
PYP PLAN YOUR LESSON: IB FRAMEWORK ALIGNMENT

EXAMPLE: “Cracking the Code”

Introduction

► This lesson guide follows the steps of the PYP Inquiry Cycle, supporting teachers to deliver concept-driven lessons that build curiosity, deepen understanding, and inspire meaningful action.

The suggested activities and questions in this guide link directly to the IB Mapping Companion, which maps every lesson to the PYP framework. The Companion organizes lessons according to Achieve3000 Literacy Article Summary, Transdisciplinary Theme, Lines of Inquiry, Learner Profile Attributes and Key Concepts. By using these categories, teachers can clearly see how comprehension skills extend into inquiry, and how each lesson can work flexibly in the PYP classroom.

Article Title

“Cracking the Code”

Text Summary

How do you send a message far away? Try using the famous code created by Samuel Morse!

Transdisciplinary Theme

How We Organize Ourselves

Transdisciplinary Theme Descriptor

An inquiry into systems, structures, and networks through:

- interactions within and between social and ecological systems
- approaches to livelihoods and trade practices: intended and unintended consequences
- representation, collaboration, and decision-making

Lesson Connection

This lesson supports the *How We Organize Ourselves* Transdisciplinary Theme by helping learners inquire into systems and networks of communication. Through the study of Morse code, students explore how representation, collaboration, and decision-making support human interaction and organization.

Learner Profile Attributes

Inquirers, Thinkers, Principled, Caring, Open-minded, Reflective

Central Idea

Communication systems are designed to help people share ideas and organize their world.

Lesson Objective

Learners will understand how humans have used communication systems over time, with an emphasis on Morse code as a symbol-based system. They will practice extracting main ideas and key details in informational text and use what they learn to create and test codes of their own.

Step 1: Tuning In

►► How will you activate curiosity with a Central Idea using the Achieve3000 Literacy Summary?

This phase activates curiosity, and the following provocation connects to the Central Idea: Systems of communication help people connect and organize their world.

Begin by projecting the first line of the article:

.-.. --- ...- . / .--- / .- .- -..

Ask, “Do you know what this says? How could we find out?” Give learners time to wonder and make predictions. This is a question that will stimulate curiosity and help to place the learners in the role of inquirers; they are being asked to investigate what codes are, how they work, and why they matter.

Go on to explain that this is Morse code, one of the most important communication systems in history and that—in this lesson—they will learn about how people long ago sent messages across the world without email, text messages, or even telephones.

Follow up with a quick discussion: “What are some codes you already know?” Answers might include emojis, traffic lights, or even classroom codes like raising a hand. This will activate existing knowledge and help learners begin to see the connections between communication tools they use now and those that people created long ago.

The objective is for the students to understand and think about the text. By offering intentional scaffolding, including modeling, guided practice, and collaborative exploration, learners will be supported as they move from surface understanding to independent application.

Within the IB PYP, scaffolding reading strategies supports the learners to be Inquirers, inviting them to explore meaning, and as Thinkers, demanding that they apply the strategies with logic and clarity. It also integrates ATL skills in communication and thinking to help students become confident, reflective readers who can transfer strategies across disciplines.

What Is the lesson lens?

Display a picture of a telegraph machine, semaphore, or Morse chart, and ask questions such as:

- “What do you notice? What evidence makes you say that? What questions do you have?”

This lesson supports the How We Organize Ourselves Transdisciplinary Theme by guiding students to inquire into communication as a system of organization. Through the study of Morse code and other symbol-based networks, students explore how humans design systems and structures that enable representation, collaboration, and decision-making across time and space.

Which Lines of Inquiry are sparked here?

- How Morse code helped people communicate in the past
- The role of codes in safety, travel, and inclusion
- How we design communication systems today
- Why clear and respectful communication matters

Step 2. Finding Out

►► What activities will help explore the Key Concepts?

In this phase, learners gather evidence through reading and collaboration to explore how communication systems demonstrate Form, Function, Causation, Change, and Connection.

Activity: Concept Carousel

Instead of reading the article in a whole-group, linear order, explain to learners that they will engage in inquiry into the text as they rotate through concept stations. Each station will highlight one of the following Key Concepts: Form, Function, Causation, Change, and Connection.

Set up five large sheets of chart paper around the classroom with the following questions (one question per paper):

- **Form:** What is the operation of Morse code?
- **Function:** What is the communication potential of codes?
- **Causation:** What led to the creation of Morse code?
- **Change:** How did people in the past communicate?
- **Connection:** How are tools and emergencies related to Morse code?

Group Reading: Divide students into small groups and assign each group a section of the article (Code Talk, Instant Messaging, News Travels Fast, Cracking the Code). Ask each group to read through their section together. Use the [Commonly Used Question Stems](#) to guide them back to the text:

- *Main Idea:* “What is this article mainly about in your section?”
- *Cause and Effect:* “According to the article, why did people invent semaphore or Morse code?”
- *Sequencing:* “Which event happened first; semaphore or the telegraph?”

This will strengthen learners’ reading skills while keeping the inquiry conceptual.

As groups read ‘Instant Messaging’ and ‘News Travels Fast,’ show them the [Morse Code Translator](#) so that they can decode simple words included in the lesson. This will reinforce the concept of Form concretely enabling them to see how the code system works.

As learners rotate through the *Concept Carousel*, refer to the [Kids’ Channel Classroom Activities](#) and ask them to come up with one “Aha!” (new fact learned) and one “Huh?” (a question they still have). They will stick these on the relevant concept posters (Form, Function, etc.), so inquiry becomes visible.

Concept rotation: After reading, ask groups to rotate around the five concept stations. At each station, they should write evidence from their section of text that answers the question for that concept. For example: at the Change station, a group that read ‘Code Talk’ might write, “People used drums, fires, and flags before Morse code existed, but these didn’t always work.”

Findings: After rotations have finished, ask the class to regroup and review the chart papers. Focus on overlaps, contradictions, or surprises in learners’ answers.

Useful materials

- [Commonly Used Question Stems](#)
- [Kids’ Channel Classroom Activities](#) – Aha! & Huh?
- [Morse Code Translator](#)

Step 3: Sorting Out

►► How will students identify evidence connected to Learner Profile Attributes?

In this phase, learners synthesize what they have discovered about how systems of communication are designed and used. Students analyze how their findings connect to the Central Idea that systems of communication help people connect and organize their world.

Activity: Concept Reflection and Evidence Mapping

Learners revisit their group carousel notes or reading annotations and sort evidence into the five Key Concept lenses:

- **Form:** What is the operation of Morse code?
- **Function:** What is the communication potential of codes?
- **Causation:** What led to the creation of Morse code?
- **Change:** How did people in the past communicate?
- **Connection:** How are tools and emergencies related to Morse code?

Using color-coded cards or a shared concept wall, learners sort their ideas and identify patterns across time, technology, and purpose. They discuss how each piece of evidence reveals communication as a system of organization, connecting people and ensuring information is shared accurately and safely.

Discussion Prompts

Encourage class discussion talk through guiding questions such as:

- “What similarities or differences do you see between Morse code and modern systems like texting or emojis?”
- “How does the structure of a communication code make it easier for people to collaborate?”
- “Why is it important for communication to be clear, respectful, and inclusive?”

Learner Profile Attribute Connections

- **Inquirers:** Students examine how Morse code has been developed and used.
- **Thinkers:** Students develop their own codes and consider how to make them unambiguous.
- **Principled:** Students learn to value honest and clear communication.
- **Caring:** Students recognize how codes can help people in emergencies or with special needs.
- **Open-minded:** Students discover how people in many parts of the world use many types of communication.

This stage of the inquiry helps learners organize their ideas and interpret what they’ve discovered. They analyze how communication systems, such as Morse code, connect to the Central Idea that systems of communication help people connect and organize their world.

After completing the Concept Carousel, bring the class together to review their notes and evidence.
Guide learners to:

- Compare and contrast their answers from each concept question.
- Identify patterns and relationships between different forms of communication.
- Discuss how each system (telegraph, Morse code, modern messaging) shows Form, Function, and Connection.
- Highlight evidence of human collaboration and innovation in each system.

Encourage students to build a concept map that visually links the key ideas that emerged, such as how systems evolve to solve communication challenges and organize information more efficiently.

- Facilitate discussion, prompting learners to justify their ideas with evidence from the text.
- Ask reflective questions such as:
 - “What patterns are emerging across the systems we’ve studied?”
 - “How does the structure of a code help organize information?”
 - “How do these systems reflect human collaboration?”

Activity: Synthesis Task

After class discussion, learners summarize their understanding in 280 characters ([Kids’ Channel Classroom Activities](#): The Perfect Tweet) to express the main idea of Cracking the Code and complete the Respond Quiz individually to consolidate comprehension. Students can see their progress on a tracker. Rewarding 75% or higher can drastically improve engagement and Lexile growth, so this is a good practice to implement in the classroom.

Useful materials

Step 4: Going Further

►► How will learners deepen inquiry and connect across disciplines via the Key Concepts and the Learner Profile Attributes?

In this phase, learners extend their inquiry beyond the initial text and Central Idea by exploring new perspectives, connections, or applications. They consider how communication systems continue to evolve and what innovations might shape the future.

Activity: Concept Transfer Challenge

Ask to connect their learning about Morse code to modern or emerging communication systems. Possible prompts include:

- “How do current technologies (like emojis, QR codes, or AI translation tools) build on the same ideas as Morse code?”
- “What new communication systems might we need in the future?”
- “How can we design a code that meets a modern challenge?”

Learner Profile Attributes

- **Thinkers**—designing solutions using logic and creativity
- **Open-minded**—comparing global perspectives on communication
- **Reflective**—evaluating how new systems can promote fairness and inclusion

The aim is for learners to move from understanding how communication systems work to exploring why they matter, applying their conceptual understanding to new contexts and imagining innovative possibilities for the future.

Step 5: Drawing Conclusions

▶▶ This phase supports synthesis and understanding of the Central Idea before moving to personal reflection.

Activity: Whole-Class Reflection Discussion

- Revisit the Central Idea: *Communication systems are designed to help people share ideas and organize their world.*
- Ask: “What evidence do we have now to support this?”
- Invite learners to justify their ideas using notes, charts, and concept maps.

Prompt Questions

- “How have human needs shaped communication systems?”
- “What patterns do we notice in how systems evolve?”
- “How does collaboration drive innovation in communication?”

Encourage learners to express conclusions visually (e.g., through posters, infographics, or a short oral presentation).

Step 6: Taking Action

▶▶ This phase supports synthesis and understanding of the Central Idea before moving to personal reflection.

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Encourage learners to express conclusions visually (e.g., through posters, infographics, or a short oral presentation).

Step 7: Reflection

▶▶ This final reflection invites learners to look back on the entire inquiry process: how their thinking changed, what skills they developed, and what new questions emerged.

Reflection Prompts

- “What have I learned about how humans organize communication systems?”
- “Which Learner Profile attributes did I demonstrate in this inquiry?”
- “What skills helped me collaborate and think critically?”
- “How can I use what I learned in new situations?”

Learners can choose how to reflect, through a written journal entry, visual mind map, audio recording, or peer discussion.

Encourage metacognitive dialogue by revisiting the class’s original wonderings from Tuning In.

Ask:

- “Which of our early questions did we answer?”
- “Which ones are we still curious about?”

This step completes the inquiry cycle and reinforces that learning is continuous, reflective, and action oriented.