

Communication: Lesson 1**Communication in STEM Careers Worksheet**

Identify a STEM career that interests you. Consider how you might use communication in the tasks required of the career. Think about the steps that you will take to reach your career. How will these steps require communication? Complete the chart by listing tasks and steps that will require communication. Then list specific communication skills you might need and ways that you can develop these skills.

In the future I am interested in a career in _____.

Tasks in my future career, or steps to achieving my future career that may require communication skills	Communication skills I may need to complete this task	How I can develop these skills
<i>Example: Contributing to journal articles about my research</i>	<i>Technical writing skills</i>	<i>STEM U Technical Reading and Writing Lesson; college courses</i>

Communication: Lesson 1**Communication Style Inventory Packet**

This is an informal survey, designed to determine how you usually act in everyday related situations. The idea is to get a clear description of how you see yourself. Use the Communication Style Inventory, the Answer Sheet, and the Communication Style Descriptions to complete this activity.

Communication Style Inventory

In the questions below, circle A or B in each pair of statements which shows the one that MOST describes you.

1. A) I'm usually open to getting to know people personally and establishing relationships with them.
B) I'm not usually open to getting to know people personally and establishing relationships with them.
2. A) I usually react slowly and deliberately.
B) I usually react quickly and spontaneously.
3. A) I'm usually guarded about other people's use of my time.
B) I'm usually open to other people's use of my time.
4. A) I usually introduce myself at social gatherings.
B) I usually wait for others to introduce themselves to me at social gatherings.
5. A) I usually focus my conversations on the interests of the people involved, even if that means straying from the business or subject at hand.
B) I usually focus my conversations on the tasks, issues, business, or subject at hand.
6. A) I'm usually not assertive, and I can be patient with a slow pace.
B) I'm usually assertive, and at times I can be impatient with a slow pace.
7. A) I usually make decisions based on facts or evidence.
B) I usually make decisions based on feelings, experiences or relationships.
8. A) I usually contribute frequently to group conversations.
B) I usually contribute infrequently to group conversations.
9. A) I usually prefer to work with and through others, providing support when possible.
B) I usually prefer to work independently or dictate the conditions in terms of how others are involved.
10. A) I usually ask questions or speak tentatively and indirectly.
B) I usually make empathic statements or directly expressed opinions.

11. A) I usually focus primarily on ideas, concepts, or results.
B) I usually focus primarily on persons, interactions, and feelings.
12. A) I usually use gestures, facial expression, and voice intonations to emphasize points.
B) I usually do not use gestures, facial expressions, and voice intonations to emphasize points
13. A) I usually accept others' points of view (ideas, feelings, and concerns).
B) I usually don't accept others' points of view (ideas, feelings, and concerns)
14. A) I usually respond to risk and change in a cautious or predictable manner.
B) I usually respond to risk and change in dynamic or unpredictable manner.
15. A) I usually prefer to keep personal feelings and thoughts private, sharing only when I wish to do to.
B) I usually find it natural and easy to share and discuss my feelings with others.
16. A) I usually seek out new or different experiences and situations.
B) I usually choose known or similar situations and relationships.
17. A) I'm usually responsive to others' agendas, interests, and concerns.
B) I'm usually directed toward my own agendas, interests and concerns.
18. A) I usually respond to conflict slowly and indirectly.
B) I usually respond to conflict quickly and directly.

Survey taken from The Platinum Rule by Tony Alessandra, Ph.D, & Michael J. O'Connor Ph.D. New York, New York, Warner Brooks 1996

Communication Style Answer Sheet (1 of 2)

Transfer your answers from the Communication Style Inventory to the chart below by circling your response. Total the number of items circled in each column, and write the totals in the spaces provided.

O	G	D	I
1A	1B	2B	2A
3B	3A	4A	4B
5A	5B	6B	6A
7B	7A	8A	8B
9A	9B	10B	10A
11B	11A	12A	12B
13A	13B	14B	14A
15B	15A	16A	16B
17A	17B	18B	18A
TOTALS	_____	_____	_____

Compare the “O” column with the “G” column and circle the letter that has the highest total.

O or G

Compare the “D” column with the “I” column and circle the letter that has the highest total.

D or I

Communication Style Answer Sheet (2 of 2)

Determine your Communication Style using your Totals on the Communication Style Answer Sheet.

If you circled the G and D, you tend toward being a Director.

If you circled the O and D, you show many qualities of a Socializer.

If you circled the O and I, you're predominantly a Relator.

If you circled the G and I, you have lots of Thinker characteristics.

If you had an even split (or even close to an even split) between O and G or D and I, you may have more than one dominant communication style. You may find that you tend to fall into one style in certain situations and then use the other style in different situations. If you found yourself evenly split in both comparisons, you probably use a little of *all* of these communication styles. This flexibility may make it easier for you to communicate successfully with many different kinds of people.

Communication Style Descriptions

The following descriptions are from the website, www.alessandra.com, and based on the book, The Platinum Rule by Dr. Tony Alessandra.

Directors

Directors are driven by two governing needs: to control and achieve. Directors are goal-oriented go-getters who are most comfortable when they are in charge of people and situations. They want to accomplish many things-now-so they focus on no-nonsense approaches to bottom-line results.

Directors seek expedience and are not afraid to bend the rules. They figure it is easier to beg forgiveness than to ask permission. Directors accept challenges, take authority, and plunge head first into solving problems. They are fast-paced, task-oriented, and work quickly and impressively by themselves, which means they become annoyed with delays.

Directors are driven and dominating, which can make them stubborn, impatient, and insensitive to others. Directors are so focused that they forget to take the time to smell the roses.

Socializers

Socializers are friendly, enthusiastic "party-animals" who like to be where the action is. They thrive on the admiration, acknowledgment, and compliments that come with being in the lime-light.

The Socializer's primary strengths are enthusiasm, charm, persuasiveness, and warmth. They are idea-people and dreamers who excel at getting others excited about their vision. They are eternal optimists with an abundance of charisma. These qualities help them influence people and build alliances to accomplish their goals.

Socializers do have their weaknesses: impatience, an aversion to being alone, and a short attention span. Socializers are risk-takers who base many of their decisions on intuition, which is not inherently bad. Socializers are not inclined to verify information; they are more likely to assume someone else will do it.

Thinkers

Thinkers are analytical, persistent, systematic people who enjoy problem-solving. Thinkers are detail-oriented, which makes them more concerned with content than style. Thinkers are task-oriented people who enjoy perfecting processes and working toward tangible results. They're always in control of their emotions and may become uncomfortable around people who very out-going, e.g., Socializers.

Thinkers have high expectations of themselves and others, which can make them over-critical. Their tendency toward perfectionism - taken to an extreme - can cause "paralysis by over-analysis." Thinkers are slow and deliberate decision-makers. They do research, make comparisons, determine risks, calculate margins of error, and then take action. Thinkers become irritated by surprises and glitches, hence their cautious decision-making. Thinkers are also skeptical, so they like to see promises in writing.

Relaters

Relaters are warm and nurturing individuals. They are the most people-oriented of the four styles. Relaters are excellent listeners, devoted friends, and loyal employees. Their relaxed disposition makes them approachable and warm. They develop strong networks of people who are willing to be mutually supportive and reliable. Relaters are excellent team players.

Relaters are risk-averse. In fact, Relaters may tolerate unpleasant environments rather than risk change. They like the status quo and become distressed when disruptions are severe. When faced with change, they think it through, plan, and accept it into their world. Relaters-more than the other types-strive to maintain personal composure, stability, and balance.

In the office, Relaters are courteous, friendly, and willing to share responsibilities. They are good planners, persistent workers, and good with follow-through.

Relaters go along with others even when they do not agree because they do not want to rock the boat.

Relaters' need for security, adversity to risk, and desire to include others in decision making can make them slow decision-makers.

Adapting to Different Communication Styles

Not only is it helpful to understand your own communication style, it can also be very useful to meet others halfway by considering the communication styles of others. If you pay attention, you can begin to see how others might fit into the descriptions above. Some people may be easier to categorize. In those cases, here are some ideas for adapting your own communication and behavior to be able to work well with people who have styles different from your own.

With Directors, in general, be efficient and competent.

With Socializers, in general, be interested in them.

With Thinkers, in general, be thorough, well-prepared, detail-oriented, business-like, and patient.

With Relaters, in general, be non-threatening and sincere.

The key is not to change who you are, but to listen and pay attention to how others are communicating. Try to be flexible in your communication with others. It can take patience and practice, but the ability to communicate effectively with other kinds of people will contribute to your success in any career, including STEM. Even though working with different communicators can be challenging, the results can represent all of the various communication strengths and will be truly exceptional.

Communication: Lesson 3**Science Communication Worksheet**

Communicating science to the public generally has one or more of three purposes: 1) information, 2) persuasion, or 3) entertainment. Consider times when you have either been on the giving or receiving end of science communication. Fill in the chart with examples from your own experience.

Different Types of Science Communication

Type/Purpose	Examples from my experience
Information	i. ii. iii.
Persuasion	i. ii. iii.
Entertainment	i. ii. iii.

Communication: Lesson 3

Identifying Your Audience Worksheet

Practice identifying your audience by listing examples of science communication and then filling in the rest of the chart.

Identifying Your Audience

Example of Science Communication	What is the audience's science background?	How much do they know about the topic?	What do they <i>care</i> about knowing?	Why are they using <i>this</i> source?	What is their motivation for learning about this topic?
<i>Example: biology text book</i>	<i>Public school science education up to the level of the text book</i>	<i>For most this is their first introduction to the majority of the topics in the book</i>	<i>Some want to know enough to pass the test. Some will be curious and want to know more.</i>	<i>Provided by the school</i>	<i>Pass the class, graduate? Prepare for college?</i>

Communication: Lesson 5

Understanding Science Writing Worksheet

Use separate copies of this worksheet to complete **Activity 1 and Activity 2** in the lesson.

Central Question Investigated	
Prevailing Theories	
Strategies and Methods Used to Investigate	
Conclusion of the Study	
Implications for Various Audiences	

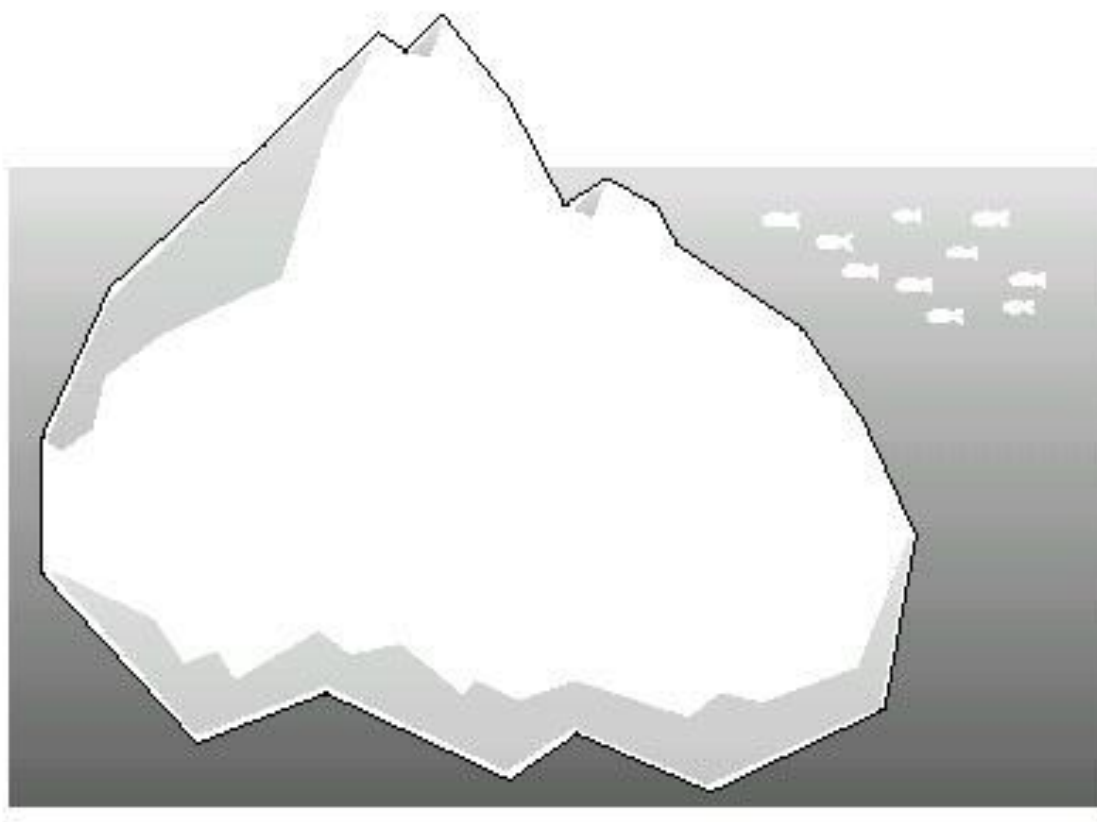
Words I don't understand:

Questions I have about the article/study:

Communication: Lesson 6**Cultural Iceberg Worksheet**

What can people know about you just from looking at you or hearing you speak? Above the waterline, list the aspects of your communication style that are easily observable by others.

What might not be obvious unless someone knows you well or asks? Below the waterline, list the aspects of your communication style that are not easily observable. These might be the beliefs, values, and other cultural and personal motivations that drive your communication behavior.



How can it be helpful to understand that what influences our communication may be hidden below the surface?

Communication: Lesson 6

Cultural Dimensions Worksheet

Dimensions of Cultural Communication

Direct

Indirect



Fast

Slow



Verbose

Laconic



Assertive

Polite



Emotional

Rational



Formal

Casual



Frequent

Infrequent

