



Taking care of myself

Description

*This activity is part of the [FabConnectHer project](#), dedicated to empowering future female innovators by providing inspiration, skills, and networks to make a meaningful impact in **STEAM (Science, Technology, Engineering, Arts, and Math)** through education, reemployment, or entrepreneurship. Designed as an **Open Educational Resource (OER)**, it offers educators the flexibility to reuse, adapt, and tailor the lesson to a variety of subjects and classroom needs, ensuring accessibility and versatility for diverse learning environments.*

“**Taking care of myself**” presents an interactive way for young learners to discover the importance of self-care by learning about the human body parts, systems, conditions and diversity. The participants will explore human body parts, systems, conditions and how they work together by making a simple circuit representing the human body and its connections.

Learning objectives

By the end of this lesson, students will be able to:

- **Develop self-awareness and self-esteem** by understanding their own bodies and the importance of self-care.
- **Encourage empathy and inclusivity** by recognizing and respecting body diversity, different health conditions, and assistive technologies.
- **Explore human anatomy and body systems** by identifying and discussing how different parts and systems function together.
- **Understand basic electronic circuits** and their connection to the human body as a system of energy and information transfer.
- **Enhance fine motor skills** by assembling circuits, handling conductive tape, and positioning small components.
- **Foster creativity and personal expression** in the design of the project while making connections between science, technology, and art.
- **Practice problem-solving and persistence** by troubleshooting circuit connections and refining their designs.

Learning Outcomes

By the end of this lesson, students will:

- **Demonstrate knowledge of human anatomy** by correctly identifying major organs and their functions.
- **Show empathy and awareness** of diverse health conditions and assistive technologies.
- **Construct a working simple circuit** representing the human body's connections using LEDs, batteries, and conductive tape.





- **Apply critical thinking** to understand the parallels between biological and electrical circuits.

B&T dimensions and types covered

- **Dimensions:**
 - **Dimension 4 – Appreciation and Respect:** Understanding and respecting diversity in human bodies.
 - **Dimension 5 – Social Responsibility:** Promoting inclusivity and empathy through the game design.
 - **Types:**
 - **Innovator:** Creative design and development of inclusive game elements.
 - **Social Implementer:** Application of inclusivity principles in game creation and interaction.
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Grade Level

- **Infants:** Introduction to body parts through simple, engaging activities.
- **First and Second Classes:** Basic understanding of human anatomy and body diversity through interactive play and drawing.
- **Third and Fourth Classes:** Detailed exploration of body systems and conditions, incorporating more complex design and digital tools.
- **Fifth and Sixth Classes:** Advanced study of anatomy, inclusivity in health, and detailed design and laser cutting of game elements.

Subjects

- **Social, Personal and Health Education (SPHE):**
 - **Area:** Myself
 - **Strand:** Taking care of my body
- **Social Environmental and Scientific Education (SESE):**
 - **Area:** Science
 - **Strand:** Living Things
- **Arts:**





- **Area:** Visual Art
- **Strand:** Drawing and design

Materials

For one circuit body per participant:

- 1 x MDF 3mm A5 board
- 1 x Laser-cut body stencil (body silhouette)
- Laser-cut organ tokens (7 per body)
- 40 – 50 cm of Conductive tape
- Tape
- 1 x Small LED lights
- 1 x 3V coin cell batteries
- 1 x Blank paper sheet
- Printed activity worksheets (Worksheet #1 “Guess the body part” and Worksheet #2 “Exploring body systems and conditions”)
- Black markers

For the session activity:

- Lesson slides

Duration

- 3 hours (1 session)

Lesson Plan

Introduction (10 minutes)

Introduce the human body, highlighting diversity in body types, organs, and their functions. Emphasize the uniqueness and value of all bodies.

Trigger Questions:

1. How does the human body work internally?
2. How do body systems transmit information to organs?
3. How do electric circuits relate to the human body?

Step-by-step development

1. Play the Activity #1 “Guess the body part” game, students need to guess the body part using the hints in the other columns of the table.
2. Questions around the human body:





- a. What do we have inside?
 - b. How does that work?
 - c. How is that connected?
3. Play the Activity #2 “Exploring body systems and conditions”, students’ needs to
 - a. Ask the students to draw their body silhouette in a sheet (worksheet #1)
 - b. Locate the 7 body parts where you think is the right place in the body silhouette.
4. Ask about diversity in human bodies, brainstorm and discuss different body systems and conditions, emphasising diversity and inclusivity. Does they know anyone in their family or friends with:
 - a. Prosthetic limb
 - b. Assistive devices (Hearing aid)
 - c. Glasses
 - d. Moles or birthmarks
 - e. Pacemark
 - f. Braces
 - g. Adaptive Equipment (wheelchair or mobility aids).
 - h. Else?
5. Play the Activity #3 - “Our body is a circuit”, students will be introduced to the electrical circuit basic concepts (energy source, light, and conductor or wire).
6. Start by asking the following questions:
 - a. What is an electric circuit?
 - b. How does the circuit work?
7. Hand over the students a battery and a LED to test a simple circuit.
8. Students will make an electrical circuit using a LED, battery and conductive tape.
 1. **Transfer Your Body Silhouette:**

Use the body stencil or pre-cut stencil to trace your body silhouette onto the MDF board.
 2. **Position the Organs:**

Place the organ tokens on top of the silhouette to mark where each organ will go. Draw a small circle at each organ’s location to show its position.
 3. **Draw the Circuit Path:**

Remove the organ tokens. Using a pencil, draw a line that starts outside the body, connects the brain, moves down through the body to the ankle, and then exits to connect the battery. This line represents the circuit wire.
 4. **Tape the Circuit Path:**

Cut pieces of conductive tape and carefully stick them along the line you drew. This tape will act as the wire to connect all the body parts. Check the circuit example if needed.
 5. **Attach the LED:**

Take the LED and gently bend its legs so they can connect to the circuit. Remember, one leg connects to the "+" path and the other to the "-" path.





6. **Create a Battery Switch:**

Fold a small piece of conductive tape to create a simple switch for the battery.

7. **Place the Battery:**

Position the coin cell battery at the end of the circuit, making sure the positive (+) and negative (-) sides match the circuit paths.

8. **Test Your Circuit:**

Press the tape switch to complete the circuit and see if the LED lights up. If it doesn't, check your connections and try again.

Teacher Tips:

- Provide a visual example of a completed circuit to help students understand the goal.
- Encourage kids to ask questions if they're unsure about the steps.
- Celebrate every attempt, even if the circuit doesn't work the first time—it's all about learning.

Wrap-up & reflection

Duration: 10 minutes

- **Reflections:** Discuss what students have learned about body systems, electrical circuits and diversity. Emphasize that all bodies are unique and valuable.
- **Lesson Assessment:** Run the lesson assessment sheet to the students to write down their findings and thoughts.

Extension activities

- **Create a Diversity Wall:** Students create posters or art pieces celebrating body diversity and inclusivity.
- **Guest Speaker:** Invite a healthcare professional or advocate to discuss body diversity and health conditions.

Additional Resources

power point, downloadable files, derivable, links, etc

- PowerPoint slides, downloadable worksheets, and templates.
- Books and articles on human anatomy, diversity, and empathy.
- Online anatomy tools, apps, and information on health conditions and assistive technologies.
- Paper circuits tips <http://www.adventuresinstorytime.com/2017/07/paper-circuits.html>

