Subject: Religion

Topic: Religious Buildings

Description: This example lesson offers an activity for the subject of religious on the different places of worship. There are an estimated 10,000 distinct religions worldwide but we'll cover the architecture of the most populated ones, Christianity (Orthodox differences in Greece and Russia) – Buddhism - Islam. The activity uses machine learning to strengthen the learning of the learners, as well as other soft skills such as critical thinking, communication and argumentation skills, among others.

Age(s): 5th - 12th class

Time: 1h or 2h (depending on if using pre-uploaded image set or if learners have to create it on their own)

Goals:
● Learn the architecture differences in places of worship.

Competences:
● Distinguish the different religions
● Be able to identify their main characteristics
● Promote critical thinking when using AI in the classification of the respective capitals

Situation before: This class is a generic one and does not require any particular knowledge besides being able to work with a computer.

Type of instruction, organisation: Indirect instruction where students work in groups and discuss and solve problems guided by the teacher.

Tool used: LearningML, in particular its Image functionality:
https://learningml.org/editor/model/image

Required technical infrastructure: Good network connection is required if you ask students to upload images

Intro: (adapted from Wikipedia) The word **church** derives from the Greek ekklesia, meaning the called-out ones. Its original meaning is to refer to the body of believers, or the body of Christ. The word church is used to refer to a Christian place of worship by some Christian denominations, including Anglicans and Catholics. Other Christian denominations, object to the use of the word "church" to refer to a building, as they argue that this word should be reserved for the body of believers who worship there. Instead, these groups use words such as "Hall" to identify their places of worship or any building in use by them for the purpose of assembly.

A **mosque**, literally meaning "place of prostration", is a place of worship for followers of Islam. There are strict and detailed requirements in Sunni jurisprudence (fiqh) for a place of worship to be considered a masjid, with places that do not meet these requirements regarded as musallas. There are stringent restrictions on the uses of the area formally demarcated as the mosque (which is often a small portion of the larger complex), and, in the Islamic Sharia law, after an area is formally designated as a mosque, it remains so until the Last Day. Many mosques have elaborate domes, minarets, and prayer halls, in varying styles of architecture. Mosques originated on the Arabian Peninsula, but are now found in all inhabited continents. The mosque serves as a place where Muslims can come together for salat (meaning "prayer") as well as a center for information, education, social welfare, and dispute settlement. The imam leads the congregation in prayer.

Temples in Buddhism represent the pure land or pure environment of a Buddha. Traditional Buddhist temples are designed to inspire inner and outer peace. Its structure and architecture varies from region to region. Usually, the temple consists not only of its buildings, but also the surrounding environment. The architectural elements of a Buddhist temple are meant to embody themes and teachings of Buddhism.

Teacher guide:

Step 1: Gather pictures from the places (5 minutes / 30 minutes)

   a) Use a pre-stored LearningML environment where 10 pictures from each of the classical orders have been stored. (5 minute)
   b) Ask students to locate over the Internet 10 images from each of the three orders. The Google Image Search engine can be of great help for this task. (30 minutes)

All images should be uploaded to LearningML, having at the end of this step three classifications, one for each order.

Step 2: Let the model learn (15 minutes)

In this step, LearningML learns to classify images, based on the input provided in Step 1. At this point it is a good opportunity to present the most important concepts of the different orders. Learners should already be aware of the most significant differences, based on the pictures from Step 1. The most important concepts and keywords should be presented at this stage.

Step 3: Test & discuss (30-60 minutes)

   ● Ask learners to upload pictures of columns from the Internet and upload them to see the results. Alternative: We provide a set of images which can be used.
   ● For each uploaded picture, learners should answer following questions:
      ○ Are the results correct? (i.e., is the most probable order the one you think it is?)
      ○ Why are the results not 100%?
      ○ If the result is not correct, what do you think is the reason for it?

- ○ What are the most relevant elements in your opinion to identify each religions by its place of worship?

- Ask learners to upload a picture from Saint Basil's church at Moscow and to use it as test images.
  - ○ Are the results correct? (i.e., is the most probable order the one you think it is?)
  - ○ Why are the results not 100%?
  - ○ If the result is not correct, what do you think is the reason for it?
  - ○ What's this temple and how we know it?
  - ○ Could you explain the reason for the limitations of AI in this case?