

The Eyes Have It

Reading Expressions—Even With a Face Covering



Healthy Actions • Community
Knowledge • Science

FOR GRADES
K-2 3-5 6-8

OVERVIEW

Students identify the emotions projected by the eyes in a series of photographs, then try their hand at creating their own face images, in the style of emojis.

During the COVID-19 pandemic, wearing a face covering over the nose and mouth, physical distancing and hand washing all are measures we can take to reduce spread of the virus. However, a face mask covers a large part of the face, leaving only the eyes visible. Having part of the face obscured, particularly the mouth, creates a communications barrier that leads to several communication issues.

Masks can muffle speech, so it is hard to understand. They hide the mouth and other facial features that are important for understanding context by anyone who is speaking or signing. Facial expressions, for example, are critical for providing cues in American Sign Language. Face coverings interfere with reading emotions and non-verbal communication, such as providing reassurance through a smile. These challenges apply to anyone but may be more present in very young children and individuals with learning difficulties. Clear face coverings help with this problem, because they allow people to see the entire face and the mouth, in particular.

But even with only the eyes, people are able to discern emotions, some easier than others. This activity explores what the eyes can tell us.

LEARNING OBJECTIVES

Students will recognize and describe unique ways in which we can communicate using facial expressions, including expressing needs, wants and emotions in appropriate ways.

SCIENCE, HEALTH AND MATH SKILLS

- Comparing
- Observing
- Interpreting
- Expressing emotions

NGSS SCIENCE AND ENGINEERING PRACTICES

- Engaging in Argument from Evidence

TIME

- Activity: 45 minutes

MATERIALS FOR SCIENCE INVESTIGATION

Teachers

- The Eyes Have It Slide Deck (www.bioedonline.org)

Students

- Hand mirror or access to a mirror
- Emoji template (student page), hard copy or electronic version

SET UP AND TEACHING TIPS

This activity is suitable for in-person or virtual instruction, using PowerPoint slides to guide the discussion. The activity concludes with a student design assignment, which may be given as homework.

PROCEDURE

■ ENGAGE

1. Begin the lesson by asking, *What is an emoji? How do we use them?* Emojis are symbols that help us to communicate emotions or complex ideas through pictures sent in phone text messages or emails. Surprisingly, the word “emoji” is not derived from the roots of the English word, “emotion.” Instead, it is believed to have originated in 1997 and comes from the Japanese words for picture and character.¹ The first emojis were used by manufacturers of mobile phones in Japan.
2. Explain that when we are face to face with someone, we can “read” each other’s emotions by looking at the entire face and sometimes body posture or movements too. But when we are texting or emailing, it’s hard to get emotions across.
3. Ask, *Can anyone guess what image is considered to be the basis for some modern emojis?* It is a happy face, a yellow face with a smile and eyes. It was called an emoticon. It is largely accepted to have been created by graphic artist Harvey Ross Ball of Worcester, Massachusetts more than 50 years ago. He created the smiling face to boost morale of employees.
4. Over the years, many writers used simple combinations of punctuation marks to add dimension and emotions to their typewritten work. In the 1980’s Scott Fahlman from Carnegie Mellon University is credited with using multiple punctuation marks to display emotions and replace text in written language. He created a happy face in text communication by making it with a colon, a dash, and a parenthesis. :-)
If possible, reproduce this mark on a screen or whiteboard for students to see. Of course, by using the other parenthesis key, it’s possible to create a sad face! :-(
5. The emoticons eventually became the emojis that emerged in the 1990’s used and promoted by Japanese telecommunications companies.

■ EXPLORE AND EXPLAIN

6. *Emojis help us to convey emotions or complex ideas in texts or emails, but how do we express emotions when we are face to face with someone?* Accept all responses that may include faces, gestures, body language, etc. and discuss ideas with students.
7. Explain that during this COVID-19 pandemic, wearing a mask is very important. You wear a mask to keep others from getting sick, and others wear a mask to keep you from getting sick. But It is hard to read emotions on a person’s face when half of it is covered up! However, a person’s eyes can tell us a lot about what they are feeling.
8. Project Slide #2. Read the caption then ask, *Who can describe how the children in this picture are feeling?* Accept all responses. [Likely response is that they are happy.] *How do you know?* [Smiles.] Point out how the entire face looks happy, yet each child’s expression is different, especially in the eyes. *How are they different?* Allow students to describe them.
9. Explain that researchers have studied how eyes may look different depending on the emotions a person is feeling. They have studied features such as how open or how narrow the eye is (narrow eyes sharpen the focus and intensify either a positive or negative emotion; open eyes expand the field of vision).²

1 Mayer, J. 2019. The Origin of the Word 'Emoji,' Science Friday. <https://www.sciencefriday.com/articles/the-origin-of-the-word-emoji/>.

2 D'Angelo, Stephen. 2017. Eye expressions offer a glimpse into the evolution of emotion. Cornell Chronicle, April 13. <https://news.cornell.edu/stories/2017/04/eye-expressions-offer-glimpse-evolution-emotion>.

10. Notice that each child in this picture has her eyes opened differently. Ask students to describe what they see. [From left to right: neutral, narrowed and almost closed, open more widely.]
11. Now look at the positions of their eyebrows. *Can you see a difference there?* Accept all responses. [From left to right: eyebrows in neutral position, scrunched together in the middle, and raised.] Explain that eyebrows drawn together, inward toward the nose can express anger or an intense emotion, while raised eyebrows express surprise, happiness, or fear!³
12. Another feature that researchers have looked at are wrinkles—on the sides of the eyes, between the eyes or on the forehead. They believe that wrinkles intensify or increase the expression of emotions, whether a person is happy or sad. *Do you see any wrinkles?* Responses may include the wrinkles on the forehead of the person on the right; but they are harder to see in the middle girl.
13. Let's see what our own faces look like expressing different emotions! Instruct the students to look in a mirror and make the following expressions (after each one, ask students to describe what they see):
 - Neutral
 - Sad
 - Happy
 - Angry
 - Scared
 - Disgusted

■ EXPLAIN

14. Project slide #3. Read the caption and explain that in the investigation today, they will use what they have learned about how the eyes, eyebrows and wrinkles work together to express emotions. Let them know that some expressions may be harder to “read” than others. For example, *Look at the person in this picture. How does the position of her eyes give us a clue about what she might be thinking or feeling? Are there other expressions to consider such as being curious, sneaky, bored?* Accept all responses.
15. Begin the Eye Emotions slideshow, pausing at each slide to allow discussion. Prompt the students to consider how wide or narrow the eyes appear; position of the eyebrows; and any wrinkles observed. Accept all responses and ask for evidence that supports their answers.

Note: Some photo examples may be harder to describe. We have purposely omitted a key for identifying the emotions expressed to allow students to offer their own ideas.
16. At the end of the slideshow congratulate your students for their keen observations and identification of emotions. Ask, *Were some of the emotions harder to interpret than others? Which ones were hardest to distinguish when someone has the lower part of their face covered? Do people of all ages express eye emotions the same way?*
17. Emphasize that even with masks on, the eyes tell us a lot about what someone is thinking or feeling! And, that there are other ways to convey emotions through words and body language.

■ EVALUATE AND EXTEND

18. Project the face emoji templates. Announce that students will have the opportunity to create their own face emojis! They can use symbols, color, line shapes or “real eyes” to express the emotion they have in mind.
19. Designate a time for students to share their creations!

3 Sadró, J, Jarudi, I, Sinhaó, P. 2003. The role of eyebrows in face recognition. *Perception*(32):285–293.
https://web.mit.edu/sinhalab/Papers/sinha_eyebrows.pdf.

4 Bergland, C. 2018. The Universal Language of Facial Expressions. *Psychology Today*, June 12.
<https://www.psychologytoday.com/us/blog/the-athletes-way/201806/the-universal-language-facial-expressions>.

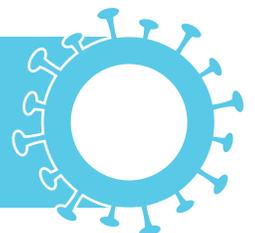
THE SCIENCE

The COVID-19 pandemic has caused anxiety and stress in people of all ages. The unknowns of the virus as it spreads, changes in social and work environments, and the economic downturns affect everyone. The social and emotional well-being of children can be a reflection of the support they are given by parents. It is important for the adults in a child's life to pay attention to how their own stressors may be affecting their children. Finding creative projects can help people of all ages express their emotions safely. Connecting with others also helps mitigate stress caused by a range of situations.

RESOURCES

- Centers for Disease Control and Prevention (CDC). Coping with Stress. <https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html#:~:text=Fear%20and%20anxiety%20about%20a,can%20increase%20stress%20and%20anxiety.>
- Weill Institute Neurosciences (UC, San Francisco). Emotional Well-Being and Coping During COVID-19. [https://psych.ucsf.edu/copingresources/covid19.](https://psych.ucsf.edu/copingresources/covid19)
- Communicating with a Face Mask: What Colleges Need to Know for Deaf Students (and Everyone). National Deaf Center of Postsecondary Outcomes (UT, Austin). [https://www.nationaldeafcenter.org/news/communicating-face-mask-what-colleges-need-know-deaf-students-and-everyone.](https://www.nationaldeafcenter.org/news/communicating-face-mask-what-colleges-need-know-deaf-students-and-everyone)
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- Schroeder, Bradford L. 2011. Eyes, eyebrows and their effect on the facial perception of hostility. Modern Psychological Studies. 16(2):4. [https://scholar.utc.edu/mps/vol16/iss2/4.](https://scholar.utc.edu/mps/vol16/iss2/4)
- 2020. Orlando Science Center. Microexpressions: A Universal Language You Wear On your face. [https://www.osc.org/microexpressions-universal-language/.](https://www.osc.org/microexpressions-universal-language/)

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COVID HEALTHY ACTIONS, COMMUNITY KNOWLEDGE AND SCIENCE

■ A SCIENCE-BASED CURRICULUM FOR THE COVID-19 PANDEMIC

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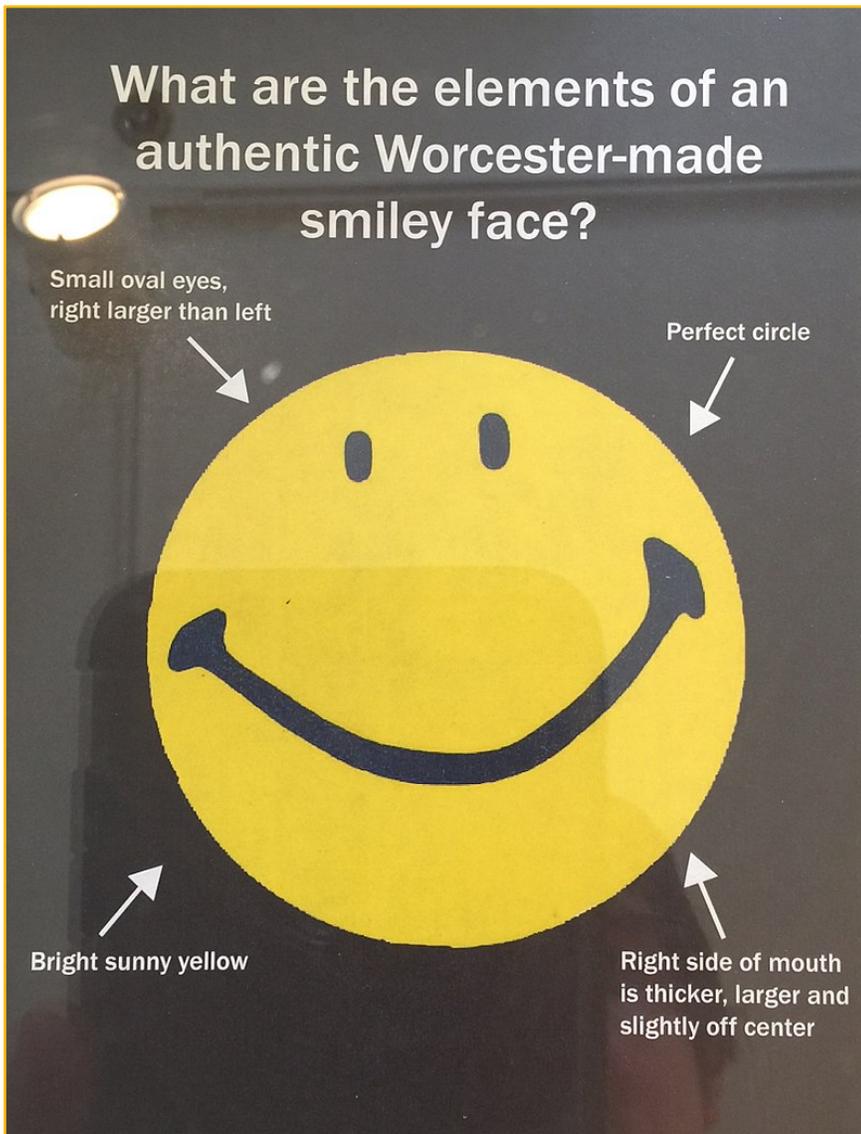


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The Eyes Have It Assignment

FACE EMOJI

REFERENCE



Highlighted elements of local smiley style from the Worcester Historical Museum. Garchy at English Wikipedia, CC BY-SA 4.0, via Wikimedia Commons.

CREATE

Use symbols, color, line shapes or “real eyes” to express the emotion you have in mind.