

<b>Grade:</b> Fifth grade		<b>Subject:</b> Science with Language Arts integration	
<b>Materials:</b> Students-Chromebooks Teacher: Optical Illusions video: <a href="http://lifelhacker.com/how-optical-illusions-trick-our-brains-1790829333">http://lifelhacker.com/how-optical-illusions-trick-our-brains-1790829333</a> . White board and markers Exit slips.		<b>Technology Needed:</b> Projector/ smart board Chromebooks	
<b>Instructional Strategies:</b> <ul style="list-style-type: none"> <li>X Direct instruction</li> <li><input type="checkbox"/> Guided practice</li> <li><input type="checkbox"/> Socratic Seminar</li> <li><input type="checkbox"/> Learning Centers</li> <li><input type="checkbox"/> Lecture</li> <li>X Technology integration</li> <li><input type="checkbox"/> Other (list)</li> </ul>		<b>Guided Practices and Concrete Application:</b> <ul style="list-style-type: none"> <li><input type="checkbox"/> Large group activity</li> <li><input type="checkbox"/> Independent activity</li> <li>X Pairing/collaboration</li> <li><input type="checkbox"/> Simulations/Scenarios</li> <li><input type="checkbox"/> Other (list)</li> </ul> Explain:	
<b>Standard(s)</b> 5.W.6 Use technology, including the Internet, to produce and publish grade-level writing using keyboarding skills/digital tools as well as to interact and collaborate with others. 5.1.3 Identify details of an object's form which determine its function (e.g., webbed feet for use in water, human feet for walking, shovel for scooping dirt, a rake for collecting leaves, tape measure and ruler to measure distance) (Science).  <b>Objective(s)</b> By the end of the lesson, the student will have applied what they learned about optical illusions, and make a flyer with correct grammar on promoting optical illusions using their online resources. <b>Bloom's Taxonomy Cognitive Level:</b> Applied		<b>Differentiation</b> <b>Below Proficiency:</b> These students can answer questions that are at a lower level.  <b>Above Proficiency:</b> These students can work on challenging questions that will make them think more.  <b>Approaching/Emerging Proficiency:</b> Students will make a flyer on optical illusions with correct punctuation and spelling.  <b>Modalities/Learning Preferences:</b> Students may write up their flyer on paper if they get their Chromebook taken away or chose to do so on their own terms.	
<b>Classroom Management- (grouping(s), movement/transitions, etc.)</b> Once discussion/lecture is over, students may only open their Chromebooks once instructed to do so. Students may work with a partner if they so desire to gather ideas together, but they each have to type their own flyer. Exit slips for leaving class for the day. Students may only be on websites that are appropriate to optical illusions.		<b>Behavior Expectations- (systems, strategies, procedures specific to the lesson, rules and expectations, etc.)</b>  Students will be expected to participate in looking at the optical illusions presented on the board. Students should ask questions and answer questions that I have to offer. Students should know to not talk out of turn, and to only raise their hand to speak.	
<b>Minutes</b>	<b>Procedures</b>		
<b>2</b>	<b>Set-up/Prep:</b> Open video link on laptop and project onto the board, have ready before students walk into the classroom.		
<b>5</b>	<b>Engage: (opening activity/ anticipatory Set – access prior learning / stimulate interest /generate questions, etc.)</b>		

	<p>I will let students know that Mrs. Powers' rules are my rules so that the students know that the rules do not change once I am up teaching them.</p> <p>Once that is out of the way I will introduce the activity. Today we are going to learn about optical illusions. Does anyone know what an optical illusion is and what does it does? Write on the board students ideas. One side of the board will say what we think optical illusions are, and at the end of the lesson students will discussion what optical illusions really are. Optical illusions are images that trick us, kind of like a magic trick with our brain and our eyes. Not everyone may see the same object when they are looking at an optical illusion because everyone's brains and eyes work differently.</p>
<p>15</p>	<p><b>Explain: (concepts, procedures, vocabulary, etc.)</b></p> <p>Before we jump, we are first going to watch a video on optical illusions to get your minds ready. Have the words on the board but covered up, once a student gives the correct definition, unveil the definition to the class.</p> <p>Play a video on optical illusions, pause the video when explaining needs to be done and the vocabulary words pop up in one of the images.</p> <p>Pause at: 4:0 go over blind spot, what did that image do to your brain/eyes? Why did this happen? Replay if necessary.</p> <p>Pause at 1:30 Peripheral vision what did you see or not see? How come you could only see certain dots at certain times? Replay if necessary</p> <p>End of video. How come we could read sentences that had extra words or where out of order? Replay last half of the video if necessary.</p> <p><u>Blind Spot:</u> This is the part of your eye where you cannot see anything when you are looking at a certain angle. This is because this spot in your eye is where all your nerves and vessels connect, there are no cells there to process what you are looking at. Example of an illusion using your blind spot will be having you close your eye and look at an object, then another object that is right next to it will disappear.</p> <p><u>Peripheral vision:</u> Everyone try looking in one spot, now without turning your head, look to the left and then the right with your eyes. The part that you turn your eyes to is your peripheral vision. When we are focused on one point, our brain fills in parts that we cannot see when we are focused on a point.</p> <p><u>Mental Filtering:</u> This is when your brain reads a sentence that is mixed up and can automatically fill in what the words are. Such as: wtah yuo aer raednig nwo yuo cna raed. (What you are reading now you can read). You can read that because you have memorized those words and your brain has processed those mixed up words to real words.</p> <p>These three words are in the video I am about to present so watch carefully.</p> <p>Hand out a worksheet with the three words on them, so that the students can follow along with the video as well. Students can write down the definitions on their sheet, and any other ideas that will help them remember the definitions.</p> <p><b>Indirect Instruction:</b> Group students in groups based on a mix of high flyers and lower achieving students and have them talk about the three types of optical illusions. I will give each group a picture of the three different types of optical illusions, and as a group the students have to label each optical illusion. After the groups have figured out which optical illusion is which, we will go over which picture was what optical illusion that was shown in the video and why they thought why each optical illusion picture was which.</p>
<p>15</p>	<p><b>Explore: (independent, concrete practice/application with relevant learning task -connections from content to real-life experiences, reflective questions- probing or clarifying questions)</b></p> <p>Now that we know a little more about optical illusions, what can we put on the side of the board that says what we know about optical illusions (students raise their hands and tell the teacher what they learned about optical illusions).</p> <p>Now I need you to open a word document and make a flyer promoting optical illusions (show example flyer). Please answer the following questions: What do your eyes/brains do when looking at an optical illusion? Does the optical illusion you chose trick our blind spot, mental filtering, or peripheral vision? Why would someone want to look at an optical illusion? (Show example flyer). Flyers must have proper spelling and grammar. All questions and proper grammar and spelling must be used for full points if you finish early you can google some optical illusions and try to figure them out, if you are doing something else, you will go into the hall and read a</p>

book. You may work with a partner to share ideas by you each need to type up your own document separately. Students will then open their Chromebook when I give them permission to do so.  
Flyer example:

Optical Illusion's

Name

Grade

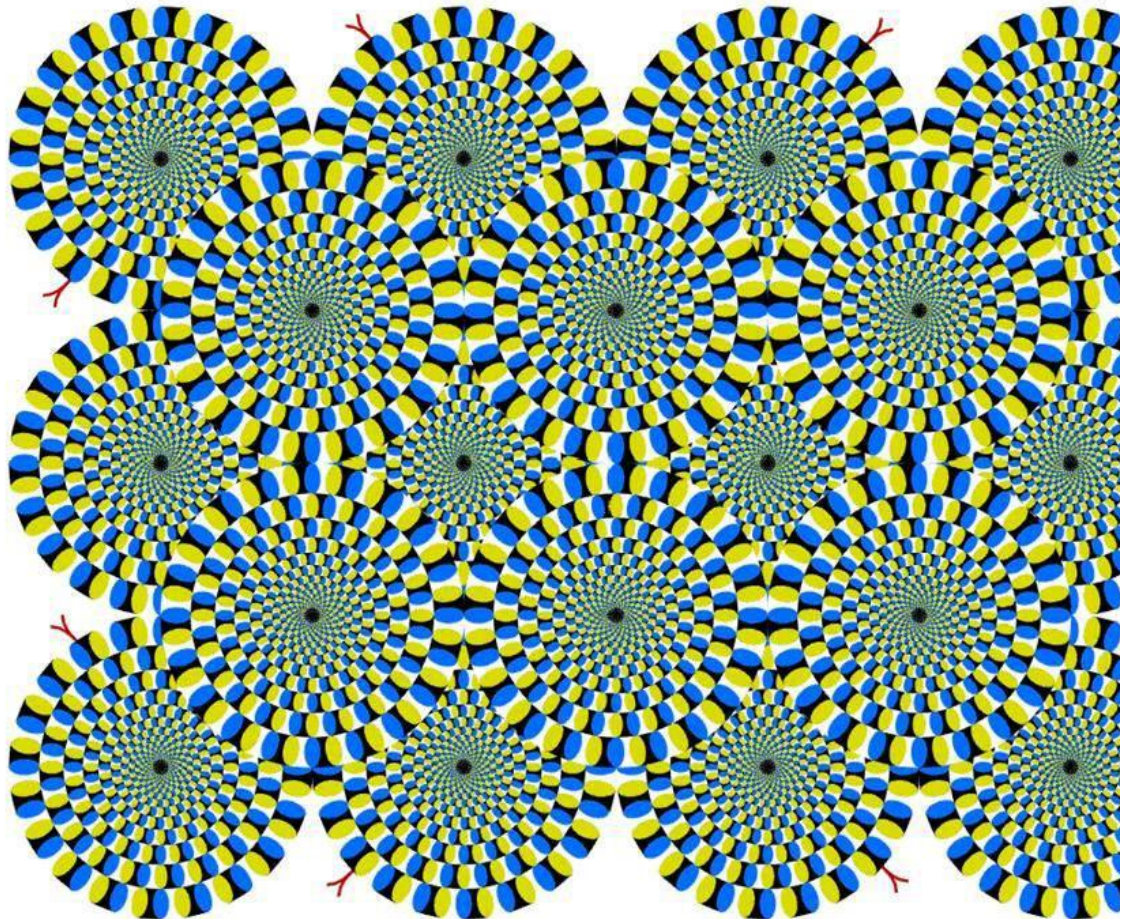
Questions to answer:

What do our brain/eyes do when looking at this optical illusion?

Does this optical illusion trick us using our blind spot, mental filtering, or peripheral vision?

Why would someone want to look at an optical illusion?

Picture of optical illusion and name it.



2

Review (wrap up and transition to next activity):

Once students are done typing/writing, or if they finish early, they can try and find some optical illusions online and see if they can figure them out. – If students are messing around they get their Chromebook taken away, and have to go read a book out in the hallway. Students will give me their exit slip on that says something they learned about in class today, and then they can leave.

**Formative Assessment: (linked to objectives)**  
**Progress monitoring throughout lesson- clarifying questions, check-in strategies, etc.**

Students will make a flyer about what they learned about optical illusions and promoting them using proper grammar structure.

**Consideration for Back-up Plan:** If projector does not cooperate, then I will explain and show pictures of optical illusions by hand.

**Summative Assessment (linked back to objectives)**

**End of lesson:**

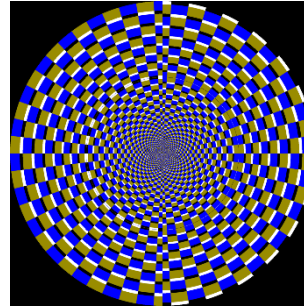
Students will take a test based on optical illusions.

Name: \_\_\_\_\_

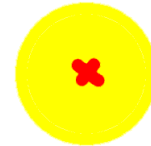
Directions: Listed below are pictures of different optical illusions. Your job is to name the optical illusion on the line below the picture. Use the terms below to fill in the blanks.

Terms: Blind spot, mental filtering, peripheral vision.

1.



2.



3.



After reading the sentence, you are now aware that the the human brain often does not inform you that the the word 'the' has been repeated twice every time.



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**Reflection (What went well? What did the students learn? How do you know? What changes would you make?):**

Overall, I would have to say that the lesson I taught went well. Students were engaged by raising their hands and asking good questions about the material. I only had to stop them a few times to remind them to not talk while I am talking or use their indoor voices. Students really enjoyed the video that I played for them on optical illusions. Students followed along with the video and tried to see if they could figure out the different illusions. I played this video a few times so that all students could try and see if they could figure out the illusion if they did not the first time.

Since I taught the lesson four times the lesson got easier and easier to teach as I went on through each class. Although, when I thought students were listening, I quickly realized once we got to class work, that they were not. Students were not answering the questions that I gave them on their half sheet when I specifically announced before work time, that they had questions to answer that I handed out. Students were getting done quickly and asking to print and I was wondering why this was. Students were asking to print because they had found an optical illusion, but did not write about the illusion. The main idea of the lesson was for students to explain to me what they learned about the illusion they found, then explain the general idea of an illusion as well. Finding just an illusion would not have satisfied criteria for language arts, nor would I be able to assess them based on just an optical illusion the students found. The last lesson of the day was my best one I would have to say because I mentioned everything that I may have missed in the last classes, and the students got more time to work because by then I had memorized what I was talking about.

Something I would change would be making sure the students are working on the right document. Before the students made a document I showed them an example of the flyer that they had to make. For some reason though, the students did not have flyer enabled on their Chromebook (which I thought they did when I looked beforehand) I had to adapt to this, and instead students made their flyer out of a word document, which worked just fine. Mrs. Power jumped in every once in a while in case I forgot to mention something, or to help me out with classroom management. For the most part, she did not really jump in during the lesson she chimed in either to introduce and explain the rules at the beginning of the lesson, or during work time when students would start to get fidgety and mess around. I was thankful that she stepped, but also stood back so that I could have the experience of teaching a lesson without interruptions but also have help when needed, or when I was stuck on how to manage a situation.