IGNITE MY FUTURE

LESSON TITLE

Smile Starter

Guiding Question: What Does Happiness Mean?

Ignite Curiosity

- Is smiling contagious?
- Can smiling when you're unhappy make you feel happier?
- Why is the Mona Lisa so famous?
- How could smiling be connected to your health?

In this lesson, students use the computational thinking strategies of collecting data and finding patterns to explore the link between facial expressions and the biological processes that create emotions. In **THINK**, students identify their baseline emotional state to serve as a control for an experiment researching the link between body language and emotions. They will then participate in a variety of different postures (smiling, frowning, and so on) and record on a sliding scale how the posture has changed their emotions. In **SOLVE**, students use the quantitative data they gathered to find patterns in how their physical movements affected their emotions. They work in groups to develop a physical routine of postures and body movements that an individual can do to create a more happy and confident mindset. They then compare this data with data collected on the link between body posture and endorphins. In **CREATE** students plan and distribute a "Smile Starter" multimedia campaign that is based on the data they collected. In **CONNECT**, students discuss how the link between physical movements and emotional health empowers all of us to positively impact our emotional state whenever we would like, leading to discussions of careers like psychology, medical research and computer science.

Students will be able to:

- **Apply** computational thinking to discovering patterns in data,
- Gather and **analyze** relevant information about a topic, and
- **Create** a multimedia campaign that is based on scientific data and mobilizes others.

SUBJECTS

Science
Health
Social Studies

COMPUTATIONAL THINKING PRACTICES

Collecting Data
Finding Patterns

COMPUTATIONAL THINKING STRATEGIES

Creating Computational Artifacts

MATERIALS

Measure My Emotions
Student Capture Sheet

Magic markers or stickers

Smile Starter Planning Worksheet

Computers with access to the internet

Students explore the link between physical movement and emotions.

1 **Ask** students if they've ever heard the expression, "Laughter is the best medicine." Then, point out that while watching a comedy isn't a substitute for visiting a doctor, there are proven health benefits to smiling. Ask students what emotion they're feeling right now. Then, ask them to think about the expression on their face. Tell them to think about something happy or funny, and see how that changes their mood. After that, tell them to smile without thinking about anything. Do they feel the same as when they were recalling a happy memory?

2 **Have students watch** an excerpt from the TED talk, "Your Body Language May Shape Who You Are" [1:51-4:40]. Then, explain that they will be exploring the link between body movements and emotions and using the data they collect to develop a "happiness workout" and a Smile Campaign to distribute it.

3 **Ask** students if they agree with the information presented in the TED talk. Then, explain that a scientific exploration never relies on only one source. Have students read the following articles: "Smile! It's Good for Your Heart" and "There's Magic In Your Smile."

4 **Distribute** the Measure My Emotions student capture sheet and magic markers or stickers. Inform students that they will begin by establishing a baseline mood, then measure how that baseline changes when they change their postures and facial expressions.

5 **Lead** students to consider the importance of the scientific method when gathering data by asking the following guiding questions:

- Why is it important to establish a baseline? (It gives you a solid point to which you can compare the rest of your data.)
- Can you be objective about data related to emotions? Why or why not? (Yes—emotions can be measured in terms of endorphins released, as well as by comparing them to other emotional states.)
- What should you do if the data you collect contradicts your expectations? (Change your expectations to fit the data, not the other way around.)

Then, have them fill out the worksheet. Explain that students will begin by establishing a baseline on a sliding scale, and noting their emotional state based on a neutral expression. They will mark their baseline with a marker or a sticker. Then, they will record the changes to their emotional states using the same sliding scale when they change their postures by smiling, frowning, and making other movements and facial expressions.

6 **Challenge** students to identify and summarize the problem that needs to be solved. Remind them that they are looking for connections between the physical movements of facial expressions and the emotions connected to those facial expressions.

Students use the quantitative data they gathered to find patterns in how their physical movements affected their emotions.

Once students have created their baseline and then performed experiments and gathered data about their emotional response to different facial expressions and postures, inform them that they will be looking for patterns in their data and using these patterns to create a happiness campaign that spreads smiles.

1 **Have students gather** into small groups and review their data, then compare their group's data with that of other groups. Encourage students to use the worksheet to note comparisons between their own data and that of other groups and to develop a method of scientifically capturing these comparisons. (For example, students can take an average of how many numbers to the left or right students' happiness ratings moved after performing each action.) Then, students will brainstorm 5 ways they can start a chain reaction of smiles.

2 **Once students have collected** a number of ideas, have each group write up an outline for its Smile Starter campaign. Remind them that they should look at a variety of physical and emotional touchpoints in order to spread happiness.

3 **Once students have written the outline for their campaigns,** have them design another baseline indicator that can serve as a control and will help students identify whether or not their Smile Starter is successful.

Students plan and distribute a "Smiling Starter" campaign using a multimedia format that is based on the data they collected and the conclusions they drew from it.

1 **Instruct** students to turn their outlines into a campaign. They can do this in a variety of ways:

- Creating a bitmoji
- Recording a podcast
- Developing a presentation
- Filming a video
- Drawing an ad
- Building a meme

2 **Distribute** the Smile Starter Planning Worksheet. Ask students to consider the following when creating their campaign:

- What is the most important piece of data from your findings?
- What do you see as the greatest benefit of the Smile Starter Campaign?
- How can you use this data to convince your audience of the campaign's benefits?

3 **Ask** students how they would spread their campaign. What methods of communication would they use (Word of mouth? Email? Twitter?)? Who would they begin by contacting? How much time would they devote to the campaign? Have students write a description of their campaign on the Smile Starter Planning Worksheet.

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?

Most students have experienced strong emotions, and they may have noticed a connection between what they were feeling and the way they were behaving—for example, standing up straighter when they are proud, or smiling so hard their face hurt.

Some students may also have experienced the connection between actions and emotions while performing in plays (acting like they feel an emotion can lead to actually feeling the emotion), or experiencing a rush of endorphins while playing sports (such as the "runner's high").

How does this connect to careers?

Mental Health Professionals (counselors, therapists, psychologists, and psychiatrists), especially those specializing in Cognitive Behavioral Therapy, use the connection between the body and the mind/emotions to help people live happier and more fulfilling lives.

Anthropologists and Sociologists use the insights gained from the connection between behavior and emotions to understand the cultures they are studying.

Actors can use the ability to control their emotions through physical actions to give more authentic performances.

How does this connect to our world?

Understanding the connection between our behaviors and actions and our emotional state empowers us to take control of our emotions. This can help us maintain a more positive outlook on life and overcome obstacles more easily.

Understanding this link can also demystify emotions and emotional responses. If emotions can be approached and examined scientifically, they become less frightening, and people are more likely to have a logical response to a situation than an emotional response.

Find more easy-to-implement resources to integrate computational thinking practices into your classroom by visiting **ignitemyfutureinschool.org**

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National Standards

NEXT GENERATION SCIENCE STANDARDS

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Asking Questions and Defining Problems Asking questions and defining problems in grades 6–8 builds on grades K–5 experiences and progresses to specifying relationships between variables, and clarifying arguments and models. **Developing and Using Models** Develop a model to generate data to test ideas about designed systems, including those representing inputs and outputs. (MS-ETS1-4) **Analyzing and Interpreting Data** Analyzing data in 6–8 builds on K–5 experiences and progresses to extending quantitative analysis to investigations, distinguishing between correlation and causation, and basic statistical techniques of data and error analysis.	**LS1.D: Information Processing** Each sense receptor responds to different inputs (electromagnetic, mechanical, chemical), transmitting them as signals that travel along nerve cells to the brain. The signals are then processed in the brain, resulting in immediate behaviors or memories. **ETS1.B: Developing Possible Solutions** There are systematic processes for evaluating solutions with respect to how well they meet the criteria and constraints of a problem. (secondary to MS-LS2-5)	**MS-ETS1-2** Critical thinking using the tools of mathematical analysis is combined with strong computational thinking principles of reuse and verification of outcomes.

National Standards

K-12 COMPUTER SCIENCE FRAMEWORK

Practice 5. Creating Computational Artifacts
Communication involves personal expression and exchanging ideas with others. In computer science, students communicate with diverse audiences about the use and effects of computation and the appropriateness of computational choices. Students write clear comments, document their work, and communicate their ideas through multiple forms of media. Clear communication includes using precise language and carefully considering possible audiences.

NATIONAL CURRICULUM STANDARDS FOR SOCIAL STUDIES

Culture
Through experience, observation, and reflection, students will identify elements of culture as well as similarities and differences among cultural groups across time and place. They will acquire knowledge and understanding of culture through multiple modes, including fiction and non-fiction, data analysis, meeting and conversing with peoples of divergent backgrounds, and completing research into the complexity of various cultural systems.

People, Places and Environments
Today's social, cultural, economic and civic issues demand that students apply knowledge, skills, and understandings as they address questions such as: Why do people decide to live where they do or move to other places? Why is location important? How do people interact with the environment and what are some of the consequences of those interactions? What physical and other characteristics lead to the creation of regions? How do maps, globes, geographic tools and geospatial technologies contribute to the understanding of people, places, and environments?

NATIONAL HEALTH EDUCATION STANDARDS

Standard 1 Students will comprehend concepts related to health promotion and disease prevention to enhance health.

Standard 3 Students will demonstrate the ability to access valid information, products, and services to enhance health.

Standard 4 Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

Standard 5 Students will demonstrate the ability to use decision-making skills to enhance health.

Standard 7 Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

Measure My Emotions

Baseline:
How do you feel right now? Mark your baseline emotional state on the scale below, with 1 being saddest and 10 being happiest.

1   2   3   4   5   6   7   8   9   10

Then, mark how your feelings change compared to this baseline for each of the following:

1 Smiling

1   2   3   4   5   6   7   8   9   10

2 Frowning

1   2   3   4   5   6   7   8   9   10

3 Making a puzzled expression

1   2   3   4   5   6   7   8   9   10

4 Smiling and standing up straight

1   2   3   4   5   6   7   8   9   10

5 Frowning and slouching

1   2   3   4   5   6   7   8   9   10

6 Laughing and putting hands on hips

1   2   3   4   5   6   7   8   9   10

The "Smile Starter" Planning Worksheet

Use this worksheet to brainstorm ideas for your Smile Starter campaign and your multimedia kickoff piece