





8th Grade

Distance Learning Activities

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
National Health Observances <ul style="list-style-type: none"> National Autism Awareness Month National Minority Health Month National Distracted Driving Awareness Month Stress Awareness Month April 7: World Health Day 			1 Yoga is a great way to relieve stress. Try Savasana, considered to be the hardest yoga pose! Fully relax & clear your mind. 	2 Star Jumps Jump up with your arms and legs spread out like a star. Do 10 then rest and repeat.	3 Crane Pose Here's a challenge! Put your hands on the ground, lean forward & balance your knees on your elbows. 	4 4 Walls Face each wall in a room and do a different exercise for 30 seconds -side shuffle -grapevine to left then right -wide stance punches -vertical jumps
5 Mindful Snack When eating a snack today, really pay attention to the taste, feel, sound, smell and look of the snack you're eating. What do you notice?	6 Balance Stand on your right leg and lift your left knee at a 90 degree angle. Touch your toe without falling repeat 10 times then switch sides.	7 World Health Day Did you know regular, moderate-intensity physical activity can help prevent diabetes? Go for a walk with an adult & discuss other ways to prevent diabetes.	8 10 Jump Lunges Complete a right leg lunge, while in the down position jump up landing in a lunge position on the left leg.	9 Tabata Jump squats 20 seconds of work 10 seconds of rest 8 rounds	10 Before Bed Breathing While lying in bed, place your hands on your stomach and pay attention to the up and down of your belly as you breathe.	11 Dribble Challenge Dribble a ball 100 times with each hand. Can you successfully dribble 100 times with each hand while moving?
12 Fish Pose Hold fish pose for 60 seconds. Take a break and hold for another 60 seconds 	13 Card Fitness Take a deck of cards, flip the top card. Complete exercises based on the suit & number on the card. Face cards are worth 15. Spades- jumping jacks, Clubs- squats, Hearts- mountain climbers, Diamonds- Your choice	14 Wild Arms As fast as you can complete: 10 Arm Circles front & back 10 Forward punches 10 Raise the Roof's Repeat 3x	15 Mindful Senses What do you notice around you? Find: 5 things you see 4 things you feel 3 things you hear 2 things smell 1 thing you taste	16 Jump rope to music! Can you jump to an entire song without stopping?	17 How Fast Can You Go? Pick a distance and see how fast you can run the distance.	18 Slide, Slide, Sprint Slide to your left for 10 steps, slide to right for 10 steps then face forward and sprint for 10 seconds.
19 Garland Pose Practice your balance with this pose! 	20 Tabata Tuck Jumps 20 seconds of work 10 seconds of rest 8 rounds	21 Commercial Break Can you hold a plank for an entire TV commercial break?	22 Nighttime Note Empty your mind before you go to bed by writing a note about what you're thinking and leave it for tomorrow.	23 Chair Pose Hold for 30 seconds, relax then repeat. 	24 Positive Talk Be sure to talk to yourself today like you would talk to someone you love.	25 Jump, Jump Jump side-to-side over an object or line for 1 minute straight. Go again but jump front to back. Repeat each jump twice.
26 Put your favorite song on and make up a dance or fitness routine!	27 Paper Plate Planks In plank position with paper plates under your feet. Complete 30s each: -mountain climbers -in and out feet -knees to chest	28 Step Jumps Find a step or a bench and jump up and down 50 times. Be careful. Take a break if you need to.	29 A Gratitude Attitude Write down something you're thankful for and why.	30 Try Savasana again. Use this to relax and wind down all year! 	SHAPE America recommends school-age children accumulate at least 60 minutes and up to several hours of physical activity per day. Each bout of physical activity should be followed by cool-down stretches that help reduce soreness and avoid injury. Happy exercising! Yoga photos from www.forteyoga.com	

Name: _____ Class: _____

On Twitter, Fake News Has Greater Allure Than Truth Does

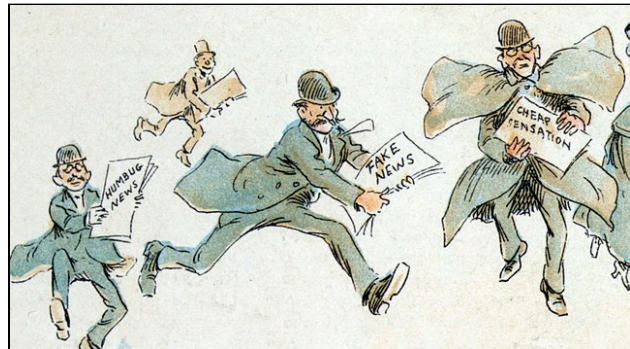
An analysis of 4.5 million tweets shows falsehoods are 70 percent more likely than truths to be shared

By Maria Temming
2018

How credible is the news that you read and spread on social media? In this informational text, Maria Temming discusses a study that compares the spread of false news and true news on Twitter. As you read, take notes on what scientists were able to learn from this study.

- [1] The truth about online fake news is becoming clearer. A new study shows that on Twitter, phony stories reach more people than truthful ones do. Fake stories also spread far faster.

Fake news refers to stories based on false or misinterpreted information. These stories try to dupe¹ readers into believing something that isn't true. Some might try to make public figures look bad or claim people did something they didn't. Others might try to discredit scientific findings. Such stories are often shared on social media platforms such as Twitter and Facebook. But scientists have lacked data on how widely they were shared, or by whom. So a team of researchers decided to investigate.



"The fin de siècle newspaper proprietor (cropped)" by Frederick Burr Opper is in the public domain.

They recently analyzed more than 4.5 million tweets and retweets. All had been posted between 2006 and 2017. And their disturbing finding: Fake news spreads faster and further on Twitter than true stories do.

Filippo Menczer studies *informatics*² and computer science at Indiana University in Bloomington. He was not part of the new study but says its findings are important for understanding the spread of fake news. Before this, he notes, most investigations used a few people's observations rather than a mountain of scientific data. Until now, he says, "We didn't have a really large-scale, systematic study evaluating the spread of misinformation."

- [5] Deb Roy, who did work on the new analysis, studies media and social networks at the Massachusetts Institute of Technology in Cambridge. In the past, he also has worked as a media scientist for Twitter. To study how news spreads on Twitter, Roy and his colleagues collected tweet cascades. These are groups of messages composed of one original tweet and all retweets of that initial post. They examined about 126,000 cascades centered on any of about 2,400 news stories. Each of those original news stories had been independently confirmed as true or false.

1. **Dupe (verb):** to deceive or trick
2. the science of processing data for storage and retrieval

The researchers then collected data on how far and fast each cascade spread. Discussions of bogus stories tended to start from fewer original tweets. But they tended to soon spread extensively. Some chains reached tens of thousands of users! True news stories, in contrast, never spread to more than about 1,600 people. And true news stories took about six times as long as false ones to reach 1,500 people.

Overall, these data show, fake news was about 70 percent more likely to be retweeted than was real news. The team reported its results in the March 9 *Science*.

Not just bots

Roy's team also wanted to know who was responsible for spreading false news. So they looked at Twitter accounts that were involved in sharing fake stories. Some had been run by computers, not people. These so-called web robots, or *bots*, are computer programs that pretend to be human. They have been designed to find and spread certain types of stories.

Some people had assumed that bots drive most fake news moving across the internet. To test that, Roy and his colleagues looked at data both with and without bot activity.

- [10] Bots spread false and true news about equally, the data showed. So fake news could not be blamed just on bots, Roy's group concluded. Instead, people are the main culprits³ in retweeting fake news.

Why might people be more likely to spread tall tales? These stories may seem more exciting, says data scientist Soroush Vosoughi. He works with Roy at MIT and is a coauthor of the new study. Compared to the topics of true-news stories, fake-news topics were more different from other tweets that users had viewed in the two months before they retweeted a story. Tweet replies to the false news stories also used more words indicating surprise.

The researchers didn't inspect the full content of every tweet. So they don't know exactly what users said about these stories. Some people who retweeted fake-news posts may have added comments to debunk⁴ them. But Menczer calls the new analysis a "very good first step" in understanding what types of posts grab the most attention.

The study also could guide strategies for fighting the spread of fake news, says Paul Resnick. He works at the University of Michigan in Ann Arbor. Though he was not part of the new study, he uses computer science to study how people behave online. One approach might be for social media platforms to discourage people from spreading rumors, he says. That approach might have more impact than simply booting off bots that behave badly.

Sinan Aral at MIT has some other ideas. He is another coauthor of the new study and an expert on how information spreads through social networks. One way to fight fake news might be to help users identify true stories online, he suggests. Social media sites could label news pieces or media outlets with truthfulness scores, Aral suggests. In fact, at least one September 2017 study has already looked into that. The bad news: Flagging potentially false headlines or news sites only works a little, it found. Sometimes the tactic could even backfire.

3. **Culprit (noun):** a person responsible for a crime or wrongdoing

4. to expose something as false

- [15] Platforms also might try to restrict accounts reputed⁵ to spread lies, Aral says. But it's still unclear how successful such actions might be, he adds. Indeed, he notes, "We're barely starting to scratch the surface on the scientific evidence about false news, its consequences and its potential solutions."

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Text-Dependent Questions

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

1. PART A: Which statement best expresses the central idea of the text?
 - A. False news stories will likely never be completely removed from Twitter as people are more interested in false news than true news.
 - B. By studying how false news spreads on Twitter, scientists can better understand why false news is being spread more than true news and how to prevent its distribution.
 - C. While some false news stories can cause problems, a majority of false news is harmless and merely meant to entertain the public.
 - D. False news stories are usually easy to spot and don't have a large impact on a majority of the users on Twitter.

2. PART B: Which TWO details from the text best support the answer to Part A?
 - A. "Some might try to make public figures look bad or claim people did something they didn't. Others might try to discredit scientific findings." (Paragraph 2)
 - B. "They examined about 126,000 cascades centered on any of about 2,400 news stories. Each of those original news stories had been independently confirmed as true or false." (Paragraph 5)
 - C. "These so-called web robots, or bots, are computer programs that pretend to be human. They have been designed to find and spread certain types of stories." (Paragraph 8)
 - D. "fake-news topics were more different from other tweets that users had viewed in the two months before they retweeted a story. Tweet replies to the false news stories also used more words indicating surprise. (Paragraph 11)
 - E. "The study also could guide strategies for fighting the spread of fake news, says Paul Resnick. He works at the University of Michigan in Ann Arbor." (Paragraph 13)
 - F. "'We're barely starting to scratch the surface on the scientific evidence about false news, its consequences and its potential solutions.'" (Paragraph 15)

3. What is the author's main purpose in the text?
 - A. to show readers how they can identify false news online
 - B. to provide evidence for how false news is spread more than true news
 - C. to explore the consequences of false news being spread more than true news
 - D. to encourage readers to expose false news online rather than share it

4. Which statement best describes the relationship between the content of news stories and how they spread?
 - A. Fake news stories that closely resemble real news stories spread more quickly than wild or exciting stories.
 - B. True news stories are usually more advanced and difficult to understand and are therefore shared less often.
 - C. True news stories often include repeated content that no longer interests users and are therefore not spread.
 - D. Fake news stories usually contain more exciting tales that appeal to users and are therefore spread more quickly.

5. What is the relationship between the study and prevention of the spread of fake news? Use details from the text in your answer.

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 the text, the author discusses how bots that spread fake news are being removed from Twitter and fake news has been identified and labeled in the past. Do you think these actions violate people's freedom of speech in any way? Should anyone have the power to limit the articles that are made available to people whether they be true or false?
2. In the text, the author discusses solutions for combatting the spread of fake news. What threats do fake news pose to the public?
3. The text explores the idea of fake news, a relatively new buzzword. How do you think social media has made it easier for false news to spread and deceive people?

Name: _____ Class: _____

The Landlady

By Roald Dahl
1959

Roald Dahl (1916-1990) was a British novelist, short story writer, and poet. Dahl's stories are known for having darkly comic or unexpected endings. In this short story, a young man in search of lodgings is taken in by a seemingly kind and gentle landlady. As you read, take notes on how the author characterizes the landlady.

[1] Billy Weaver had travelled down from London on the slow afternoon train, with a change at Swindon¹ on the way, and by the time he got to Bath² it was about nine o'clock in the evening and the moon was coming up out of a clear starry sky over the houses opposite the station entrance. But the air was deadly cold and the wind was like a flat blade of ice on his cheeks.

"Excuse me," he said, "but is there a fairly cheap hotel not too far away from here?"

"Try The Bell and Dragon," the porter³ answered, pointing down the road. "They might take you in. It's about a quarter of a mile along on the other side."

Billy thanked him and picked up his suitcase and set out to walk the quarter-mile to The Bell and Dragon. He had never been to Bath before. He didn't know anyone who lived there. But Mr Greenslade at the Head Office in London had told him it was a splendid city. "Find your own lodgings," he had said, "and then go along and report to the Branch Manager as soon as you've got yourself settled."



["The Linville River Farm bed and breakfast, no longer in operation"](#) by Lindley Ashline is licensed under CC BY-NC-ND 2.0.

[5] Billy was seventeen years old. He was wearing a new navy-blue overcoat, a new brown trilby hat,⁴ and a new brown suit, and he was feeling fine. He walked briskly⁵ down the street. He was trying to do everything briskly these days. Briskness, he had decided, was the one common characteristic of all successful businessmen. The big shots up at Head Office were absolutely fantastically brisk all the time. They were amazing.

1. a large town in South West England
2. a region in the countryside in South West England
3. A "porter" is a person employed to carry luggage.
4. a soft felt hat with a narrow brim
5. **Briskly (adverb):** quick and active

There were no shops on this wide street that he was walking along, only a line of tall houses on each side, all them identical. They had porches and pillars and four or five steps going up to their front doors, and it was obvious that once upon a time they had been very swanky⁶ residences. But now, even in the darkness, he could see that the paint was peeling from the woodwork on their doors and windows, and that the handsome white façades⁷ were cracked and blotchy from neglect.

Suddenly, in a downstairs window that was brilliantly illuminated by a street-lamp not six yards away, Billy caught sight of a printed notice propped up against the glass in one of the upper panes. It said BED AND BREAKFAST. There was a vase of yellow chrysanthemums, tall and beautiful, standing just underneath the notice.

He stopped walking. He moved a bit closer.

Green curtains (some sort of velvety material) were hanging down on either side of the window. The chrysanthemums looked wonderful beside them. He went right up and peered through the glass into the room, and the first thing he saw was a bright fire burning in the hearth. On the carpet in front of the fire, a pretty little dachshund⁸ was curled up asleep with its nose tucked into its belly.

[10] The room itself, so far as he could see in the half-darkness, was filled with pleasant furniture. There was a baby-grand piano and a big sofa and several plump armchairs; and in one corner he spotted a large parrot in a cage. Animals were usually a good sign in a place like this, Billy told himself; and all in all, it looked to him as though it would be a pretty decent house to stay in. Certainly it would be more comfortable than The Bell and Dragon.

On the other hand, a pub would be more congenial⁹ than a boarding-house. There would be beer and darts in the evenings, and lots of people to talk to, and it would probably be a good bit cheaper, too. He had stayed a couple of nights in a pub once before and he had liked it. He had never stayed in any boarding-houses, and, to be perfectly honest, he was a tiny bit frightened of them. The name itself conjured¹⁰ up images of watery cabbage, rapacious¹¹ landladies, and a powerful smell of kippers¹² in the living-room.

After dithering¹³ about like this in the cold for two or three minutes, Billy decided that he would walk on and take a look at The Bell and Dragon before making up his mind. He turned to go. And now a queer¹⁴ thing happened to him. He was in the act of stepping back and turning away from the window when all at once his eye was caught and held in the most peculiar¹⁵ manner by the small notice that was there. BED AND BREAKFAST, it said. BED AND BREAKFAST, BED AND BREAKFAST, BED AND BREAKFAST. Each word was like a large black eye staring at him through the glass, holding him, compelling him, forcing him to stay where he was and not to walk away from that house, and the next thing he knew, he was actually moving across from the window to the front door of the house, climbing the steps that led up to it, and reaching for the bell.

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6. **Swanky** (*adjective*): stylish and expensive
 7. A "façade" is the face of a building, especially the front that looks on a street.
 8. a type of dog with short legs and a long body
 9. **Congenial** (*adjective*): pleasant and enjoyable
 10. **Conjure** (*verb*): to produce or cause something to appear
 11. **Rapacious** (*adjective*): aggressively greedy
 12. a type of fish
 13. to be indecisive
 14. strange or odd
 15. **Peculiar** (*adjective*): strange or odd; unusual

He pressed the bell. Far away in a back room he heard it ringing, and then at once — it must have been at once because he hadn't even had time to take his finger from the bell-button — the door swung open and a woman was standing there.

Normally you ring the bell and you have at least a half-minute's wait before the door opens. But this dame¹⁶ was a like a jack-in-the-box. He pressed the bell — and out she popped! It made him jump.

- [15] She was about forty-five or fifty years old, and the moment she saw him, she gave him a warm welcoming smile.

"Please come in," she said pleasantly. She stepped aside, holding the door wide open, and Billy found himself automatically starting forward into the house. The compulsion¹⁷ or, more accurately, the desire to follow after her into that house was extraordinarily strong.

"I saw the notice in the window," he said, holding himself back.

"Yes, I know."

"I was wondering about a room."

- [20] "It's all ready for you, my dear," she said. She had a round pink face and very gentle blue eyes.

"I was on my way to The Bell and Dragon," Billy told her. "But the notice in your window just happened to catch my eye."

"My dear boy," she said, "why don't you come in out of the cold?"

"How much do you charge?"

"Five and sixpence a night, including breakfast."

- [25] It was fantastically cheap. It was less than half of what he had been willing to pay.

"If that is too much," she added, "then perhaps I can reduce it just a tiny bit. Do you desire an egg for breakfast? Eggs are expensive at the moment. It would be sixpence less without the egg."

"Five and sixpence is fine," he answered. "I should like very much to stay here."

"I knew you would. Do come in."

She seemed terribly nice. She looked exactly like the mother of one's best school-friend welcoming one into the house to stay for the Christmas holidays. Billy took off his hat, and stepped over the threshold.¹⁸

- [30] "Just hang it there," she said, "and let me help you with your coat."

16. "Dame" is another term for a woman.

17. **Compulsion** (*noun*): an irresistible urge to behave in a certain way

18. a point of entering

There were no other hats or coats in the hall. There were no umbrellas, no walking-sticks — nothing.

"We have it all to ourselves," she said, smiling at him over her shoulder as she led the way upstairs.

"You see, it isn't very often I have the pleasure of taking a visitor into my little nest."

The old girl is slightly dotty,¹⁹ Billy told himself. But at five and sixpence a night, who gives a damn about that? — "I should've thought you'd be simply swamped²⁰ with applicants," he said politely.

- [35] "Oh, I am, my dear, I am, of course I am. But the trouble is that I'm inclined to be just a teeny weeny bit choosy and particular — if you see what I mean."

"Ah, yes."

"But I'm always ready. Everything is always ready day and night in this house just on the off-chance that an acceptable young gentleman will come along. And it is such a pleasure, my dear, such a very great pleasure when now and again I open the door and I see someone standing there who is just exactly right." She was half-way up the stairs, and she paused with one hand on the stair-rail, turning her head and smiling down at him with pale lips. "Like you," she added, and her blue eyes travelled slowly all the way down the length of Billy's body, to his feet, and then up again.

On the first-floor landing she said to him, "This floor is mine."

They climbed up a second flight. "And this one is all yours," she said. "Here's your room. I do hope you'll like it." She took him into a small but charming front bedroom, switching on the light as she went in.

- [40] "The morning sun comes right in the window, Mr Perkins. It is Mr Perkins, isn't it?"

"No," he said. "It's Weaver."

"Mr Weaver. How nice. I've put a water-bottle between the sheets to air them out, Mr Weaver. It's such a comfort to have a hot water-bottle in a strange bed with clean sheets, don't you agree? And you may light the gas fire at any time if you feel chilly."

"Thank you," Billy said. "Thank you ever so much." He noticed that the bedspread had been taken off the bed, and that the bedclothes had been neatly turned back on one side, all ready for someone to get in.

"I'm so glad you appeared," she said, looking earnestly²¹ into his face. "I was beginning to get worried."

- [45] "That's all right," Billy answered brightly. "You mustn't worry about me." He put his suitcase on the chair and started to open it.

"And what about supper, my dear? Did you manage to get anything to eat before you came here?"

19. "Dotty" means somewhat mad.

20. **Swamp (verb)**: to overwhelm with an excessive amount of something

21. **Earnest (adjective)**: serious and sincere

"I'm not a bit hungry, thank you," he said. "I think I'll just go to bed as soon as possible because tomorrow I've got to get up rather early and report to the office."

"Very well, then. I'll leave you now so that you can unpack. But before you go to bed, would you be kind enough to pop into the sitting-room on the ground floor and sign the book? Everyone has to do that because it's the law of the land, and we don't want to go breaking any laws at this stage in the proceedings, do we?" She gave him a little wave of the hand and went quickly out of the room and closed the door.

Now, the fact that his landlady appeared to be slightly off her rocker²² didn't worry Billy in the least. After all, she was not only harmless — there was no question about that — but she was also quite obviously a kind and generous soul. He guessed that she had probably lost a son in the war, or something like that, and had never got over it.

- [50] So a few minutes later, after unpacking his suitcase and washing his hands, he trotted downstairs to the ground floor and entered the living-room. His landlady wasn't there, but the fire was glowing in the hearth, and the little dachshund was still sleeping in front of it. The room was wonderfully warm and cosy. I'm a lucky fellow, he thought, rubbing his hands. This is a bit of all right.

He found the guest-book lying open on the piano, so he took out his pen and wrote down his name and address. There were only two other entries above his on the page, and, as one always does with guest-books, he started to read them. One was a Christopher Mulholland from Cardiff. The other was Gregory W. Temple from Bristol. That's funny, he thought suddenly. Christopher Mulholland. It rings a bell. Now where on earth had he heard that rather unusual name before?

Was he a boy at school? No. Was it one of his sister's numerous young men, perhaps, or a friend of his father's? No, no, it wasn't any of those. He glanced down again at the book. Christopher Mulholland, 231 Cathedral Road, Cardiff. Gregory W. Temple, 27 Sycamore Drive, Bristol. As a matter of fact, now he came to think of it, he wasn't at all sure that the second name didn't have almost as much of a familiar ring about it as the first.

"Gregory Temple?" he said aloud, searching his memory. "Christopher Mulholland?..."

"Such charming boys," a voice behind him answered, and he turned and saw his landlady sailing into the room with a large silver tea-tray in her hands. She was holding it well out in front of her, and rather high up, as though the tray were a pair of reins on a frisky²³ horse.

- [55] "They sound somehow familiar," he said.

"They do? How interesting."

"I'm almost positive I've heard those names before somewhere. Isn't that queer? Maybe it was in the newspapers. They weren't famous in any way, were they? I mean famous cricketers or footballers or something like that?"

22. a phrase that means insane

23. **Frisky** (*adjective*): playful and full of energy

"Famous," she said, setting the tea-tray down on the low table in front of the sofa. "Oh no, I don't think they were famous. But they were extraordinarily handsome, both of them, I can promise you that. They were tall and young and handsome, my dear, just exactly like you."

Once more, Billy glanced down at the book.

[60] "Look here," he said, noticing the dates. "This last entry is over two years old."

"It is?"

"Yes, indeed. And Christopher Mulholland's is nearly a year before that — more than three years ago."

"Dear me," she said, shaking her head and heaving a dainty²⁴ little sigh. "I would never have thought it. How time does fly away from us all, doesn't it, Mr Wilkins?"

"It's Weaver," Billy said. "W-e-a-v-e-r."

[65] "Oh, of course it is!" she cried, sitting down on the sofa. "How silly of me. I do apologise. In one ear and out the other, that's me, Mr Weaver."

"You know something?" Billy said. "Something that's really quite extraordinary about all this?"

"No, dear, I don't."

"Well, you see — both of these names, Mulholland and Temple, I not only seem to remember each one of them separately, so to speak, but somehow or other, in some peculiar way, they both appear to be sort of connected together as well. As though they were both famous for the same sort of thing, if you see what I mean — like ... like Dempsey and Tunney, for example, or Churchill and Roosevelt."

"How amusing," she said. "But come over here now, dear, and sit down beside me on the sofa and I'll give you a nice cup of tea and a ginger biscuit before you go to bed."

[70] "You really shouldn't bother," Billy said. "I didn't mean you to do anything like that." He stood by the piano, watching her as she fussed about with the cups and saucers. He noticed that she had small, white, quickly moving hands, and red finger-nails.

"I'm almost positive it was in the newspapers I saw them," Billy said. "I'll think of it in a second. I'm sure I will."

There is nothing more tantalising²⁵ than a thing like this which lingers just outside the borders of one's memory. He hated to give up.

"Now wait a minute," he said. "Wait just a minute. Mulholland... Christopher Mulholland... wasn't that the name of the Eton schoolboy who was on a walking-tour through the West Country, and then all of a sudden..."

24. **Dainty** (*adjective*): delicately small

25. **Tantalize** (*verb*): to torment or tease someone with something that is unobtainable

"Milk?" she said. "And sugar?"

[75] "Yes, please. And then all of a sudden..."

"Eton schoolboy?" she said. "Oh no, my dear, that can't possibly be right because my Mr Mulholland was certainly not an Eton schoolboy when he came to me. He was a Cambridge undergraduate. Come over here now and sit next to me and warm yourself in front of this lovely fire. Come on. Your tea's all ready for you." She patted the empty place beside her on the sofa, and she sat there smiling at Billy and waiting for him to come over. He crossed the room slowly, and sat down on the edge of the sofa. She placed his teacup on the table in front of him.

"There we are," she said. "How nice and cosy this is, isn't it?"

Billy started sipping his tea. She did the same. For half a minute or so, neither of them spoke. But Billy knew that she was looking at him. Her body was half-turned towards him, and he could feel her eyes resting on his face, watching him over the rim of her teacup. Now and again, he caught a whiff of a peculiar smell that seemed to emanate²⁶ directly from her person. It was not in the least unpleasant, and it reminded him — well, he wasn't quite sure what it reminded him of. Pickled walnuts? New leather? Or was it the corridors of a hospital?

"Mr Mulholland was a great one for his tea," she said at length. "Never in my life have I seen anyone drink as much tea as dear, sweet Mr Mulholland."

[80] "I suppose he left fairly recently," Billy said. He was still puzzling his head about the two names.

He was positive now that he had seen them in the newspapers — in the headlines.

"Left?" she said, arching her brows. "But my dear boy, he never left. He's still here. Mr Temple is also here. They're on the third floor, both of them together."

Billy set down his cup slowly on the table, and stared at his landlady. She smiled back at him, and then she put out one of her white hands and patted him comfortingly on the knee. "How old are you, my dear?" she asked.

"Seventeen."

[85] "Seventeen!" she cried. "Oh, it's the perfect age! Mr Mulholland was also seventeen. But I think he was a trifle²⁷ shorter than you are, in fact I'm sure he was, and his teeth weren't quite so white. You have the most beautiful teeth, Mr Weaver, did you know that?"

"They're not as good as they look," Billy said.

"They've got simply masses of fillings²⁸ in them at the back."

26. **Emanate (verb):** to issue or spread out from a source

27. to some small degree

28. something used to fill a cavity

"Mr Temple, of course, was a little older," she said, ignoring his remark. "He was actually twenty eight. And yet I never would have guessed it if he hadn't told me, never in my whole life. There wasn't a blemish on his body."

"A what?" Billy said.

[90] "His skin was just like a baby's."

There was a pause. Billy picked up his teacup and took another sip of his tea, then he set it down again gently in its saucer. He waited for her to say something else, but she seemed to have lapsed²⁹ into another of her silences. He sat there staring straight ahead of him into the far corner of the room, biting his lower lip.

"That parrot," he said at last. "You know something? It had me completely fooled when I first saw it through the window from the street. I could have sworn it was alive."

"Alas,³⁰ no longer."

"It's most terribly clever the way it's been done," he said. "It doesn't look in the least bit dead. Who did it?"

[95] "I did."

"You did?"

"Of course," she said. "And have you met my little Basil as well?" She nodded towards the dachshund curled up so comfortably in front of the fire. Billy looked at it. And suddenly, he realised that this animal had all the time been just as silent and motionless as the parrot. He put out a hand and touched it gently on the top of its back. The back was hard and cold, and when he pushed the hair to one side with his fingers, he could see the skin underneath, greyish-black and dry and perfectly preserved.

"Good gracious me," he said. "How absolutely fascinating." He turned away from the dog and stared with deep admiration at the little woman beside him on the sofa. "It must be most awfully difficult to do a thing like that."

"Not in the least," she said. "I stuff all my little pets myself when they pass away. Will you have another cup of tea?"

[100] "No, thank you," Billy said. The tea tasted faintly of bitter almonds,³¹ and he didn't much care for it.

"You did sign the book, didn't you?"

"Oh, yes."

29. **Lapse (verb):** to revert to a previous state or behavior

30. an expression of grief or pity

31. The taste or smell of bitter almonds is an indication that something contains a deadly poison called cyanide.

"That's good. Because later on, if I happen to forget what you were called, then I can always come down here and look it up. I still do that almost every day with Mr Mulholland and Mr... Mr..."

"Temple," Billy said. "Gregory Temple. Excuse my asking, but haven't there been any other guests here except them in the last two or three years?"

[105] Holding her teacup high in one hand, inclining her head slightly to the left, she looked up at him out of the corners of her eyes and gave him another gentle little smile.

"No, my dear," she said. "Only you."

"The Landlady" from The Best of Roald Dahl by Roald Dahl. Copyright © 1959 by David Hingham Associates Limited. Used by permission of Vintage. All rights reserved.

Text-Dependent Questions

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

1. Which of the following statements best identifies a theme of the text? [RL.2]
 - A. People should get to know each other first before resorting to judgment.
 - B. Strangers can be more dangerous than they initially appear.
 - C. Loneliness can drive people to behave strangely towards others.
 - D. Kindness and hospitality are difficult to find among strangers.

2. PART A: What does the word “compelling” mean as used in paragraph 12? [RL.4]
 - A. to urge someone to do something
 - B. to think deeply about something
 - C. to become slightly interested in something
 - D. to scare someone into doing something

3. PART B: Which quote from paragraph 12 best supports the answer to Part A? [RL.1]
 - A. “After dithering about like this in the cold for two or three minutes”
 - B. “when all at once his eye was caught and held in the most peculiar manner”
 - C. “Each word was like a large black eye staring at him through the glass”
 - D. “forcing him to stay where he was and not to walk away from that house”

4. PART A: What can the reader infer about the landlady from her conversation with Billy in the sitting room? [RL.3]
 - A. She was a doctor or likely had some medical training, as evidenced by her ability to stuff her pets.
 - B. She is a lonely old woman who lost her son in the war and tries to replace him with her particular tenants.
 - C. She may have witnessed something terrible and suffers memory problems because she cannot recall Billy’s name correctly.
 - D. She may be more threatening than she appears because her words suggest she was involved in the two men’s disappearances.

5. PART B: Which of the following details from the text best support the answer to Part A? [RL.1]
 - A. “He guessed that she had probably lost a son in the war, or something like that, and had never got over it.” (Paragraph 49)
 - B. “‘Left?’ she said, arching her brows. ‘But my dear boy, he never left. He’s still here. Mr Temple is also here.’” (Paragraph 82)
 - C. “he caught a whiff of a peculiar smell... he wasn’t quite sure what it reminded him of. Pickled walnuts? New leather? Or was it the corridors of a hospital?” (Paragraph 78)
 - D. “‘if I happen to forget what you were called, then I can always come down here and look it up. I still do that almost every day with Mr Mulholland and Mr... Mr...’” (Paragraph 103)

6. How do the reader's and Billy's contrasting points of view affect the text? [RL.6]

7. How does the shift in the physical description of the landlady throughout the passage impact the story's meaning? [RL.4]

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 this text, Roald Dahl never outright states the landlady's dark secret or reveals the fate of Billy and the other boys – what is the effect of this? How does it contribute to the suspense of the story?
2. In the context of the short story, how do people face death? The landlady hints at her sinister intentions throughout the text – do you think Billy should have realized her plans? Was he in denial of his own fate? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.
3. In the context of the short story, what can we learn about fate from tragedy? In your opinion, what does this story teach readers about avoiding tragedy? What could Billy have done differently? Cite evidence from this text, your own experience, and other literature, art, or history in your answer.

Read the poem and respond to the following questions.

The Tables Turned

BY [WILLIAM WORDSWORTH](#)

Up! up! my Friend, and quit your books;
Or surely you'll grow double:
Up! up! my Friend, and clear your looks;
Why all this toil and trouble?

The sun above the mountain's head,
A freshening lustre mellow
Through all the long green fields has spread,
His first sweet evening yellow.

Books! 'tis a dull and endless strife:
Come, hear the woodland linnet,
How sweet his music! on my life,
There's more of wisdom in it.

And hark! how blithe the throstle sings!
He, too, is no mean preacher:
Come forth into the light of things,
Let Nature be your teacher.

She has a world of ready wealth,
Our minds and hearts to bless—
Spontaneous wisdom breathed by health,
Truth breathed by cheerfulness.

One impulse from a vernal wood
May teach you more of man,
Of moral evil and of good,
Than all the sages can.

Sweet is the lore which Nature brings;
Our meddling intellect
Mis-shapes the beauteous forms of things:—
We murder to dissect.

Enough of Science and of Art;
Close up those barren leaves;
Come forth, and bring with you a heart
That watches and receives.

1. What stood out to you in your first reading of this poem?
2. List some words that are repeated in the poem. Why do you think these words are repeated?
3. Reread stanza 1 (lines 1–4). The speaker is addressing a “Friend.” What is this friend doing?
4. How does the friend seem to feel? How can you tell?
5. Reread stanzas 2–3 (lines 5–12). What two things does the speaker compare or contrast in stanza 3 (lines 9–12)?
6. Paraphrase the last line of stanza 3, by restating it in your own words. What does the speaker mean by this line?
7. Reread stanzas 4–6 (lines 13–24). How does the speaker feel about nature?
8. What language does he use to show this feeling?
9. Reread stanzas 7–8 (lines 25–32). Paraphrase the speaker's lines in stanza 7: “Our meddling intellect / Mis-shapes the beauteous forms of things:— / We murder to dissect” (lines 26–28)? What does the speaker mean?

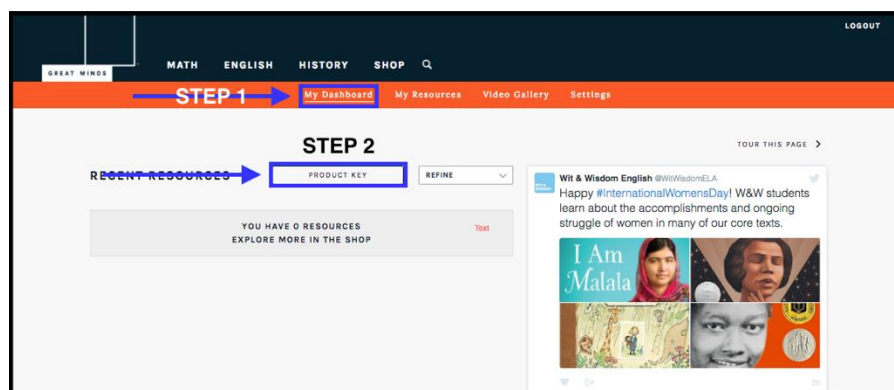
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KEY CONCEPT OVERVIEW

In Module 4 Topic A, students begin to make connections between proportional relationships and **linear expressions** and equations. They transcribe the information from word problems into expressions and equations and then evaluate or solve. Students learn that an equation may have one **solution**, no solution, or many solutions.

You can expect to see homework that asks your child to do the following:

- Write statements using symbolic language. For example, twice a number less 4 is transcribed as $2x - 4$, where x represents a number.
- Determine whether an expression or equation is linear or nonlinear.
- Solve linear equations, explain the **properties of equality** used to find the solutions, and check those solutions.
- Write and solve equations to find the measures of angles in triangles.
- Determine whether an equation has a unique (one) solution, no solution, or infinitely many solutions.

SAMPLE PROBLEMS (From Lessons 7 and 9)

1. Solve the linear equation $x - 9 = \frac{3}{5}x$. State the property that justifies each of your steps.

The left side of the equation, $x - 9$, and the right side of the equation, $\frac{3}{5}x$, are transformed as much as possible.

$$x - 9 = \frac{3}{5}x$$

$$x - x - 9 = \frac{3}{5}x - x \quad \text{Subtraction property of equality}$$

$$(1 - 1)x - 9 = \left(\frac{3}{5} - 1\right)x \quad \text{Distributive property}$$

$$-9 = -\frac{2}{5}x$$

$$-\frac{5}{2}(-9) = -\frac{5}{2}\left(-\frac{2}{5}x\right) \quad \text{Multiplicative property of equality}$$

$$\frac{45}{2} = x$$

2. Give a brief explanation as to what kind of solution(s) you expect the following linear equation to have. Transform the equation into a simpler form if necessary.

$$11x - 2x + 15 = 8 + 7 + 9x$$

$$11x - 2x + 15 = 8 + 7 + 9x$$

$$(11 - 2)x + 15 = (8 + 7) + 9x$$

$$9x + 15 = 15 + 9x$$

I notice that the coefficients of the x are the same, specifically 9, and that the constants, 15, are also the same. Therefore, this equation has infinitely many solutions.

Additional sample problems with detailed answer steps are found in the *Eureka Math Homework Helpers* books. Learn more at GreatMinds.org.

HOW YOU CAN HELP AT HOME

You can help at home in many ways. Here are some tips to help you get started.

- Ask your child to transform each side of an equation from class using the **commutative**, **associative**, and/or **distributive** properties. Then have your child solve the *new* equation using the properties of equality.
- Place equations from both Lessons 2 and 3 on index cards. Have your child organize the cards into linear and nonlinear equations.

TERMS

Associative property: The grouping in an addition or multiplication problem may change, but the sum or product will remain the same.

Coefficient: In the term $3y^6$, for example, the 3 represents the coefficient, or the number in front of the base (y). It means that y^6 is being multiplied by 3.

Commutative property: The order of an addition or multiplication problem may change, but the sum or product will remain the same.

Consecutive integers: Consecutive integers are integers that come one after another when counting. For example, -6 , -5 , -4 , and -3 are consecutive integers. Likewise, 4, 6, and 8 are consecutive even integers.

Constant of a linear equation/expression: The number that is being added to the variable term. For example, in the linear equation $3x - 4 = 8 + 6x$, -4 and 8 are the constants in the equation.

Distributive property: Allows the numbers in a multiplication problem to be distributed into partial products (i.e., partial answers). The partial products can then be added together to find the product, or the answer to the original multiplication problem (e.g., $3(x + 7) = (3 \cdot x) + (3 \cdot 7) = 3x + 21$).

Exponent: In the term $3y^6$, the 6 is the exponent. The exponent tells you how many times to multiply the base (y) by itself.

Linear expression: The sum/difference of one or more expressions (e.g., $4x - 5$) that consist of either a number, a variable, or the product of a number and a variable, where the variable is raised to the power of 0 or 1. The expression $4x^3 - 5$ is nonlinear because the variable is raised to the third power.

Properties of equality: Each property of equality states that if you add (subtract, multiply, or divide) by a number on one side of an equation, you can add (subtract, multiply, or divide) by that same number on the other side of the equation without changing the value of the variable or the equality of the statement.

Reciprocal: The number obtained by inverting a fraction. For example, 4 (which is $\frac{4}{1}$) and $\frac{1}{4}$ are reciprocals, as are $\frac{3}{4}$ and $\frac{4}{3}$. When you multiply a number by its reciprocal, the product is always 1.

Solutions of a linear equation: There are three possibilities for the solution to a linear equation. If both sides of the equation are transformed using the commutative, associative, and/or distributive properties and you notice that ...

- the coefficients of the variable terms are the same, and the constants are also the same (e.g., $3x + 4 = 4 + 3x$ in both instances), then the equation has infinitely many solutions.
- the coefficients of the variable terms are the same, but the constants are different (e.g., $-8x + 7 = -8x - 6$ in both instances), then the equation has no solution.
- the coefficients of the variable terms are different regardless of the constant (e.g., $6 - \frac{1}{4}x = 7x + 4$ in both instances), then the equation has one unique solution.

Variable term: In a linear equation, the part of the expression containing the coefficient and variable. For example, in the linear equation $3x - 4 = 8 + 6x$, $3x$ and $6x$ are the variable terms.



SCAN ME

Lesson 1: Writing Equations Using Symbols

Classwork

Exercises

Write each of the following statements using symbolic language.

1. The sum of four consecutive even integers is -28 .
2. A number is four times larger than the square of half the number.
3. Steven has some money. If he spends \$9.00, then he will have $\frac{3}{5}$ of the amount he started with.
4. The sum of a number squared and three less than twice the number is 129.
5. Miriam read a book with an unknown number of pages. The first week, she read five less than $\frac{1}{3}$ of the pages. The second week, she read 171 more pages and finished the book. Write an equation that represents the total number of pages in the book.



SCAN ME

Lesson 2: Linear and Nonlinear Expressions in x

Classwork

Exercises

Write each of the following statements in Exercises 1–12 as a mathematical expression. State whether or not the expression is linear or nonlinear. If it is nonlinear, then explain why.

1. The sum of a number and four times the number
2. The product of five and a number
3. Multiply six and the reciprocal of the quotient of a number and seven.
4. Twice a number subtracted from four times a number, added to 15
5. The square of the sum of six and a number
6. The cube of a positive number divided by the square of the same positive number

7. The sum of four consecutive numbers
8. Four subtracted from the reciprocal of a number
9. Half of the product of a number multiplied by itself three times
10. The sum that shows how many pages Maria read if she read 45 pages of a book yesterday and $\frac{2}{3}$ of the remaining pages today
11. An admission fee of \$10 plus an additional \$2 per game
12. Five more than four times a number and then twice that sum

Lesson 3: Linear Equations in x

Classwork

Exercises

1. Is the equation a true statement when $x = -3$? In other words, is -3 a solution to the equation $6x + 5 = 5x + 8 + 2x$? Explain.
2. Does $x = 12$ satisfy the equation $16 - \frac{1}{2}x = \frac{3}{4}x + 1$? Explain.
3. Chad solved the equation $24x + 4 + 2x = 3(10x - 1)$ and is claiming that $x = 2$ makes the equation true. Is Chad correct? Explain.



4. Lisa solved the equation $x + 6 = 8 + 7x$ and claimed that the solution is $x = -\frac{1}{3}$. Is she correct? Explain.
5. Angel transformed the following equation from $6x + 4 - x = 2(x + 1)$ to $10 = 2(x + 1)$. He then stated that the solution to the equation is $x = 4$. Is he correct? Explain.
6. Claire was able to verify that $x = 3$ was a solution to her teacher's linear equation, but the equation got erased from the board. What might the equation have been? Identify as many equations as you can with a solution of $x = 3$.
7. Does an equation always have a solution? Could you come up with an equation that does not have a solution?

3. Solve the linear equation $x - 9 = \frac{3}{5}x$. State the property that justifies your first step and why you chose it.
4. Solve the linear equation $29 - 3x = 5x + 5$. State the property that justifies your first step and why you chose it.
5. Solve the linear equation $\frac{1}{3}x - 5 + 171 = x$. State the property that justifies your first step and why you chose it.

Lesson 5: Writing and Solving Linear Equations



Classwork

Example 1

One angle is five degrees less than three times the degree measure of another angle. Together, the angles measures have a sum of 143° . What is the measure of each angle?

Example 2

Given a right triangle, find the degree measure of the angles if one angle is ten degrees more than four times the degree measure of the other angle and the third angle is the right angle.

Exercises

For each of the following problems, write an equation and solve.

1. A pair of congruent angles are described as follows: The degree measure of one angle is three more than twice a number, and the other angle's degree measure is 54.5 less than three times the number. Determine the measure of the angles in degrees.
2. The measure of one angle is described as twelve more than four times a number. Its supplement is twice as large. Find the measure of each angle in degrees.
3. A triangle has angles described as follows: The measure of the first angle is four more than seven times a number, the measure of the second angle is four less than the first, and the measure of the third angle is twice as large as the first. What is the measure of each angle in degrees?

4. One angle measures nine more than six times a number. A sequence of rigid motions maps the angle onto another angle that is described as being thirty less than nine times the number. What is the measure of the angle in degrees?
5. A right triangle is described as having an angle of measure six less than negative two times a number, another angle measure that is three less than negative one-fourth the number, and a right angle. What are the measures of the angles in degrees?
6. One angle is one less than six times the measure of another. The two angles are complementary angles. Find the measure of each angle in degrees.

8TH GRADE SCIENCE MODULE 1: ENERGY FLOW

Distance Learning for April 13- April 28

Name: _____ period: _____ teacher: _____

INSTRUCTIONS FOR PARENTS AND STUDENTS: Students should spend about 30 minutes per day learning material in this packet and additional time reviewing material, working on projects, and explaining content to others at home to make sure students meet their learning objectives.

If you have questions: email your teacher or email Dr. Jennifer Miller (milleje3@tulsaschools.org) for help. You may also call your teacher or 918.925.1118 if you need help and do not have internet access.

GOAL: Develop a model of the rock cycle to explain the cycling of the earth's materials and the flow of energy.

BIG QUESTION: How and why do rocks change and why don't humans see these changes occur?

STANDARDS:

MS-ESS2-1 Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.

LEARNING OUTCOMES:

By the end of this module, you should be able to:

WEEK 1: APRIL 13-17

- ☐ Explain that all Earth processes are the result of energy flowing and matter cycling within and among the planet's systems.
- ☐ Know that energy is derived from the sun and Earth's hot interior.
- ☐ Explain how energy that flows and matter that cycles produces chemical and physical changes in Earth's materials and living organisms.
- ☐ Explain the processes of:
 - ☐ Melting
 - ☐ Crystallization
 - ☐ Weathering
 - ☐ Deformation
 - ☐ Sedimentation,
- ☐ Explain how the processes above act together to form minerals and rocks through the cycling of Earth's materials.
- ☐ Create a plan to develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. (You will have week 2 to work on this project, so keep all your work from this week!)

WEEK 2: APRIL 20-24

PROJECT! Create a model to:

- ☐ Show and describe these different Earth processes:
 - ☐ Melting
 - ☐ Sedimentation
 - ☐ Crystallization
 - ☐ drive matter cycling (i.e., from one type of Earth material to another) through observable chemical and physical changes
- ☐ Show/ explain that the movement of energy that originates from the Earth's hot interior and causes the cycling of matter through the Earth processes of melting, crystallization, and deformation.
- ☐ Show how energy flows from the sun and causes matter cycling via processes that produce weathering, erosion, and sedimentation (e.g., wind, rain).

- ❑ Show the temporal (amount of time) and spatial (amount of space) scales over which the relevant Earth processes operate.

WEEK 3: APRIL 27-28 (PART 1)

Use your model to:

- ❑ Describe that energy from the Earth's interior and the sun drive Earth processes that together cause matter cycling through different forms of Earth materials.
- ❑ The Earth's internal heat energy drives processes such as melting and crystallization
- ❑ Energy from the sun drives the movement of wind and water that causes the erosion, movement, and sedimentation of weathered Earth materials.
- ❑ Given the right setting, any rock on Earth can be changed into a new type of rock by processes driven by the Earth's internal energy or by energy from the sun.
- ❑ Explain that these changes are consistently occurring but that landforms appear stable to humans because they are changing on time scales much longer than human lifetime

→ **THIS PROJECT IS DUE ON: TUESDAY, APRIL 28!** ←

(Large portions of this activity come from Annenberg Learner)

WEEK 1: APRIL 13-17

ROCKS come in cool colors, shapes, textures, and sizes and are found all around you, but how much do you **REALLY** know about them?

Discover more about rocks through these activities. Create a rock collection as you learn about the three main types of rock, find out how to tell the different rock types apart, and see how rocks change from one type into another!

IF YOU HAVE INTERNET ACCESS:

- go to the link to complete this activity, *then move to page 21*.
<https://www.learner.org/series/interactive-rock-cycle/>
- If you do this activity online, be sure to *print or screenshot* your assessment test result to send to your teacher.
- You can also read through the information below!

IF YOU DO NOT HAVE INTERNET ACCESS, *read and work* through the activities below.

Highlight important information as you read through each section. **Answer** all the questions and **circle** any new vocabulary words that you don't know the meaning of yet.

TYPES OF ROCKS → NOT ALL ROCKS ARE THE SAME!

The three main types, or classes, of rock are **sedimentary, metamorphic, and igneous** and the differences among them have to do with how they are formed.

SEDIMENTARY

Sedimentary rocks are formed from particles of sand, shells, pebbles, and other fragments of material. Together, all these particles are called sediment. Gradually, the sediment accumulates in layers and over a long period of time hardens into rock. Generally, sedimentary rock is fairly soft and may break apart or crumble easily. You can often see sand, pebbles, or stones in the rock, and it is usually the only type that contains fossils. Examples of this rock type include conglomerate and limestone.

Question: You pick up a rock and try to determine the class it belongs to. If it is a sedimentary rock, what characteristics would you expect to see?

METAMORPHIC

Metamorphic rocks are formed under the surface of the earth from the metamorphosis (change) that occurs due to intense heat and pressure (squeezing). The rocks that result from these processes often have ribbon-like layers and form crystals. Crystallization is the process of forming crystals through the cooling and solidification of magma or rearrangement of atoms in existing minerals that are exposed to conditions of high temperature and pressure. Examples of this rock type include gneiss and marble.

Question: You pick up a rock and try to determine the class it belongs to. IF it is a metamorphic rock, what characteristics would you expect to see?


IGNEOUS

Igneous rocks are formed when magma (molten rock deep within the earth) cools and hardens. Sometimes the magma cools inside the earth, and other times it erupts onto the surface from volcanoes (in this case, it is called lava). When lava cools very quickly, no crystals form and the rock looks shiny and glasslike. Sometimes gas bubbles are trapped in the rock during the cooling process, leaving tiny holes and spaces in the rock.

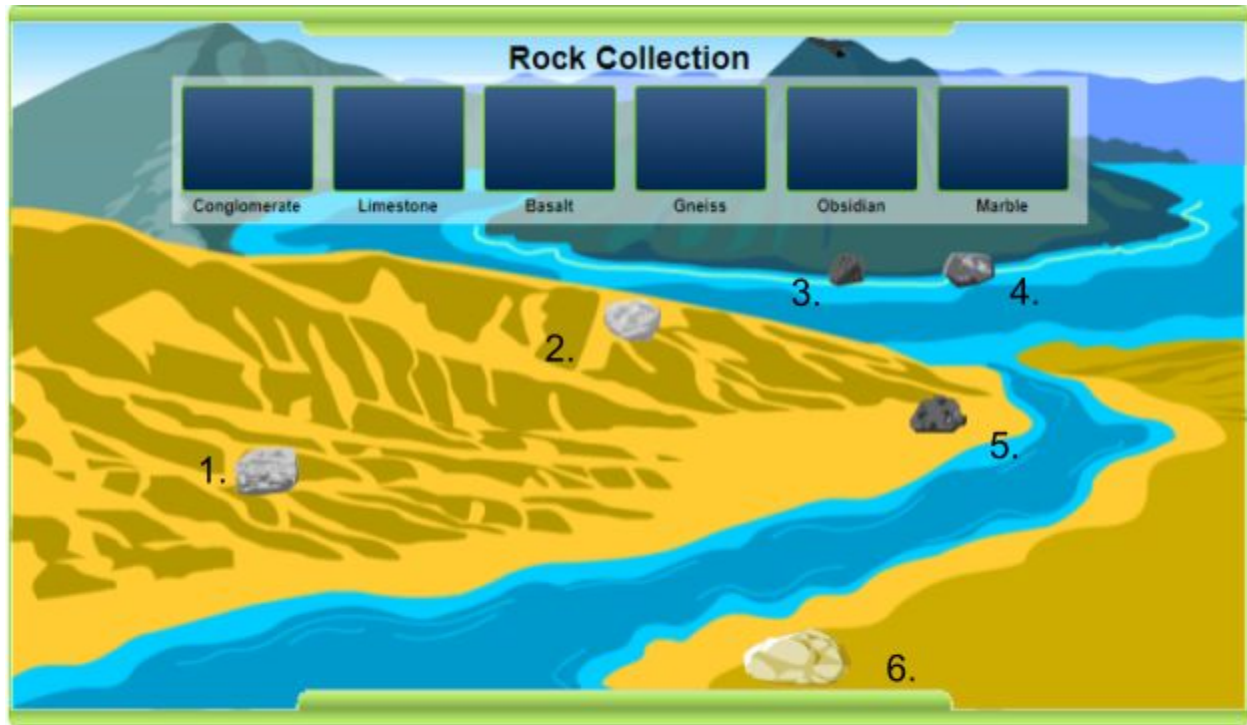
Examples of this rock type include basalt and obsidian.

Question: You pick up a rock and try to determine the class it belongs to. IF it is an igneous rock, what characteristics would you expect to see?

Here's a chart of some of the key characteristics that can help you identify the rocks within these three main classes.

Crystals Small, flat surfaces that are shiny or sparkly, like tiny mirrors.	Fossils Imprints of leaves, shells, insects, or other items in the rock.	Gas bubbles "Holes," like Swiss cheese, in the rock.	Glassy surface A shiny and smooth surface, like colored glass.	Ribbonlike layers Straight or wavy stripes of different colors in the rock.	Sand or pebbles Individual stones, pebbles, or sand grains visible in the rock.
					

BUILD YOUR ROCK COLLECTION



 **Identify Rock Types**
See if you can recognize rock characteristics and types.

1.

Marble

2.

This rock has **crystals**. This is **marble**. It is formed when **limestone** is pushed down into the earth and subjected to **intense heat** and pressure for a long period of time. Some **marble** is pure white, while some has colorful swirls. Marble is found in mountainsides and quarries (pits dug into the earth) and is often used in construction and sculpture.



3.

4.

5.

6.

Obsidian

This rock has a **glassy surface**. It is **obsidian**, which is created from lava that cools so quickly that no crystals can form on its surface. It can be found near volcanic lava flows, and was often used to make arrowheads because its edges are very sharp.

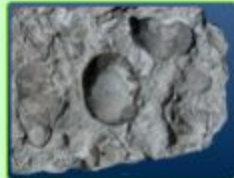


Rock Collection

Sedimentary

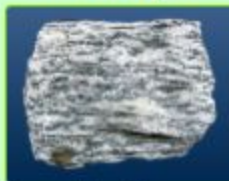


Conglomerate



Limestone

Metamorphic

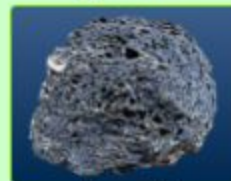


Gneiss

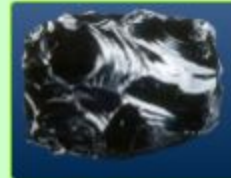


Marble

Igneous



Basalt



Obsidian

TASK 1: IDENTIFY ROCK TYPES

Instructions: First you must correctly circle the rock's characteristics and then you must circle the class to which the rock belongs.

1. Which of these characteristics can you see in this rock?

- A. Crystals
- B. Ribbon-like layers
- C. Glassy surface
- D. Gas bubbles
- E. Sand or pebbles
- F. Fossils

To which of the three main classes does this rock belong?

- A. Sedimentary
- B. Metamorphic
- C. Igneous



2. Which of these characteristics can you see in this rock?

- A. Crystals
- B. Ribbon-like layers
- C. Glassy surface
- D. Gas bubbles
- E. Sand or pebbles
- F. Fossils

To which of the three main classes does this rock belong?

- A. Sedimentary
- B. Metamorphic
- C. Igneous



3. Which of these characteristics can you see in this rock?

- A. Crystals
- B. Ribbon-like layers
- C. Glassy surface
- D. Gas bubbles
- E. Sand or pebbles
- F. Fossils

To which of the three main classes does this rock belong?

- A. Sedimentary
- B. Metamorphic
- C. Igneous

4. Which of these characteristics can you see in this rock?

- A. Crystals
- B. Ribbon-like layers
- C. Glassy surface
- D. Gas bubbles
- E. Sand or pebbles
- F. Fossils

To which of the three main classes does this rock belong?

- A. Sedimentary
- B. Metamorphic
- C. Igneous

5. Which of these characteristics can you see in this rock?

- A. Crystals
- B. Ribbon-like layers
- C. Glassy surface
- D. Gas bubbles
- E. Sand or pebbles
- F. Fossils

To which of the three main classes does this rock belong?

- A. Sedimentary
- B. Metamorphic
- C. Igneous

HOW ROCKS CHANGE → DON'T FORGET TO HIGHLIGHT IMPORTANT INFORMATION!

Introduction

Does it seem to you that rocks never change? For example, if you find a chunk of granite today, can you expect that it will still be granite at the end of your lifetime? That may well be true — **but only because our lifetimes are very short relative to the history of the earth.**

If we take a step back to look at the geologic time (which focuses on changes taking place over **millions** of years), we find that rocks actually do change! All rocks, in fact, change slowly from one type to another, again and again. The changes form a cycle, called "the rock cycle."

The way rocks change depends on various processes that are always taking place on and under the earth's surface. Now let's take a closer look at each of these processes.

Heat & Pressure

What happens to cookie dough when you put it in the oven?

The heat of the oven produces changes in the ingredients that make them interact and combine. Without melting the dough, the heat changes it into a whole new product — a cookie.

A similar process happens to rocks beneath the earth's surface. Due to movements in the crust, rocks are frequently pulled under the surface of the earth, where temperatures increase dramatically the farther they descend. Between 100 and 200 kilometers (62 and 124 miles) below the earth's surface, temperatures are hot enough to melt most rocks. However, before the melting point is reached, a rock can undergo fundamental changes while in a solid state — morphing from one type to another without melting.

An additional factor that can transform rocks is the pressure caused by tons of other rocks pressing down on it from above; heat and pressure usually work together to alter the rocks under the earth's surface. This kind of change, which results from both rising temperature and pressure, is called metamorphism, and the resulting rock is a metamorphic rock.

Let's See how rock is altered when it's subjected to heat and pressure under the earth's surface.

MELTING

What happens to a chocolate bar when it gets very hot? You know...It melts.

The same thing happens to a rock when it is heated to very high temperatures. Of course, it takes a lot of heat to melt a rock. The high temperatures required are generally found only deep within the earth. The rock is pulled down by movements in the earth's crust and gets hotter and hotter as it goes deeper. It takes temperatures between 600 and 1,300 degrees Celsius (1,100 and 2,400 degrees Fahrenheit) to melt rock, turning it into a substance called magma (molten rock). (For comparison, the sun is 5,500 degrees Celsius and the average temperature in Tulsa in March is 17 degrees Celsius!)

COOLING

What would you do to turn that melted chocolate bar back into a solid? You'd cool it by putting it into the refrigerator until it hardens.

Similarly, liquid magma also turns into a solid — a rock — when it is cooled. Any rock that forms from the cooling of magma is an igneous rock. Magma that cools quickly forms one kind of igneous rock, and magma that cools slowly forms another kind.

When magma rises from deep within the earth and explodes out of a volcano, it is called lava, and it cools quickly on the surface. Rock formed in this way is called extrusive igneous rock. It is extruded, or pushed, out of the earth's interior and cools outside of or very near the earth's surface.

What if the magma doesn't erupt out of a volcano, but instead gets pushed slowly upward toward the earth's surface over hundreds, thousands, or even millions of years? This magma will also cool, but at a much slower rate than lava erupting from a volcano. The kind of rock formed in this way is called intrusive igneous rock. It intrudes, or pushes, into the earth's interior and cools beneath the surface.

HOW ROCKS CHANGE

Weathering & Erosion

What do dandelions rely on to separate their seeds, carry them, and deposit them elsewhere?.....
The wind!

All objects on the earth's surface are exposed to the wind, along with many other elements — water, the sun, and temperature changes. Over time, these factors wear objects down and break them apart. The resulting bits and pieces of material are called sediment. Sediment is then transported by wind and water, often ending up far from where it started. These processes of breakdown and transport due to exposure to the environment are called weathering and erosion. Weathering and erosion affect all rocks on the earth's surface.

Compacting & Cementing

What happens to a loose pile of garbage when it's put into a compactor?.....
The squeezing of the machine produces a solid cube of compacted garbage.

The same thing happens to sediment formed from the weathering and erosion of rock. Over time, sediment accumulates in oceans, lakes, and valleys, eventually building up in layers and weighing down the material underneath. This weight presses the sediment particles together, compacting them. Water passing through the spaces in between the particles helps to cement them together even more. This process is sedimentation. This process of compacting and cementing sediment forms sedimentary rock.

Deformation of Rocks

Rocks become deformed when the Earth's crust is compressed or stretched. The forces needed to do this act over millions of years – deformation is a very slow process! Compression (squashing) occurs as tectonic plates are pushed together and the crust becomes shorter and thicker, building mountain ranges like the Alps or Himalayas. The rocks are folded and metamorphosed at depth. They may be faulted nearer the surface. Tension (stretching) occurs as tectonic plates are pulled apart and the

crust becomes thinner. Rocks near to the surface become faulted, sometimes producing rift valleys, such as the East African Rift shown in the photograph below.



FOLDED ROCKS IN THE ALPS.

EAST AFRICAN RIFT

EXPLORE! TRANSFORM THE ROCK!

See if you can identify the processes that can change rocks from type to another.

In the white box above, write in the change that would need to occur to cause the rock to change.

In the white box above, write in the change that would need to occur to cause the rock to change.

In the white box above, write in the change that would need to occur to cause the rock to change.

In the white box above, write in the change that would need to occur to cause the rock to change.



Magma has now been added to your rock collection.

You must identify the processes that can transform a rock through a cycle. You will start with magma and it will undergo a series of changes into different kinds of rocks, eventually ending up back at magma.

5. Over time, magma deep inside the earth has turned into granite (igneous rock). What process made this happen?

+=



Heat and Pressure



Melting



Weathering and Erosion



Cooling



Compacting and Cementing

In the white box above, write in the change that would need to occur to cause the rock to change.

In the white box above, write in the change that would need to occur to cause the rock to change.

In the white box above, write in the change that would need to occur to cause the rock to change.

8. Next, the sandstone gets pushed underground and transforms into a metamorphic rock called quartzite. What process can turn sandstone into quartzite?



Quartzite



Heat and Pressure



Melting



Weathering and Erosion



Cooling



Compacting and Cementing

In the white box above, write in the change that would need to occur to cause the rock to change.

In the white box above, write in the change that would need to occur to cause the rock to change.

THE ROCK CYCLE DIAGRAM

A useful way to illustrate how the three main types of rock are related to one another and how changes to rocks happen in a recurring sequence is the rock cycle. It can be presented in a diagram like the one below.

The concept of the rock cycle is attributed to James Hutton (1726–1797), the 18th-century founder of modern geology. The main idea is that rocks are continually changing from one type to another and back again, as forces inside the earth bring them closer to the surface (where they are weathered, eroded, and compacted) and forces on the earth sink them back down (where they are heated, pressed, and melted). So the elements that makeup rocks are never created or destroyed — instead, they are constantly being recycled. The rock cycle helps us to see that the earth is like a giant rock recycling machine!

TRY IT!

See if you can put your knowledge of rock types and geologic processes together to map out the rock cycle.

1. When rocks are affected by weathering and erosion, they change into which of the following?
 - a. Lava
 - b. Magma
 - c. Sediment
2. When sediment is compacted and cemented, it changes into which of the following?
 - a. Igneous rock
 - b. Metamorphic rock
 - c. Sedimentary rock
3. When heat and pressure are applied to a sedimentary rock, it changes into which of the following?
 - a. Igneous rock
 - b. Metamorphic rock
 - c. Sediment

4. When the melting of a metamorphic rock occurs, it changes into which of the following?
 - a. Igneous rock
 - b. Magma
 - c. Sediment
5. When magma is cooled, it changes into which of the following?
 - a. Igneous rock
 - b. Metamorphic rock
 - c. Sedimentary rock

Next! Answer Questions About Rocks and the Rock Cycle

This is an assessment to see how much you've learned in this interactive.

Question 2 of 15

Which of the following is NOT one of the three major classes of rock?

- A** Igneous
- B** Metamorphic
- C** Oceanic
- D** Sedimentary



Question 6 of 15

What type of igneous rock makes up most of the ocean floor?

- A** Basalt
- B** Granite
- C** Lucite
- D** Shale



Question 8 of 15

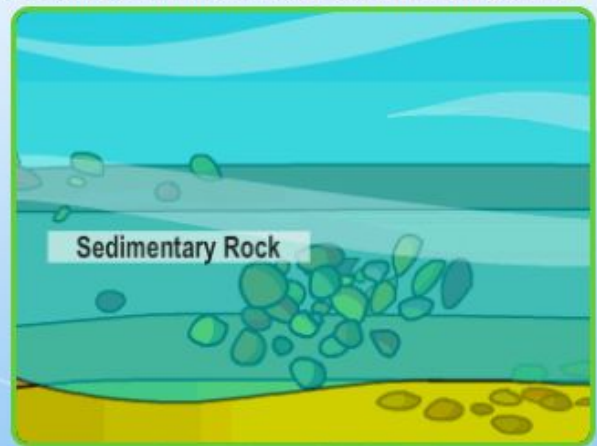
Question 9 of 15

Question 10 of 15

Question 11 of 15

What geologic process changes pieces of rocks, minerals, and other material into sedimentary rock?

- A** Compacting and cementing
- B** Cooling
- C** Heat and pressure
- D** Melting



Question 12 of 15

Question 13 of 15

Question 14 of 15

Question 15 of 15

EXPLORE YOUR WORLD!

Go outside and explore the area near your home with your parent or guardian. Pick up three samples of rock from different areas and fill in the chart below!

Rock Sample	Sketch your rock or insert a photo.	Where did you find it?	What characteristics does it have?	What class of rock is it? (igneous, metamorphic, sedimentary) How do you know?
#1				

#2				
#3				

1. Review the three types of rock classes. Since we live in Tulsa, Oklahoma, which rock class(es) would you NOT expect to find very frequently in our area? Explain your answer.

2. Look at your rock sample #1. Using the rock cycle, explain how this type of rock could be changed to igneous rock. You may draw part of the rock cycle to help you explain your answer.

3. Think about the change to igneous rock in question 2.
 - a. How would energy be provided to create these changes in the rock?

 - b. Explain if you would be able to observe this change in your lifetime. What evidence do we have that these changes occur?

END OF WEEK 1.

WEEK 2: APRIL 20-24

PROJECT!

Using any materials you have at home you will construct a model to show your knowledge about energy flow. Make sure you meet all the criteria below!

1. Show and describe these different Earth processes:
 - ☐ Melting
 - ☐ Sedimentation
 - ☐ Crystallization
 - ☐ drive matter cycling (i.e., from one type of Earth material to another) through observable chemical and physical changes
2. Show/ explain that the movement of energy that originates from the Earth's hot interior and causes the cycling of matter through the Earth processes of melting, crystallization, and deformation.
3. Show how energy flows from the sun and causes matter cycling via processes that produce weathering, erosion, and sedimentation (e.g., wind, rain).
4. Show the temporal (amount of time) and spatial (amount of space) scales over which the relevant Earth processes operate.

WEEK 3: APRIL 27-28 (PART 1)

Using your model, answer the following:

1. Describe how energy from the Earth's interior and the sun drive Earth processes that together cause matter cycling through different forms of Earth materials.

2. Explain how the Earth's internal heat energy drives processes such as melting and crystallization.

3. Describe how energy from the sun drives the movement of wind and water that causes the erosion, movement, and sedimentation of weathered Earth materials.
4. Given the right setting, any rock on Earth can be changed into a new type of rock by processes driven by the Earth's internal energy or by energy from the sun. Explain why this is true.
5. Explain why landforms appear stable to humans even though they are changing.

Reflection:

Review the learning objectives at the beginning of this lesson. What level of understanding do feel you have of the standard?

Standard	Level of Understanding (Mastery-proficient-progressing-rudimentary)	Reason for Level Chosen, be specific about the things you know well and what you struggle with.
MS-ESS 2-1		
Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process		

END OF MODULE 1! Good work!

8th Grade, Social Studies, At Home Activities and Resources

Directions: Students can spend time twice a week on a Social Studies activity. Activities 1-4 are multi-day activities; numbers 5-13 can be done in one day.

Activity 1	Historical Narrative	<p>Create a Historical Narrative: Students can: 1) research a topic 2) examine the who, what, when, where and why about the event 3) Create a storyboard of the ideas using sensory details 4) Write a rough draft and 5) Edit and revise the story. Click here for detailed directions and a sample.</p> <p>https://drive.google.com/file/d/12YAEip4J1KYAbRLySkrBmCsIaRNJ_7_J/view</p>
Activity 2	Editorial	<p>Write an Editorial: This is a writing style in which students share their opinion on an important topic. To complete this activity students should 1) research a topic, 2) identify their opinion and reasons to support their ideas 3) write a paper that explains your opinion and provides evidence. A packet with student directions and a sample editorial can be found here.</p> <p>https://drive.google.com/file/d/1VJbs00M_6iEh6aM775_0gOLyHK_uH3-C/view</p>
Activity 3	Oral History	<p>Write an Oral History: An oral history is the act of recording an interpretation of past events. In this writing assignment students should 1) choose a topic 2) select individuals to interview 3) write questions 4) conduct the interview and 5) write a summary and analysis of the interview. Here is a packet with student directions and a sample.</p> <p>https://drive.google.com/file/d/1APzqtUQ1bBtlf59W_8PmpgaQgIXI49Bd/view</p>
Activity 4	Letter of Concern	<p>Letter of Concern to a Government Official- Research a major issue and write a letter explaining how you would like the government leader to react. The letter should include important facts that support your ideas. Directions and a writing sample can be found here.</p> <p>https://drive.google.com/file/d/1yWdo8nRIbFclBxsDoarkfi3moXLYo9za/view</p>
Activity 5	ICivics	<p>ICivics has several games that middle and high school students can play. https://www.icivics.org/games</p>

Activity 6	Kids PBS News Hour	<p>Kids PBS Daily News Hour Students will identify the who-what-where-when-why and how of national and international news stories. When students click on a news story they will see a description, with a link at the bottom that says support materials. This will take them to questions and activities they can complete following each video.</p> <p>https://www.pbs.org/newshour/tag/kids</p>
Activity 7	Crash Course	<p>Crash Course has several informational videos. Students can watch a video and make a Bubble Map graphic organizer. To do so, students put the event in the center and in the surrounding bubbles place important details about the event.</p> <p>https://www.youtube.com/results?search_query=us+history+crash+course</p> <p>https://www.education.com/worksheet/article/bubble-map/</p>
Activity 8	The Memory Palace Review	<p>Listen to an episode of the podcast The Memory Palace and compose a review. In the review, summarize what the episode was about and what was interesting. To stretch this activity, research some other historical components that were happening at the same time as the event in the podcast, such as the Chinese Exclusion Act. Compare how immigrants from other parts of the world were treated when coming to the US, consider the difference between Angel Island and Ellis Island. Is the treatment of immigrants much different now than it was at the time discussed in the podcast? Give examples or evidence to back up your ideas.</p> <p>The Memory Place: https://thememorypalace.us</p>
Activity 9	This Day In History	<p>Follow this link and research some of the important events that happened today in a different year! Summarize the event and also compare and contrast today's world with what you learned.</p> <p>http://www.thepeoplehistory.com/this-day-in-history.html</p>
Activity 10	Home Map & Scavenger Hunt	<p>First, make a map of your home. Next, divide it up into a grid and use cardinal directions to label each section of the grid. Then leave clues on pieces of paper in different parts of the grid that lead the student to the next clue. The hunt should end in a specific object or a piece of candy. For example, the first piece of paper would say, "look under the chair that's in the SE square of the home." Then under the chair would be another piece of paper that says, "look inside the shoe that's in the NW part of the home." And so on, until all clues are found.</p>

Activity 11	Hero Research	Who is your hero? How did they become your hero? Research this person and figure out how they became who they are. Summarize your investigation.
Activity 12	Comparing Memories and Stories	Think about a specific memory you have with your family. Summarize the specific memory. Now, interview each family member about the same memory. Detail the account of each person and compile all the information you can. In the end, examine the final body of work. Compare and contrast the different accounts about the same event. Why are there differences? What made similarities possible? What does this tell us about larger historical events? How will this impact how you analyze other parts of history or current events?
Activity 13	Journaling	Journaling can provide you with opportunities for private reflection and help them process their thoughts, feelings, and uncertainties during these difficult times. Respond to a journal prompt on the coronavirus outbreak. <ol style="list-style-type: none"> 1. How can we help each other during this crisis? 2. What does it mean to stay away from each other physically but still work together?
Activity 14	What a Time!	Did you know that you are living through a historic time? In future decades, like the 2030s, researchers will research the COVID-19 pandemic.. They will look to primary sources, first-hand accounts or other data sources to learn how people were affected by this pandemic. To support them: <ol style="list-style-type: none"> 1. Write down what news you are hearing every day, noting the changes that are taking place, for one week. 2. Provide your perspective and personal experiences to the news you are hearing. 3. Interview at least three (3) people that are older than you about their experience. Identify the similarities and differences in how they have reacted.