Lesson Plan

AROUND LONDON

School: IC "Libero Andreotti"	**Teacher:** Rossana Marchi
Title : Around London	**Time :** 4 hours
Subject : English, I.C. T., Geography	
Aim: Cultural heritage and Real life	
Key CS elements: decomposition, pattern recognition, abstraction, algorithm design	
Age group : 7th graders, 12 -15 year olds	
Learning situations: class, computer lab	**Activity type :** digital activities, cooperative learning
Resources : laptop, workspace,google maps, LIM	

Learning development:

1.DECOMPOSITION (breaking a problem down into a smaller part)

- Break down the overall goal of discovering London into smaller, manageable tasks and activities.
- Divide the process into steps like researching cultural heritage, using maps, creating itineraries, and improving communication skills.
- Assign specific tasks to groups of students, fostering cooperation and collaboration.

2. PATTERN RECOGNITION (looking for similarity and trend within a problem)

- Help students recognize patterns and commonalities in London's cultural heritage, landmarks, and attractions.
- Encourage them to identify recurring elements in maps, such as streets, landmarks, and transportation routes.
- Prompt students to notice patterns in how technological tools can aid in navigation and exploration.

3. ABSTRACTION (focusing on the important part of a problem, filtering out unnecessary details)

- Abstract essential information about London, including its cultural heritage, landmarks, and points of interest;
- Emphasize the importance of abstracting map-reading skills, such as understanding symbols, legends, and direction;
- Highlight the use of technological devices and tools as abstractions of real-world resources for navigation and information retrieval.

4. ALGORITHM DESIGN (create a step by step sequence of instruction to solve the problem)

- Guide students in designing algorithms or step-by-step plans for creating their personal itineraries of London.
- Provide instructions on how to use Google Maps and other technological tools effectively.
- Encourage students to formulate algorithms for finding information about cultural heritage, selecting destinations, and planning routes within the city.

Example:

Step 1: Introduction to Google Maps

- Start by introducing students to Google Maps and its features.
- Explain how Google Maps can be a valuable tool for planning routes, finding destinations, and exploring a city like London.

Step 2: Identifying Cultural Heritage Sites

- Provide a list of cultural heritage sites in London, such as the British Museum, Tower of London, and Westminster Abbey.
- Instruct students to choose at least three cultural heritage sites they want to visit during their trip.

Step 3: Research and Information Gathering

- Guide students to research each selected site, including its history, significance, and visiting hours.
- Encourage them to find information from reliable online sources or official websites.

Step 4: Formulating Algorithms

- Help students formulate algorithms for planning their visit to each site.

Here's an example algorithm for visiting the British Museum:

Algorithm for Visiting the British Museum:

1. Start at the nearest London Underground station.
2. Walk to the British Museum.
3. Upon arrival, check the opening hours and entrance fees (if applicable).
4. Explore the museum's exhibits, starting with the ones of most interest.
5. Spend a minimum of two hours exploring the museum.
6. Take notes or photos of artifacts and exhibits of interest.
7. Exit the museum and proceed to the next destination on your itinerary.

Step 5: Route Planning with Google Maps

- Teach students how to use Google Maps to plan routes between their chosen destinations.
- Demonstrate how to enter starting and ending points, select transportation modes (e.g., walking, public transport), and

view estimated travel times.

Step 6: Creating Itineraries

- Have students create their personal itineraries, including:
- The order in which they plan to visit cultural heritage sites.
- Estimated travel times between sites.
- Lunch breaks or other planned activities.
- Encourage them to make use of Google Maps to visualize their routes and estimated travel times.

Step 7: Presentation and Reflection

- Instruct students to present their itineraries to the class, explaining their choices and algorithms.
- Encourage discussion and feedback on each student's plan.
- Reflect on the use of computational thinking principles in planning the itinerary.

Assessment:

The assessment will focus on

- students' cooperation in finding out information to create a personal itinerary of london;
- the presentation of the itinerary and the reasons for its choice.

Expected results:

- learn to read and create map, to use technological devices and tools and cooperate with peers;
- create itinerary;
- improvement in communication (foreign language)

Notes: the presentation of London from a video and later from a written text allowed me to hence their curiosity to visit the city. Computational thinking gave me the necessary tools to guide the students to the discovery of the city of London and the creation of an itinerary.

Attachments: a chart

NAME	WHEN IT WAS BUILT	WHY IS FAMOUS	WHERE IT IS	HOW YOU CAN GET IT