GEOGRAPHICAL ENQUIRY

Stage 1: Asking geographic questions or defining geographic problems (regarding a geographic/spatial phenomenon: What …? Where …? Why …? How …?) – generating relevant sub-questions.

e.g. Question/Problem: Where in the school can we host a class of students, whose classroom is on the first floor, after a student's accident (child with a broken leg)?
Indicative relevant sub-questions:

- Where are the classrooms / the staircases / the toilets located?
- Which other rooms might be suitable to be used as classrooms?

e.g. Question/Problem: Where in Cyprus would you choose to locate a water reservoir? Explain why.
Indicative relevant sub-questions:

- Where does water come from?
- Where is the maximum water flow/concentration, in the river's basin?
- How should the ground be/look like, in order to minimize cost?
- How will the area downstream the reservoir be influenced by the construction of it?
- etc.

Stages 2-3-4: Observing, investigating, analyzing, interpreting, synthesizing information/data, using tools presenting spatial information (experiential activities, experiments, maps, photographs, aerial photographs, texts, models, etc.), and communicating using content specific geographical terms and concepts.

- Obtaining, evaluating and communicating information from data (e.g. finding and describing *locations*, observing and describing *conditions*, explaining *connections* between locations, making *comparisons* of conditions and connections, recognizing and describing *spatial patterns*, etc.).
- Developing and using spatial models (as and if necessary).
- Using mathematics and computational thinking (according to data).
- Developing language skills, based on specific geographical content (e.g. analyze and interpret data, using geographical vocabulary).

Stage 5: Answering the geographic question, applying geographic knowledge and expressing evidence-based judgments.

- Constructing explanations using geographic terms and concepts.
- Designing solutions.
- Engaging in argument from evidence / backing up ideas with evidence / connecting ideas with evidence.

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Lesson plan outline

1	Initial geographic question: *"A Japanese automotive manufacturing company decides to locate one of its plants (factories) in Onnaing, France. Why was this particular location chosen?*"
2	Generating questions/hypotheses, in order to design an investigation framework. e.g. *Is it because…?, Probably because there is…?, Maybe because the location is…*
3	Suggesting data sources/tools, needed to answer the initial question. • *What information is needed, to help us answer our questions? Where would we search for/find such information?*
4	Investigating the place, regarding to the location and the landform. • *How is the landform there, and in the wider region? Why plain land was chosen?* • *Why did the Japanese company choose to locate its industry in Europe / EU?*
5	Investigating the place, regarding to the population density and the available markets (product sales). • *What else is there/characterizes the region, that is important for the company/industry?*
6	Investigating the place, regarding to the transport links/connections (product transfers – roads, railways, ports). • *What is the industry's main goal? Is the location helpful to that? Explain why.*
7	Answering the initial geographic question.

Teaching Unit: "Industrial Locations in Europe" (Geographical Inquiry layout)

Stage 1: Geographic question and sub-questions

Question/Problem: Where in Europe would you choose to position a car manufacturing plant? Explain why.
Indicative relevant sub-questions:

- What can one find in an industrial plant?
- Where in Europe is the major industrial production concentrated?
- How does the energy supply in Europe influence the choice of where to place a factory?
- How would resources, products, energy supplies, etc. be related to transport infrastructure and why is this important?
- ***A Japanese automotive manufacturing company decides to locate one of its plants (factories) in Onnaing, North France. Why was this particular location chosen?***
- What would happen if…?
- Etc.

Stages 2-3-4: Observing, investigating, analyzing, interpreting, synthesizing information/data, using tools presenting spatial information and communicating (speaking and writing) using content specific geographical vocabulary and concepts.

- Examples of activities developing spatial thinking skills:
  - *Finding and describing locations of* Europe's industrial zones, energy demand/supply, industrial resources supply, high population density, etc.
  - *Observing and describing the conditions of* industrial regions in Europe, a manufacturing plant, large cities in Europe (population density), etc.
  - *Finding and describing connections of* energy demand/supply (energy routes within Europe), resources supply routes, transport links (motorways, railways, navigable rivers, ports), etc.
  - *Identifying patterns of* the distribution of economic activity in Europe
  - *Identifying similar conditions in* various industrial locations in Europe
  - *Assembling factors and designing* solutions/decisions about a location appropriate for an industrial plant.
- Tools representing spatial information:
  - Maps of Europe, of different themes and/or scales, showing locations, population density, energy routes, resources supply/production, transport links, etc.
  - Photographs, aerial photographs, and videos showing places, conditions of specific places and their connections (e.g. landforms in Europe, industrial sites, ports), etc.
  - Texts, charts, presenting data about population, industrial production, import/export, costs, etc.
- Indicative geographical concepts and vocabulary:
  - Industry, industrial location, resources, energy, skilled workforce, labor, population density, transport links, navigable rivers, advance technology, government policies, import/export, etc.

Stage 5: Answering the geographic question (or sub-question), applying geographic knowledge and expressing evidence-based judgments.

- The pupils are challenged to justify the chosen locations of industries, applying place specific factors and reasons that have been investigated throughout the Unit.
- The pupils are called to express evidence-based judgements on their decision regarding the industrial location, using content specific geographical vocabulary, terms and concepts.