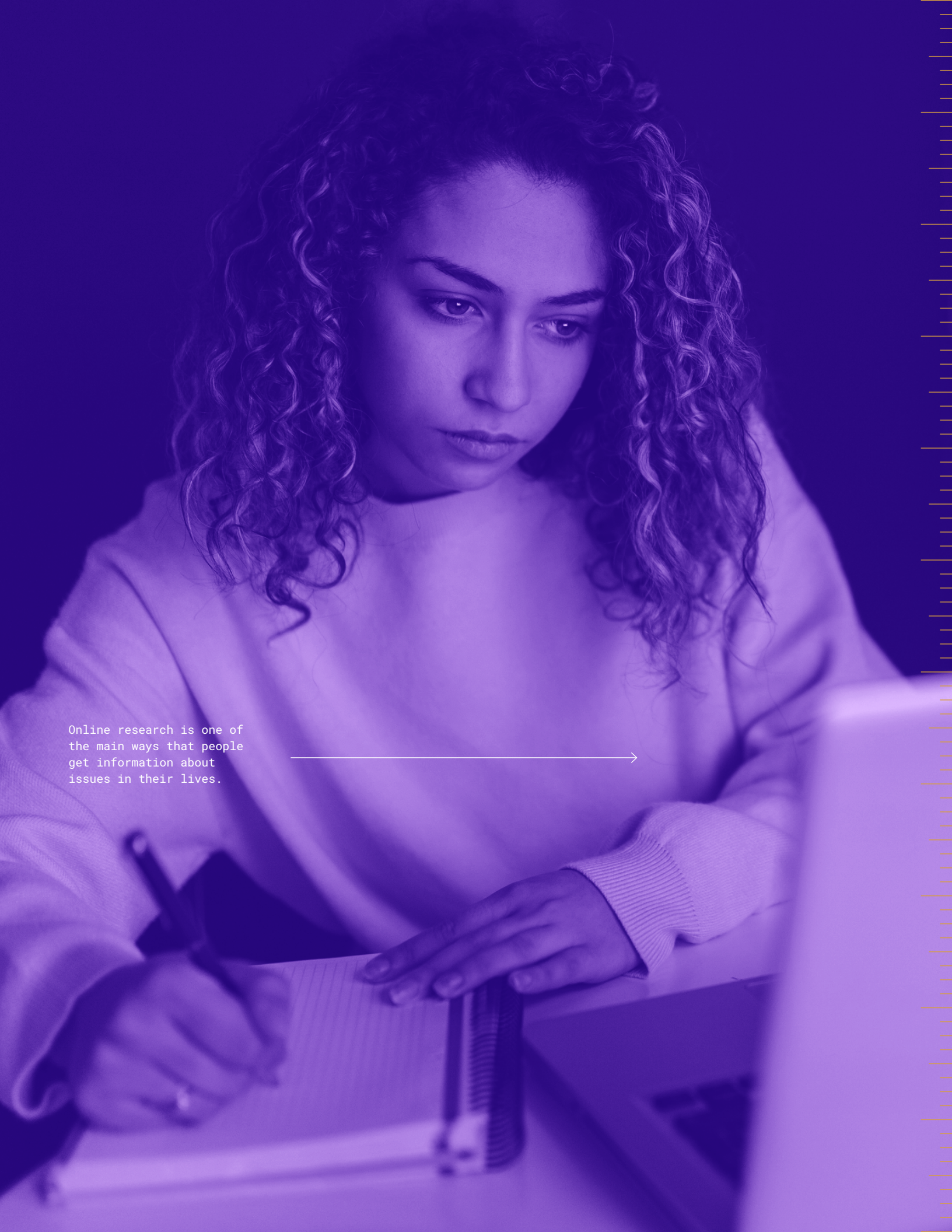




ACTIVITY 2

Evaluating Energy Facts

INVESTIGATION



Online research is one of the main ways that people get information about issues in their lives.



2 : EVALUATING ENERGY FACTS

GUIDING QUESTION

How can determining a credible source help you evaluate information?

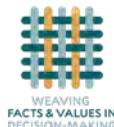
INTRODUCTION

Understanding scientific information is not always straightforward. The body of scientific knowledge is constantly changing, and sometimes new information is discovered that reveals something we thought was a fact that is not or was missing crucial information. For example, long ago, people used to think that Earth was flat. Through careful observation, many scientists over hundreds of years discovered that this is not the case. Now we have abundant evidence, from Earth measurements, astronauts, satellite images, and flights around the globe, that shows that Earth is nearly a sphere.

Sometimes people make claims of fact that are not supported by evidence. A **claim of fact** is a type of claim that you have not yet verified by observation or data. Claims of fact are widespread, especially on the Internet, which allows anyone to post any information about any topic, whether true or not.

One tool to evaluate claims of fact is to determine if the information comes from a credible source. A **credible source** is a source with relevant expertise that provides accurate information that is free from bias. It is also helpful to talk with or examine the work of an **expert**—a person with extensive knowledge or skill in a particular subject based on research, experience, or occupation. When you make decisions based on facts, it is important to use information from a credible source. A credible source is more likely to provide information that is accurate. In this activity, you will participate in Project REV by fact-checking some comments about the project posted online by residents of the Vanwick community.

CONCEPTUAL
TOOLS



PROCEDURE

- 1 As a class, read the following.

When the City Council unveiled the goals of Project REV, concerned residents started posting about it online. There were conflicting ideas about Project REV in the community and its impact. In response, the Vanwick City Council wants to make sure the community has accurate information that addresses citizen concerns before they proceed with the project planning.

- 2 As a group, read the following posts about Project REV.

VanwickForum

@VanwickCity posted today

Hello Vanwickians! Planning for Project REV is underway. The Vanwick City Council is gathering ideas from individuals in the community about the potential impact of renewable energy on the Vanwick community. WE WANT TO HEAR FROM YOU. Comment below to let us know your thoughts...

@JamieLovesHistory

Please don't decide to get wind farms. A wind farm near my home would ruin the nice view of the hills from my kitchen window! Additionally, wind turbines cast huge, flickering shadows all day long that can cause health problems for people. To preserve our views and keep our citizens healthy, we must say NO to wind turbines!

@StarshipEarth17

We live near the coal power plant, and I'm glad it is closing down. The air pollution from the coal plant makes the air quality unhealthy, which aggravates my asthma. A solar farm won't produce as much air pollution, so the region will have better air quality. The transition from the coal power plant to renewable energy sources will decrease air pollution and improve my health!

MATERIALS LIST

FOR EACH PAIR
OF STUDENTS

COMPUTER WITH
INTERNET ACCESS

FOR EACH STUDENT

STUDENT SHEET 2.1
"VanwickForum Notes"

STUDENT SHEET 2.2
"Lateral Reading"

STUDENT SHEET 2.3
"Evaluating Claims
of Fact"

VanwickForum ✕

@ShinyPearl
 I think it would be horrible if Vanwick’s economy would take a hit if Project REV is approved. Our local economy depends on jobs! Renewable energy projects like Project REV only create jobs in the short term while they are being constructed. There are more jobs in the coal industry than there are in the renewable energy industry.

@JJJams
 I am REVed up for this project! But I worry that solar panels are not a reliable enough source of electricity. They can only produce energy when it is sunny out, so what are we going to do for electricity at night? You can’t meet the energy needs of the city at night with just solar panels. The issue of reliability is important to me because the grocery store I work at needs a constant reliable power system to keep the refrigerators running and prevent food from spoiling. People need food!

@GrannySmithJr
 I think it’s really important to reduce greenhouse gas emissions from Vanwick, but Project REV is missing an important piece: existing buildings. According to the US Department of Energy, buildings account for 70% of electricity usage overall. If the city wants to address greenhouse gas emissions, it would be easier to put our efforts into updating the buildings around town. Making existing buildings more energy efficient would help reduce emissions from buildings.

- 3 With your group, revisit each post and identify which parts of each statement are claims of fact and which are values. Record your ideas on Student Sheet 2.1, “VanwickForum Notes.” After you have analyzed each statement, discuss which ones you think are credible and which ones are not.

- 4 Your teacher will assign your group to one claim of fact from the posts. Do a web search to find one credible source of information related to the claim of fact. Make sure your source is different from your other group members' sources.
- 5 Use the technique of lateral reading to check the credibility of the source you found. Lateral reading is a research technique used to evaluate a source's credibility as well as confirm the accuracy of facts. Complete Student Sheet 2.2, "Lateral Reading," to support your research.
- 6 When each group member has finished checking the credibility of their source, share your findings with the group. Record this information on Student Sheet 2.3, "Evaluating Claims of Fact," in the first and second columns of the table.
- 7 With your group, decide how confident you are about the information from the websites, based on what you found out about the authors. Rate the sources on a scale of 1 (not very credible) to 5 (extremely credible). Record this credibility ranking in the third column of the table on Student Sheet 2.3.
- 8 Each group member should use the source they just evaluated to look for information that can support or refute your group's claim of fact from the post. If the group decided in Step 7 that your source was not credible, find a different source that is more credible. Record notes in the last two columns of the table on Student Sheet 2.3.
- 9 Share your individual findings about the claim of fact with your group. Add notes about your group members' work in the table. Discuss whether your group's overall findings support or refute the claim of fact from the post and why.
- 10 As a class, share your work by revisiting the posts together and reviewing which claims of fact were verified. Review the posts and discuss how your research affects how you now think about them.

BUILD UNDERSTANDING

- ① Write a 2–3 sentence post that shows your own thinking about renewable energy. Include your value and a relevant fact in the post.
- ② Think of an article or social media post that you read that had questionable information in it.
 - a Describe the post.
 - b What negative outcomes could result from sharing this information?
 - c How would you advise others on how to avoid sharing noncredible information?
- ③ How can credible sources help you make decisions?

CONNECTIONS TO EVERYDAY LIFE

- ④ Imagine you follow a popular online influencer. A recent post he made generated a lot of arguments in the comments. You decided to try lateral reading to evaluate the post. You found the following:

POST

Solar panels are bad for the environment! Almost 90% of them end up in landfills after 5 years of use. We should invest in cleaner fossil fuel technology like natural gas instead.

SOURCE

Social media post made by **@ImaSmarTee**, a popular fashion Influencer.

WEB SEARCH SUMMARY

@ImaSmarTee is an undergraduate student majoring in business at a local university. He regularly posts videos commenting on the latest fashion trends. One of his website sponsors is Big Oil Co., a local oil and energy company that gives the influencer money to promote the use of synthetic (fossil fuel–based) fabrics in clothing.

- a Should this source be considered credible? Explain why or why not.
- b Should someone make a decision to buy solar panels based on the information in the post? Explain why or why not.

EXTENSION

Quiz yourself! Can you distinguish fake news from real news? Use the link provided by your teacher to take the fake news quiz. Make sure you use what you've learned about evaluating information online.

KEY SCIENTIFIC TERMS

- claim of fact
- credible source
- expert
- lateral reading