



ACTIVITY 4

Looking at Evidence

CARD-BASED INVESTIGATION

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ACTIVITY SUMMARY

Students explore how confirmation bias can affect people's ability to evaluate information. They do so in the context of the health issue of social media and teen mental health. Students unwittingly select evidence to support an existing belief for or against social media and then examine their own cognitive biases. Students then learn about a suite of slow-thinking skills by using an actively open mindset as a skill for reducing the influence of confirmation bias.

ACTIVITY TYPE
CARD-BASED
INVESTIGATION

NUMBER OF
40-50 MINUTE
CLASS PERIODS
2

KEY CONCEPTS & PROCESS SKILLS

- 1 There are many cognitive biases that shape the way people make conclusions, including confirmation bias, conflict of interest, conformity bias, and emotion bias. Recognizing these biases can lead to improved reasoning.
- 2 Cognitive shortcuts and cognitive biases can lead to cognitive errors that affect how one chooses and reasons about evidence related to a claim.
- 3 Confirmation bias is a common bias that leads to faulty reasoning. It is a result of the unintentional misuse of evidence to support an existing belief.
- 4 An actively open mindset helps reduce errors from cognitive biases and cognitive shortcuts by deliberately seeking out new ideas and information that could change one's mind.

CONCEPTUAL
TOOLS



NEXT GENERATION SCIENCE STANDARDS (NGSS) CONNECTIONS:

Evaluate the claims, evidence, and/or reasoning behind currently accepted explanations or solutions to determine the merits of arguments. (*Science and Engineering Practice: Engaging in Argument From Evidence*)

Respectfully provide and/or receive critiques on scientific arguments by probing reasoning and evidence, challenging ideas and conclusions, responding thoughtfully to diverse perspectives, and determining additional information required to resolve contradictions. (*Science and Engineering Practice: Engaging in Argument From Evidence*)

VOCABULARY DEVELOPMENT

actively open mindset

a metacognitive thinking approach in which one evaluates source credibility, seeks evidence, and considers alternative explanations

trade-off

a desirable outcome given up to gain another desirable outcome

confirmation bias

the tendency for a person to seek out and interpret information in a way that supports their existing ideas

TEACHER BACKGROUND INFORMATION

Confirmation Bias

Confirmation bias is a cognitive bias that generally occurs via two primary mechanisms: biased selection (called selective exposure in the field of psychology) and biased interpretation (called biased assimilation in the field of psychology). Biased selection and biased interpretation of information can occur simultaneously, making it challenging to consider alternative ideas or beliefs.

Biased selection is when people preferentially seek out, take in, and remember information likely to confirm their existing beliefs while neglecting to seek out, notice, or remember information that might undermine their existing beliefs. Biased selection appears in the way people seek out information online, typically by searching or following sources that agree with what they already think. Generally, people do not search for or follow sources that are likely to offer alternative perspectives or counterevidence.

Biased interpretation of information occurs when people interpret information in such a way that helps to support their existing beliefs. This is done by discounting the strength, quality, or reliability of information that might undermine their beliefs; being less critical of information that supports their beliefs; or otherwise interpreting information in such a way as to justify what they already think. Biased interpretation can boost one's confidence and attachment to one's own beliefs. It can also occur simultaneously with biased selection.

Actively Open Mindset

An actively open mindset, also known as actively open-minded thinking, is the type of thinking that involves deliberately seeking out a wide range of viewpoints, considering evidence and arguments from different perspectives, and being willing to revise beliefs in light of new information. This metacognitive approach helps reduce the effects of confirmation bias (and other cognitive biases) by promoting a more deliberate and reflective approach to thinking. This slow thinking encourages a more complete and accurate picture of an issue before making conclusions or decisions. Research indicates that actively open-minded thinking is associated with fewer errors from cognitive shortcuts, less bias, less vulnerability to misinformation, and greater acceptance of scientific consensus.

Research on the Effects of Social Media

To date, there has been limited consensus in the scientific research on the impacts of social media that shows both harmful and beneficial effects. Some notable findings are summarized in the following tables.

SOCIAL MEDIA: HARMFUL EFFECTS

RESEARCH AREA	SUMMARY
Mental Health	Some studies link social media use to increased anxiety, depression, and loneliness among teens. The constant comparison with peers and exposure to cyberbullying can exacerbate these issues.
Sleep	Excessive use of social media—especially before bedtime—can disrupt sleep patterns, leading to negative effects on overall well-being and academic performance.
Body Image	Social media posts emphasizing appearance can contribute to body dissatisfaction and eating disorders due to the pervasive culture of idealized body images.

SOCIAL MEDIA: BENEFICIAL EFFECTS

RESEARCH AREA	SUMMARY
Mental Health	Social media can provide a sense of community and support, especially for teens who may feel isolated in their offline lives. It allows them to connect with peers, share experiences, and find solidarity.
Education	Educational platforms offer access to resources, learning materials, and the ability to gain qualifications in a way that was previously inaccessible.
Media Literacy	Social media can help teens develop digital literacy skills, including content creation, online communication, and critical thinking about information.

Social Media Algorithms

Social media can exacerbate confirmation bias, largely due to the algorithms that tailor content to users' preferences. These algorithms filter users into online bubbles where similar ideas are amplified, and alternative ideas are not shown. When users engage more often with content that aligns with their existing views, the algorithms serve more of the same, reinforcing their beliefs and creating a skewed perception of reality that neglects the diversity of ideas and opinions in real life and, thus, may miss key facts. Additionally, the social aspect of these platforms encourages users to join like-minded groups and follow people with similar opinions, further isolating them from diverse perspectives.

MATERIALS & ADVANCE PREPARATION

FOR THE TEACHER — VISUAL AID 4.1 "Actively Open Mindset" — VISUAL AID 2.1 "Developing Communication Skills" (OPTIONAL)	FOR EACH PAIR OF STUDENTS — SET OF EVIDENCE FOR CLAIM YES CARDS (4 cards, in envelope) — SET OF EVIDENCE FOR CLAIM NO CARDS (4 cards, in envelope) FOR EACH STUDENT — STUDENT SHEET 4.1 "Evidence About Social Media"
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Prepare the 2 sets of Evidence cards and place each set into a large labeled envelope ("Evidence for Claim YES," and "Evidence for Claim NO"). Make sure the envelopes do not have any transparency so the contents are hidden from view.

TEACHING NOTES

Suggestions for **discussion questions** are highlighted in gold.

Strategies for the **equitable inclusion of diverse students** are highlighted in light blue.

GETTING STARTED (20 MIN)

1 Introduce the social media focus of the activity.

- Have students read the Introduction in the Student Book. Follow up by asking, **What kind of social media do you use regularly, or don't you regularly use social media?** Student responses will vary depending on your student population. Focus on the reasons why students do or do not engage with the technology. It may be helpful to review students' experiences with the social media posts from Activity 3.
- Review the fictional scenario in Procedure Step 1, which is set in Southsand, and connect Trevor's anxiety about Southsand fever to frustrations that students have had with social media. Ask, **Have you ever considered getting off social media for a bit?** Discuss what circumstances led them to think it might be a good idea or reasons they wouldn't consider it. Use this discussion as a way to introduce the central health question in the activity: *Is social media harmful to teens' mental health?*
- Reading the scenario aloud can better support comprehension for many students, including neurodiverse students and emerging multilingual learners who often have more highly developed listening and oral skills than reading comprehension skills. Alternatively, students can read the scenario independently.

TEACHER'S NOTE: Do NOT give students any information about confirmation bias before they complete Procedure Part A.

PROCEDURE SUPPORT (30–40 MIN)

2 Sort students into pairs and let them choose and evaluate evidence related to their chosen claim.

- Distribute Student Sheet 4.1, “Evidence About Social Media,” and let students know that they will be working on evaluating claims and evidence related to the health question: *Is social media harmful to teens’ mental health?* Student responses for this student sheet will vary depending on which cards they pull. Complete responses for YES claims and NO claims (which show the cards in numerical order, for ease of reference) are shown at the end of this activity.
- In order to experience biased selection, it is important for students to initially partner with someone who is investigating the same claim. Students are not likely to experience confirmation bias if they are with a partner who has opposing thoughts about the claim.
- For Procedure Step 3, make sure the class is roughly divided between students who chose the YES claim and those who chose the NO claim. While students begin the activity with a similar-claim partner, they meet later in the activity with a pair of students who chose the opposite claim. To make those groups work evenly, there should be similar numbers on both sides of the claim.
- Be clear with students that the evidence in the envelopes is real data and not made up for the scenario.
- While it is important that students do not read the cards before the activity, you may want students to read them aloud to each other in their pairs as they draw cards from the envelope to support their reading comprehension.
- During Procedure Steps 4–7, you should find that in most cases, students will select evidence only from the envelope labeled as supporting their preferred claim. Although they can select from either envelope, allow them to do this and do not disrupt their choices.
- In Procedure Step 8, review how confident students are about their claim, using a scale from 0% (no confidence) to 100% (completely confident). While these numbers are somewhat arbitrary, they can be useful for self-reflection later in the activity when comparing the responses to the same question asked again.

3 Students are formally introduced to confirmation bias.

- At the end of Part A, review the term *confirmation bias* and ask, **Which envelope did you open first and why?** Generally, students initially pull from the envelope that supports their claim. Students might be surprised to realize that they were unintentionally introducing confirmation bias when they selected evidence from a particular envelope. Student responses will vary depending on their approach, but use the responses to make a tally on the board of the number of students who:
 - took all Evidence cards *only* from the envelope with evidence supporting their preferred claim.
 - took 2 Evidence cards from the supporting envelope and 1 Evidence card from the envelope with counter evidence.
 - took 1 Evidence card from the supporting envelope and 2 Evidence cards from the envelope with counter evidence.
 - took all Evidence cards *only* from the envelope with counter evidence.
- The tallies should show that the majority of students showed confirmation bias in their selection of evidence. Those students who gathered information from both envelopes experienced *less* confirmation bias. Use the totals to make the point that confirmation bias is both unnoticed and extremely common. Moreover, the stronger the existing belief, the more likely confirmation bias is used to maintain that belief.
- You may want to discuss with students that the term *cognitive bias* is related to, but not equivalent to, the more general term *bias*. Students may connect bias to the negative social bias of prejudging people, making assumptions, stereotyping, being treated unfairly, or discriminating based on social factors such as personal identity or race or ethnic or economic background.

4 Form new groups of students with opposite claims.

- In Part B, pairs have a chance to work with another pair to gain a more balanced selection and interpretation of the evidence. Encourage students to work through all the evidence with an open mind.
- To support students' discussion, you may wish to use optional Visual Aid 2.1, "Developing Communication Skills," to help guide student interactions. Visual Aid 2.1 is a tool to help students effectively participate in class discussions by providing sentence starters that students can use to initiate a conversation and express their ideas. For more information about Developing Communication Skills, see [Appendix 1: Literacy Strategies](#).

5 Form new groups of students with opposite claims.

- When the term *actively open mindset* is introduced in Procedure Step 11, follow up with Visual Aid 4.1, "Actively Open Mindset." Be explicit about how the four prompts on the visual aid outline a metacognitive approach to being open to changing one's mind. Ask, **How could an actively open mindset be helpful in science?** Students should see that a less biased selection of evidence will lead to more reliable conclusions. For example, if participants are recruited for a health study from flyers placed in a gym, the people who sign up are likely to be healthier than the average person.

The study's results will therefore reflect the selection of healthier, more motivated people rather than the general population.

- Discuss with students how confirmation bias could impact what is happening in the Southsand fever scenario. It should be obvious to students that the information in the scenario, such as the news headlines and people's actions as a result, may show significant confirmation bias from the social media posters.
- Ask, How do you think your own existing ideas or experiences with social media might have affected your choices and thinking about the evidence? Students may think their own positive or negative experiences steered them in a particular direction when selecting and evaluating claims. This activity sheds light on how our reasoning is affected by our prior experiences, beliefs, and wishes.

6 Have students reflect on the role of evidence in making claims.

- Ask, **How might only looking for evidence to support your claim in this activity be a problem?** Student responses should indicate that only looking for evidence that is one-sided engages in confirmation bias and is simply a way to support their existing ideas and not necessarily create a better argument for a claim. Anticipating the opposing claim by looking at various pieces of evidence strengthens their ability to support a claim. Likewise, it may convince them to adjust their claim if they may find other ideas that offer better explanations for the evidence.
- If it hasn't yet been addressed, point out that sometimes evidence is neutral in that it doesn't support or help refute a claim. In this activity, there was no neutral evidence. The evidence provided in the envelopes was either supporting or refuting. There may be different situations, however, where evidence neither supports nor helps refute a claim.
- In Procedure Step 13, discuss how students' confidence has changed from looking at all the evidence in Part B. Most students may find that their confidence has decreased as a result of looking at both sides of the evidence, or it increased after having considered all the evidence. Discuss how the role of increased evidence can change a person's claim.
- This activity encourages students to use evidence in a different way than they may have in the past. Instead of using evidence to support a position or justify a reason retroactively, the experience of the activity should encourage students to look at the evidence *first* and make a claim following that analysis. Point out that by doing so, confirmation bias is reduced. A reduction in confirmation bias means that the conclusion, or claim, is more likely to be reliable because it is built on all the available evidence.

SYNTHESIS OF IDEAS (20 MIN)

7 Have students reflect on the role of an actively open mindset during the activity.

- Reinforce the ideas that an actively open mindset is an important type of slow thinking that helps reduce errors related to confirmation bias. In Activity 5, students will be introduced to more biases, all of which can be addressed in the same way. For now, encourage students to understand that the metacognitive skill of an actively open mindset is important when selecting and evaluating information. At its core, an actively open mindset involves being intentionally open to evidence and ideas that are counter to one's own preferred ideas.
- Review the claims that students made about social media and teens' mental health. Ask, **What types of prior experiences or beliefs about social media may have affected how you chose evidence for your claim in Part A?** Students should recognize that, like most people, they acted on an unrecognized confirmation bias. They may note that this is a common occurrence for people. Then pose a follow-up question. Ask, **How might you have approached the claims and evidence differently if you had intentionally used an actively open mindset from the beginning?** Students should see that they might have had a more balanced perspective from the beginning when the evidence led to a conclusion, and not the other way around.
- Discuss how reducing confirmation bias is important to scientific investigations because confirmation bias results in limited data and less reliable conclusions.

8 Introduce the concept of trade-offs and how it applies to Build Understanding item 1.

- Introduce the idea that decisions about solutions to scientific and engineering problems often involve trade-offs. In Build Understanding item 1, students use trade-offs when they make a decision as to how to advise Trevor to handle his social media. Decision-making in the context of trade-offs includes the following key ideas:
 - Decisions often involve trade-offs.
 - Identifying trade-offs involves analyzing evidence.

The concept of trade-offs is used throughout the units of the *Scientific Thinking For All: A Toolkit* curriculum, especially as part of the decision-making activities in Unit 6, "Group Decision-Making."

- A *trade-off* is a desirable outcome given up to gain another desirable outcome. In a decision involving trade-offs, something positive (or desirable) is given up to gain another positive (or desirable) outcome. Since many decisions involve trade-offs, students should understand that a perfect choice that maximizes all goals is often not possible. It is possible, however, to recognize and analyze the trade-offs associated with each decision.

- Provide an example of a trade-off: When choosing to purchase a disposable or reusable water bottle, there are several benefits and trade-offs to consider. A consumer who chooses the disposable water bottle may want a cheap option that doesn't need to be cleaned or maintained. Disposable bottles are also easily shared with others since they are not expected to be returned. However, in choosing the disposable water bottle, the consumer is contributing to environmental problems such as increased energy use and higher amounts of solid waste in landfills if the bottle is not recycled. A consumer choosing to purchase a reusable water bottle may do so to save money over time, to save bottles from ending up in a landfill, and (by their example) to encourage others to purchase reusable bottles. However, this option has trade-offs as well, such as the increased upfront cost of the reusable bottle and the need to clean and maintain the bottle. Neither choice is ideal, and both choices have positives and negatives. Identifying the trade-offs helps clarify the reasoning that is being applied to make a decision.
- Develop some examples of trade-offs in students' lives by brainstorming with the class a list of decisions they make every day that involve trade-offs. Choose one and talk through the associated trade-offs of deciding one way or another. This practice will familiarize students with ways to identify and consider trade-offs in this and subsequent activities.

9 Distinguish between biased selection and biased interpretation.

- Build Understanding items 2 and 3 introduce the idea of cherry-picked data (biased selection) and biased interpretation. Review the terms when discussing student responses to the items. Emphasize that confirmation bias can happen when people either select evidence that suits them, or interpret evidence in a way that they prefer, or both. Often these two types of confirmation bias happen concurrently, and both are very common.
- Use Connections to Everyday Life item 4 to help students connect to existing ideas or experiences they might have with both biased selection and biased interpretation in their everyday social media. If students are not familiar with how social media algorithms work, review how they are designed to keep people on the app by confirming what they already like or know.

10 Evaluate the key content of the activity.

To conclude the activity, evaluate whether your students are able to answer the Guiding Question, *How do existing beliefs affect the way people seek information?* Use this as a chance to revisit and summarize the key concepts and process skills of the activity. This should include the concept of biased selection and how it contributes to confirmation bias.

EXTENSION (20 MIN)

11 Use the Extension as an opportunity for advanced learning.

In this extension, students are encouraged to investigate a project run by Amanda Yarnell at the Harvard University Center for Health Communication. The project helps influencers promote evidence-based information on key mental health topics, using their own posting style. She showed that an increase in evidence-based posts on health topics gathered more views than previous posts by the creators on the same subjects. The project provided evidence that access to factual information is important when evaluating information for decision-making. Other resources that focus on teen mental health include those from the Greater Good Science Center at University of California, Berkeley, and Laurie Santos at Yale University, creator of The Happiness Lab, which examines the latest scientific research on factors impacting young people's well-being.

SAMPLE STUDENT RESPONSES

BUILD UNDERSTANDING

- ① Recall that in the scenario in Procedure Step 1, Trevor asked himself whether he should take a break from social media. Based on what you learned in this activity, how would you advise him? Support your answer with evidence from this activity and identify the trade-offs of your decision. A trade-off is a desirable outcome given up to gain another desirable outcome.

The evidence that influenced my thinking the most was Card 3 for the YES claim. It showed the survey data from 2023 with the percentage of teens who agree with each of the statements about a negative impact of social media. I realized that I also experience a lot of those negative aspects of using social media, so I think Trevor should avoid that.

A trade-off of my decision is that if Trevor spends less time on social media, he will also not get as much interaction with friends on social media. He might not be able to interact with friends and family who live far away, or hey may miss seeing funny videos.

- ② Sometimes confirmation bias results in selectively choosing information that supports a claim. This is called *cherry-picking* because the focus is on the pieces of evidence that support our existing ideas and ignoring those that don't—such as picking the most appealing cherries from a tree. Consider the following story:

A research team did an experiment to prove that the corn grown locally in Southsand City was making people sick. After conducting the experiment, they found that 20% of their tests supported the idea that the corn could cause disease, while the other 80% did not support it. One researcher on the team decided to present only the 20% of their results that supported their claim.

- a** What was the data that the researcher cherry-picked?

The data that was cherry-picked was the 20% that supported the claim, and the researcher presented it as all the evidence when there was evidence that was not included.

- b** What are the possible consequences of this cherry-picking?

The consequences of cherry-picking are those who only look at the 20% of the data that supported the claim could assume that the data supporting the claim was 100% (and not just 20%). They may think that the experiment supported their claim when, in reality, it refuted it.

- ③ Sometimes confirmation bias comes from the tendency to seek out and interpret information in a way that supports an existing idea. This leads to dismissing other interpretations that do not support the existing ideas. Consider the following story:

A local poultry farmer reported symptoms of the Southsand fever. The week before he became ill, he was pecked in the leg by a chicken while working. Later that day, he went to a party where one of his friends was coughing. What could be a biased interpretation of this evidence if you believed that the Southsand fever was transmitted.

a from person-to-person?

He was at a party with friends, so the farmer was infected by another person at the party. It is not likely that a disease is transmitted by a bird pecking a human.

b from animal-to-person?

The chicken transmitted the infection when the farmer was pecked in the leg at the party. It isn't clear that the friend coughed anywhere near the poultry farmer.

CONNECTIONS TO EVERYDAY LIFE

- ④ If a social media app is designed to keep you scrolling by showing you things similar to what you already like, how could this amplify confirmation bias? Explain the possible consequences of this amplification.

The algorithm increases the biased selection of the information you see because it only shows you certain content that is already related to your existing ideas. This confirmation bias can end up making your attachment to your existing ideas and disbelief in opposing ideas stronger. By limiting different viewpoints, you are more likely to believe that your viewpoint is the best or only viewpoint.

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CLAIM YES **Social media is harmful to teens' mental health**

CLAIM NO **Social media is not harmful to teens' mental health.**

CLAIM ENVELOPE (YES OR NO)	CARD NUMBER	CARD TITLE	SUPPORTS / HELP REFUTE

CLAIM YES Social media is harmful to teens' mental health

CLAIM NO Social media is not harmful to teens' mental health.

CLAIM ENVELOPE (YES OR NO)	CARD NUMBER	CARD TITLE	SUPPORTS / HELP REFUTE
YES	1	Teen Article	Supports
YES	2	Bullying Study	Supports
YES	3	Survey: Social Media Use	Supports
YES	4	Survey: Negative Feelings	Supports
NO	1	Personal Narrative	Helps Refute
NO	2	COVID-19 Study	Helps Refute
NO	3	Survey: Connection	Helps Refute
NO	4	Survey: Positive Feelings	Helps Refute

CLAIM YES Social media is harmful to teens' mental health**CLAIM NO** Social media is not harmful to teens' mental health.

CLAIM ENVELOPE (YES OR NO)	CARD NUMBER	CARD TITLE	SUPPORTS / HELP REFUTE
NO	1	Personal Narrative	Supports
NO	2	COVID-19 Study	Supports
NO	3	Survey: Connection	Supports
NO	4	Survey: Positive Feelings	Supports
YES	1	Teen Article	Helps Refute
YES	2	Bullying Study	Helps Refute
YES	3	Survey: Social Media Use	Helps Refute
YES	4	Survey: Negative Feelings	Helps Refute

Actively Open Mindset

A metacognitive tool



Sources

Evaluate the credibility of your source.



Evidence

Seek out evidence for and against claims.



Alternatives

Consider alternative explanations.



New Information

Consider how new information might change your thinking.

CARD 1

CLAIM: YES

Teen Article

Excerpt of a personal narrative titled *I'm an American teen lured by social media. It's ruining our lives.*

"... I began using social media in middle school. The promotion of unrealistic body standards made me question my self-esteem. I spent hours comparing myself to girls on these sites who presented themselves in a sexualized manner. It wasn't long before I was posting [inappropriate] content myself to be [more] desirable among my peers. Likes became addictive and validating. I craved them, and, because the posts were inappropriate, I needed to hide them from my parents by creating fake accounts or blocking them from certain posts. The result of this deceitful behavior was isolation and depression."

SOURCE: Roy, a San Diego teen in a 2024 opinion article written for the San Diego Union-Tribune newspaper.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT

UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM YES CARDS

CARD 2

CLAIM: YES

Bullying Study

Findings from a scientific analysis of 42 studies between 2010 and 2021 from various countries to compare the effects of traditional bullying (TB) and cyberbullying (CB).

"... The prevalence of TB (traditional bullying) victims was about twice that of CB (cyberbullying) victims. About one-third of youth who [primarily] suffered TB also suffered CB. Conversely, two-thirds of youth who [primarily] suffered CB also experienced TB... Suicidal ideations, suicide attempts, and self-harm are at higher risk with CB than with TB... Victims who experienced both TB and CB had a substantial increase in both suicide-related and depression risks."

SOURCE: 2022 Peer-reviewed scientific study published in a journal called *European Child & Adolescent Psychiatry*.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT

UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM YES CARDS

CARD 3

CLAIM: YES

Survey: Social Media Use

Percent of social media users who agree with the following statements:

When I'm bored, I reach for social media without thinking about it.



Using social media gets in the way of my sleep.



Using social media has reduced my "attention span" or ability to concentrate, such as at school or when reading.



Using social media takes time away from other activities I care about, like spending time with friends, exercise, or other offline interests.



I feel like I can't control my use or end up using it for a longer period of time than I originally wanted to.



● 18-22 years old ● 14-17 years old

SOURCE: 2023 Survey conducted by Common Sense Media, a nonprofit organization that evaluates digital resources for students and parents.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT

UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM YES CARDS

CARD 4

CLAIM: YES

Survey: Negative Feelings

Percent of teens who say the following about social media:

45% feel overwhelmed by all of the drama there.

43% feel pressure to only post content that makes them look good to others.

37% feel pressure to post content that will get a lot of likes and comments.

SOURCE: 2018 Survey "Teens' Social Media Habits and Experiences" from the Pew Research Center, a nonprofit, nonpartisan research group that collects data on public opinions on social issues.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT

UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM YES CARDS

CARD 1

CLAIM: NO

Personal Narrative

Excerpt of a personal narrative titled *How Social Media Saved My Mental Health*.

"I was seventeen when I developed agoraphobia [fear of leaving home]. Slowly my world became smaller and smaller until it consisted of just my house. I lost my friends, hobbies, and sense of self.

All I had was the internet. Without it, I would have been closed off from the world. I had no friends to chat with about current events, so the internet was how I stayed up to date with the outside world. I couldn't join a group to do my hobbies or be in a classroom to study. Fortunately, I was able to do these things through the internet. But what helped to keep me human was social media."

SOURCE: Laura Fox, in a 2021 opinion article written for *Medium*, an online publication.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT
UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM NO CARDS

CARD 2

CLAIM: NO

COVID-19 Study

Findings from a scientific study done on a sample of more than 700 children (ages 11–17) in Peru during COVID-19 lockdown in 2020.

"... COVID-19 lockdowns have disrupted adolescents' in-person social networks, increasing the likelihood of loneliness. Social media can help adolescents maintain and develop peer relationships across distance... We investigated whether online experiences relate to loneliness during initial stages of lockdown. Loneliness remained constant between weeks 6 and 11 of lockdown... Greater positive online experiences related to lower loneliness, with the reverse pattern for negative online experiences. Our results suggest that positive online experiences may [help reduce] loneliness during physical isolation."

SOURCE: 2021 Peer-reviewed scientific study published in the *Journal of Research on Adolescence*.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT
UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM NO CARDS

CARD 3

CLAIM: NO

Survey: Connection

Percent of social media users age 14–22 using it for connection and creativity:

2018



2020



2023



- Getting support or advice when you need it
- Feeling less alone
- Expressing yourself creatively
- Getting inspiration from others

SOURCE: 2023 Survey conducted by Common Sense Media, a nonprofit organization that evaluates digital resources for students and parents.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT

UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM NO CARDS

CARD 4

CLAIM: NO

Survey: Positive Feelings

Percent of teens who say the following about social media:

81% feel more connected to their friends.

69% think it helps teens interact with a more diverse group of people.

68% feel as if they have people who will support them through tough times.

SOURCE: 2018 Survey "Teens' Social Media Habits and Experiences" from the Pew Research Center, a nonprofit, nonpartisan research group that collects data on public opinions on social issues.

SCIENTIFIC THINKING FOR ALL: A TOOLKIT

UNIT 5: SKILLS TO EVALUATE THINKING, ACTIVITY 4: EVIDENCE FOR CLAIM NO CARDS