governments are eager to obtain federal dollars, but many of those dollars come with strings attached. Categorical grants from the federal government can only be used for specific purposes, and frequently include nondiscrimination provisions (saying that the distribution of the funds cannot be for purposes that discriminate against women, minorities, or other groups).

The federal government can also pass unfunded mandates that tie federal funding to certain conditions. For example, the National Minimum Drinking Act of 1984 stipulated that states must have a minimum drinking age of 21 in order to receive full federal highway funding.

Not all federal funding is strictly monitored. Block grants are federal grants given to states or localities for broad purposes. The state or local governments can then disburse those funds as they see fit.

Federalism in the United States today is very complex. It's at the heart of many of our controversies of government today, such as who should control healthcare or education policy. In the next lesson, we'll explore more about the constitutional interpretations of federalism throughout US history.