



# IGNITE MY FUTURE

## LESSON TITLE

# Abbrevs

*Guiding Question: What does happiness mean?*

## SUBJECTS

English/Language Arts

## COMPUTATIONAL THINKING PRACTICE

Collaborating Around Computing

## COMPUTATIONAL THINKING STRATEGIES

Collecting Data  
Decompose  
Abstract

## MATERIALS

Computers with access to the internet (optional)  
Chalkboard or whiteboard  
Paper and pencils  
Large-format sticky paper

## Ignite Curiosity

- Why do you communicate in abbreviations?
- Where do the words we use come from?
- Why is the written word important? Is it getting more or less important over time?
- Does communicating with others over text and social media make us as happy as connecting face-to-face?

In this lesson, students will use the computational thinking strategies of collecting data and decomposing to answer a research question: are people happier when they communicate over text and written language or when they communicate face-to-face? In **THINK**, students will act as software engineers who are developing a new mobile phone. They have recently collected feedback from a group of test users that the phone is difficult to use for typing. The engineers are working to devise a design solution to the problem, but they have to decide between two approaches: develop a keyboard that uses a shorthand system of words and abbreviations that make it easier to type quickly, or remove the keyboard altogether and rely on recording software that sends video messages instead of texts. In **SOLVE**, students will look at some of the most common abbreviations in use today and decompose how they morphed from the original word or phrase to their current form. Students will also identify their most commonly texted words. In **CREATE** students use their research to design a new custom keyboard that uses their most-texted abbreviations instead of letters. In **CONNECT**, students identify how communicating with others impacts happiness and well-being and explore a series of careers in the communication industry.

Students will be able to:

- **Evaluate** common words and their origins,
- **Analyze** data by identifying common features and breaking down complex thoughts into abbreviations
- **Create** a new keyboard design that makes it faster and easier to communicate via text



Students act as software engineers who are developing a new mobile phone. The phone will feature a new keyboard that makes it easier to type by using abbreviations instead of letters.

**1 Read** the following scenario to students:

*Imagine that you are a software engineer who is working for a top technology company. Your company is always developing the latest and greatest mobile phones and using the latest technology. Your most recent phone prototype was just tested by a group of users and they provided the following feedback: the phone makes it hard to type quickly! Users are frustrated by this and want a way to communicate fast. Your team is wondering if the best approach is to develop a keyboard that uses a series of words and abbreviations to save time while texting or to remove the keyboard altogether and use video messages instead of the written word. It's up to you to determine the answer. Let's see how you do!*

**2 Distribute** students into groups of three. Each student group should have access to a laptop or mobile device (if internet-accessible devices are not available in your classroom, you can complete the following activity using printed-out articles, paper, and pencil).

**3 Direct** students to the following articles:

- [Oxford Dictionary – Common Abbreviations](#)
- [16 Text and Social Media Abbreviations you should know by now](#)

**4 Have each group draw a T-chart** with paper and pencil. One side of the chart should read “pros for text abbreviations” and the other side should read “cons for text abbreviations.”

**5 Provide** students with time to read the articles and work as a group to identify pros and cons.

**6 When groups have completed their work**, draw a T-chart on the board with “pros” on one side of the chart and “cons” on the other. Check for understanding by having student groups report out different pros and cons to text abbreviations that they have identified in the articles and in their real life. Ask the following questions:

- How do you learn about a new popular phrase?
- How would you go about determining the most popular abbreviations used in text messages and on social media?
- Do you think it is a good thing that language is changing? Why or why not?



Students study the origins of many common words. They will then decompose the words into abbreviations that accurately communicate the meaning of the word. Students will then analyze their own writing to determine their most commonly used text phrases.

- 1 Disperse** students into new groups. Provide each group with a piece of large-format sticky paper and markers.
- 2 Provide** each group with five common words (you can use [this list](#) of the most common words in the English language for reference).
- 3 Have students write down each word** on the large-format paper, making sure to leave room under each word.
- 4 Using dictionaries** or an [online root word dictionary](#), have students identify the following elements of each word:
  - the root
  - the meaning
  - any prefixes or suffixes
  - an abbreviation of the word that is easily recognizable and retains its meaning
- 5 Once each group has completed**, provide them with a fresh sheet of large-format paper. Give each group three common phrases to write on their paper, leaving space between each (you can use [this list](#) of common English phrases for reference).
- 6 Instruct** students to perform the same procedure, identifying the following elements of the phrases:
  - the root words
  - the meaning of the phrase
  - any prefixes or suffixes
  - an abbreviation of the phrase that is easily recognizable and retains its meaning
- 7 Direct** students to take out their mobile devices (if mobile devices are not allowed in your classroom, you can direct students to brainstorm with their group members). Provide students with time to look through their text history and identify the 50 most common phrases and words that they use in texts and social media posts. Students may also choose to copy and paste social media posts in [this word counter](#).
- 8 Once each student** has individually identified their most common phrases, have them work with their group members to combine their lists. Student should highlight any words that overlapped and combine the top 50 phrases from all of the lists into one master list of 30.



- 9 Summarize** and check for understanding with the following critical thinking questions:
- What did you learn when you decomposed common words and phrases into their root words and then abstracted them into abbreviations? Did the word keep its meaning?
  - Did your top 50 phrases surprise you? Why or why not?
  - Why do you think it is so common to use abbreviations in text and social media formats? How do these written language formats change our spoken language?
  - What would make it easier to type on a mobile phone?



## Students work in groups to design a new keyboard that uses phrases instead of letters.

- 1 Instruct** students to remain in their groups. Provide each group with paper and pencils.
- 2 Direct each group** to draw a copy of a typical keyboard they would find on a mobile phone. The drawing should include all of the functions of the keyboard as well as the letters (space, return, etc.)
- 3 Have each group draw** a new keyboard, leaving the inside of each key blank.
- 4 Provide** students with time to input their top 30 phrases into their keyboard design. They may also choose to improve the keyboard function by adding in additional features (voice recording, spell check, emojis, etc.). Remind groups that they have limited space on the keyboard, and it must include the basic functions of space, backspace, and send.
- 5 When each group has designed their new keyboard**, have them present it briefly to the class. Once all groups have presented, ask students the following questions:
  - Were your keyboards mostly the same or mostly different?
  - Do you think this keyboard would save you time when you are typing on a smartphone? Why or why not?
  - Now that you have developed this abbreviation keyboard, do you think it is the best way to communicate the true meanings of words? Why or why not?
  - In your mind, what form of communication brings you more happiness: texting or talking in person? Why?



## Select one of the strategies listed below to help students answer these questions:

- How do this problem and solution connect to me?
- How do this problem and solution connect to real-world careers?
- How do this problem and solution connect to our world?

- 1 Write** the three questions on PPT or flip chart slides and invite students to share out responses. Display chart paper around the room, each with one question written on it. Ask students to write down their ideas on each sheet.
- 2 Assign** one of the questions to three different student groups to brainstorm or research, and then share out responses.
- 3 Direct** students to write down responses to each question on a sticky note, and collect them to create an affinity diagram of ideas.

### How does this connect to students?

Students use abbreviations every day and likely do not realize it. The English language is shifting under the forces of text messaging and social media. In this lesson, students will engage in the debate over whether language evolution is good or destructive and will think critically about the importance of communication.

### How does this connect to careers?

**Telecommunications Engineers** are electrical engineers who focus on communication systems. They design circuits, cables, networks, and other data transmission systems.

**User Experience (UX) Designers** study how users interact with technology in order to make products that are easy to use. UX designers study human behaviour and test products before they launch in order to ensure that they are intuitive to use.

**Linguists** study patterns in written and spoken word. They may work in the computer industry on projects like speech recognition, language processing, or machine learning related to language. Linguists may also choose to work as translators, interpreters, or language preservation specialists.

### How does this connect to our world?

More and more communication is taking place via text message. Though we might be communicating more than ever before, the way we are communicating is changing. An emphasis is being placed on short posts and texts with lots of abbreviations to save time. In this lesson, students will explore whether or not it is possible to retain meaning in abbreviations and discuss the benefits and drawbacks of text communication.

TATA Consultancy Services is a strong supporter of teaching literacy to the communities it works in. [Click here](#) to learn how they use computational thinking in language learning!

## Curriculum Connections

UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



“For the goals to be reached, everyone needs to do their part: governments, the private sector, civil society and **people like you.**”  
 –The United Nations

“The Sustainable Development Goals are the blueprint for a better future. And together we can reach them. By following the Good Life Goals, we can all help make tomorrow better than today. Let’s do this! #GoodLifeGoals”



### MAKE SMART CHOICES Actions

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1 Learn about plans for progress in your country

4 Welcome innovations that make the world a better place

2 Stay smart and kind online

5 Demand the benefits from progress are shared

3 Support construction that benefits people and protects the planet



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

SUSTAINABLE DEVELOPMENT GOALS

Source:

[The Good Life Goals by Futerra Sustainability Communications Ltd and 10-Year Framework of Programmes on Sustainable Lifestyles and Education Programme](#) is licenced under CC BY-ND 4.0.

Find more easy-to-implement resources to integrate computational thinking practices into your classroom by visiting [ignitemyfutureinschool.ca](https://www.ignitemyfutureinschool.ca)

## Global Competencies

CMEC (Council of Ministers of Education, Canada) Pan-Canadian Global Competencies Descriptions

Highlighted sections apply to this lesson

Global Competency	Definition	Student Descriptors
Collaboration	Collaboration involves the interplay of the cognitive (including thinking and reasoning), interpersonal, and intrapersonal competencies necessary to participate effectively and ethically in teams. Ever-increasing versatility and depth of skill are applied across diverse situations, roles, groups, and perspectives in order to co-construct knowledge, meaning, and content, and learn from, and with, others in physical and virtual environments.	<p>Students participate in teams by establishing positive and respectful relationships, developing trust and acting co-operatively and with integrity.</p> <p>Students learn from and contribute to the learning of others by co-constructing knowledge, meaning, and content.</p> <p>Students assume various roles on the team, respect a diversity of perspectives, and address disagreements and manage conflict in a sensitive and constructive manner.</p> <p>Students network with a variety of communities/groups and use an array of technology appropriately to work with others.</p>
Communication	Communication involves receiving and expressing meaning (e.g., reading and writing, viewing and creating, listening and speaking) in different contexts and with different audiences and purposes. Effective communication increasingly involves understanding both local and global perspectives, societal and cultural contexts, and adapting and changing using a variety of media appropriately, responsibly, safely, and with regard to one's digital footprint.	<p>Students communicate effectively in different contexts in oral and written form in French and/or English through a variety of media.</p> <p>Students communicate using the appropriate digital tools and create a positive digital footprint.</p> <p>Students ask effective questions to acquire knowledge, listen to understand all points of view, voice their own opinions, and advocate for ideas.</p> <p>Students gain knowledge about a variety of languages and understand the cultural importance of language.</p>

## Global Competencies cont.

Highlighted sections apply to this lesson

Global Competency	Definition	Student Descriptors
<p>Global Citizenship and Sustainability</p>	<p>Global citizenship and sustainability involve reflecting on diverse worldviews and perspectives and understanding and addressing ecological, social, and economic issues that are crucial to living in a contemporary, connected, interdependent, and sustainable world. It also includes the acquisition of knowledge, motivation, dispositions, and skills required for an ethos of engaged citizenship, with an appreciation for the diversity of people, perspectives, and the ability to envision and work toward a better and more sustainable future for all.</p>	<p>Students understand the ecological, economic, and social forces, their interconnectedness, and how they affect individuals, societies, and countries.</p> <p>Students take actions and responsible decisions that support quality of life for all, now and in the future.</p> <p>Students recognize discrimination and promote principles of equity, human rights, and democratic participation.</p> <p>Students understand Indigenous traditions and knowledge and its place in Canada, learn from and with diverse people, develop cross-cultural understanding, and understand the forces that affect individuals, societies, and nations.</p> <p>Students engage in local, national, and global initiatives to make a positive difference.</p> <p>Students contribute to society and to the culture of local, national, global, and virtual communities in a responsible, inclusive, accountable, sustainable, and ethical manner.</p> <p>Students as citizens participate in networks in a safe and socially responsible manner.</p>

## Global Competencies cont.

Highlighted sections apply to this lesson

Global Competency	Definition	Student Descriptors
Critical Thinking and Problem Solving	Critical thinking and problem solving involve addressing complex issues and problems by acquiring, processing, analysing, and interpreting information to make informed judgments and decisions. The capacity to engage in cognitive processes to understand and resolve problems includes the willingness to achieve one's potential as a constructive and reflective citizen. Learning is deepened when situated in meaningful, real-world, authentic experiences.	<p>Students will solve meaningful, real-life, complex problems by taking concrete steps to address issues and design and manage projects.</p> <p>Students will engage in an inquiry process to solve problems as well as acquire, process, interpret, synthesize, and critically analyse information to make informed decisions (i.e., critical and digital literacy).</p> <p>Students will see patterns, make connections, and transfer what they have learned from one situation to another, including in real world applications.</p> <p>Students will construct, relate, and apply knowledge to all domains of life such as school, home, work, friends, and community.</p> <p>Students will analyze the functions and interconnections of social, economic, and ecological systems.</p>
Innovation, Creativity and Entrepreneurship	Innovation, creativity, and entrepreneurship involve the ability to turn ideas into action to meet the needs of a community. The capacity to enhance concepts, ideas, or products to contribute new-to- the-world solutions to complex economic, social, and environmental problems involves leadership, taking risks, independent/unconventional thinking and experimenting with new strategies, techniques, or perspectives, through inquiry research. Entrepreneurial mindsets and skills involve a focus on building and scaling an idea sustainably.	<p>Students formulate and express insightful questions and opinions to generate novel ideas.</p> <p>Students contribute solutions to complex economic, social, and environmental problems or to meet a need in a community in a number of ways including; enhancing concepts, ideas, or products through a creative process, taking risks in their thinking and creating, making discoveries through inquiry research, and by hypothesizing and experimenting with new strategies or techniques.</p> <p>Students demonstrate leadership, initiative, imagination, creativity, spontaneity, and ingenuity in a range of creative processes and motivate others with an ethical entrepreneurial spirit.</p>

## Global Competencies cont.

Highlighted sections apply to this lesson

Global Competency	Definition	Student Descriptors
<p>Learning to learn and to be self-directed and self-aware</p>	<p>Learning to learn and to be self-directed and self-aware, means: becoming aware and demonstrating agency in one's process of learning, including the development of dispositions that support motivation, perseverance, resilience, and self-regulation. Belief in one's ability to learn (growth mindset), combined with strategies for planning, monitoring and reflecting on one's past, present, and future goals, potential actions and strategies, and results. Self-reflection and thinking about thinking (metacognition) promote lifelong learning, adaptive capacity, well-being, and transfer of learning in an ever-changing world.</p>	<p>Students learn the process of learning (metacognition) (e.g., independence, goal-setting, motivation) and believe in their ability to learn and grow (growth mindset).</p> <p>Students self-regulate in order to become lifelong learners and reflect on their thinking, experience, values, and critical feedback to enhance their learning. They also monitor the progress of their own learning.</p> <p>Students develop their identity in the Canadian context (e.g., origin and diversity) and consider their connection to the environment. They cultivate emotional intelligence to understand themselves and others. They take the past into account to understand the present and approach the future.</p> <p>Students develop personal, educational, and career goals and persevere to overcome challenges to reach these goals. They adapt to change and show resilience to adversity.</p> <p>Students manage various aspects of their lives: physical, emotional (relationships, self-awareness), spiritual, and mental well-being.</p>