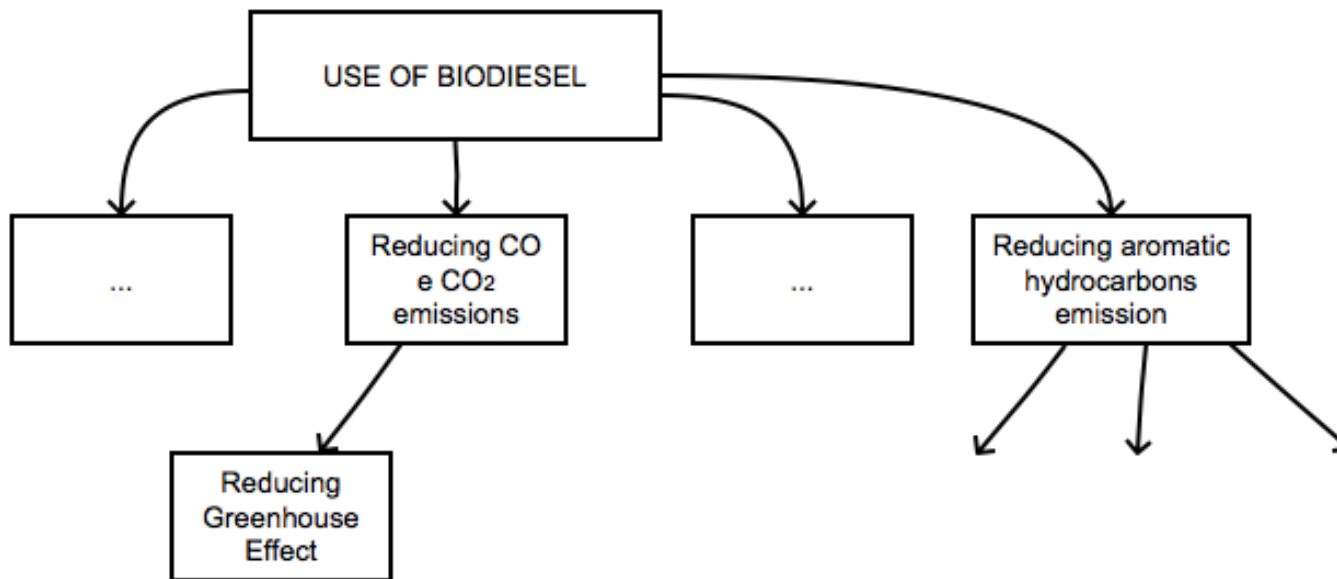Group name:

Students names:

Task n.1: read the part of the text titled "Use of Biodiesel" and draw the map by completing it and adding the boxes you think are necessary.
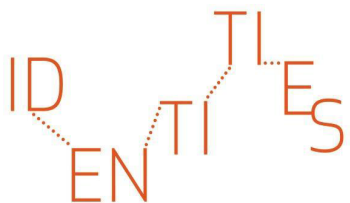
Group name:

Students names:

Task n.4: read the text about the production of biodiesel and compare it with the map. Explain the causal reasoning represented by the arrows that go from the biodiesel production to the increasing/reducing of food insecurity through: i) the increasing of land vulnerability; ii) the facilitation in travelling for reaching market centres.

IDENTITIES
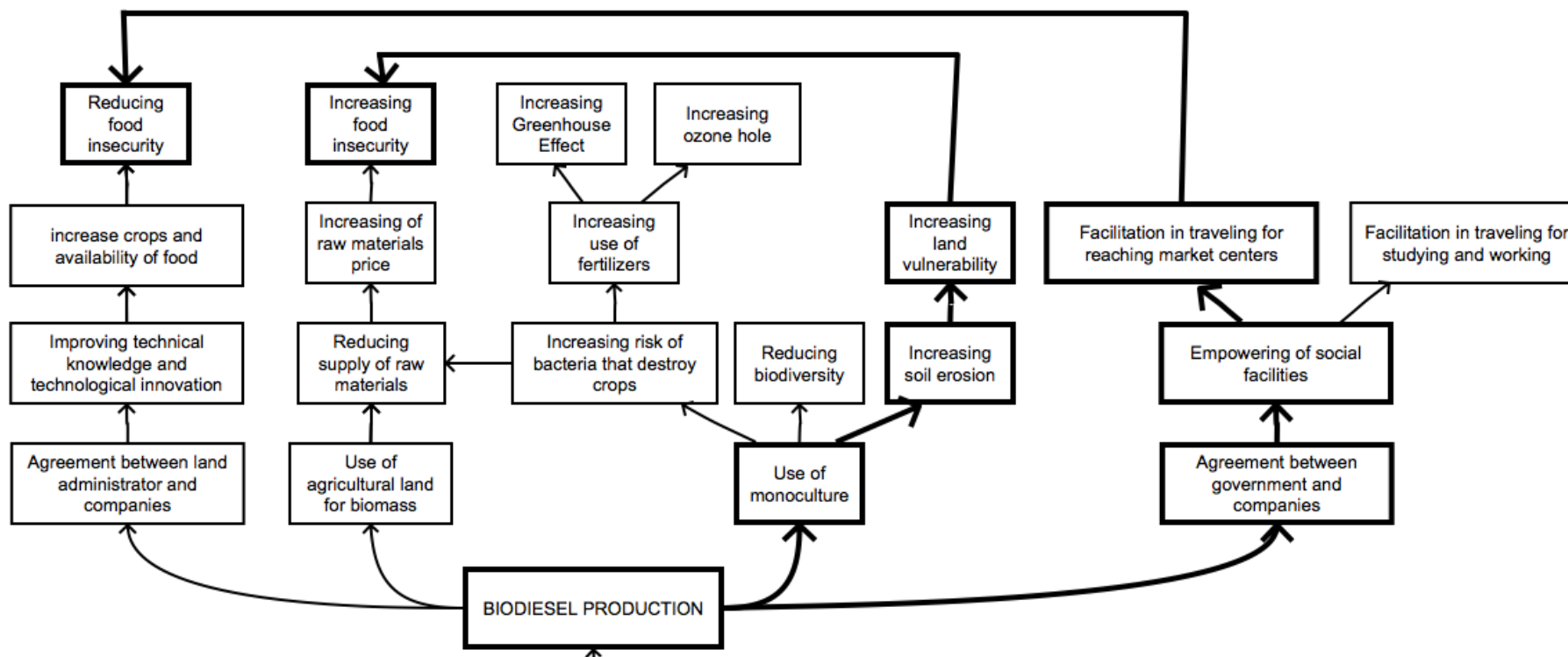
Enlightening
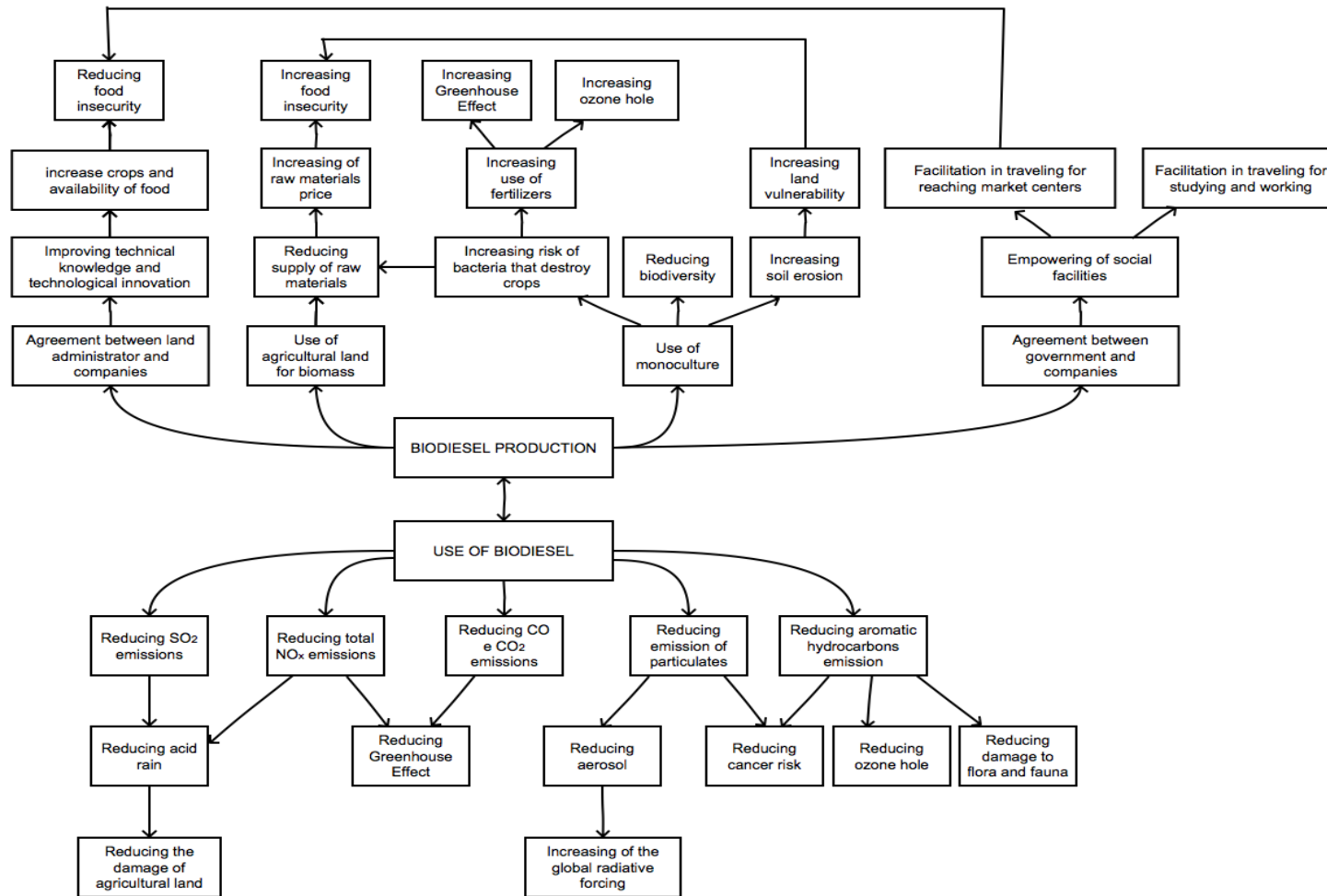Interdisciplinarity
in **STEM** for Teaching

Group name:

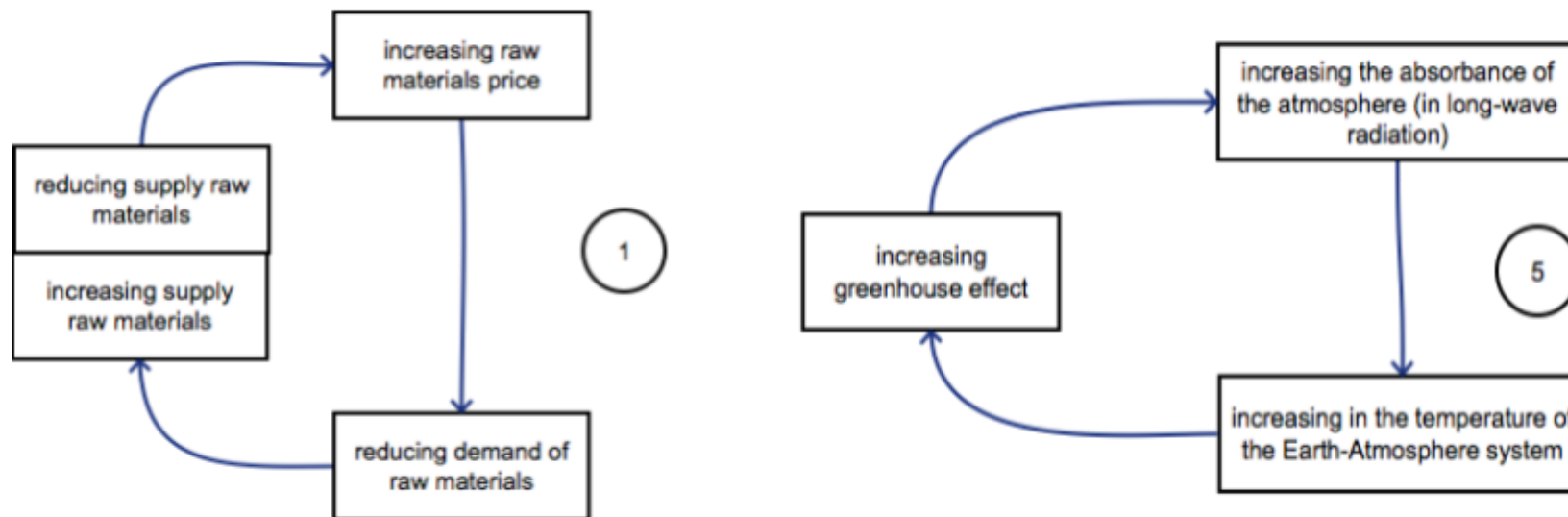Students names:

The whole map:

Group name:

Students names:

BIODIESEL PRODUCTION

USE OF BIODIESEL

Reducing food insecurity

Increasing food insecurity

Increasing Greenhouse Effect

Increasing ozone hole

increase crops and availability of food

Increasing of raw materials price

Increasing use of fertilizers

Increasing land vulnerability

Facilitation in traveling for reaching market centers

Facilitation in traveling for studying and working

Improving technical knowledge and technological innovation

Reducing supply of raw materials

Increasing risk of bacteria that destroy crops

Reducing biodiversity

Increasing soil erosion

Empowering of social facilities

Agreement between land administrator and companies

Use of agricultural land for biomass

Use of monoculture

Agreement between government and companies

Reducing SO₂ emissions

Reducing total NOₓ emissions

Reducing CO e CO₂ emissions

Reducing emission of particulates

Reducing aromatic hydrocarbons emission

Reducing acid rain

Reducing Greenhouse Effect

Reducing aerosol

Reducing cancer risk

Reducing ozone hole

Reducing damage to flora and fauna

Reducing the damage of agricultural land

Increasing of the global radiative forcing

Task n.5:

(a) Here two examples of feedback loops. See the schemas, analyse the loops, explain them, say if they are positive or negative and situated them in the map.

(b) Looking at the whole map, choose an area and try to identify and/or invent other two feedback loops different from the example you already have (better if you would able to invent one example of positive feedback and one of negative feedback).

At the end of this exercise, share and discuss your work with the other groups.
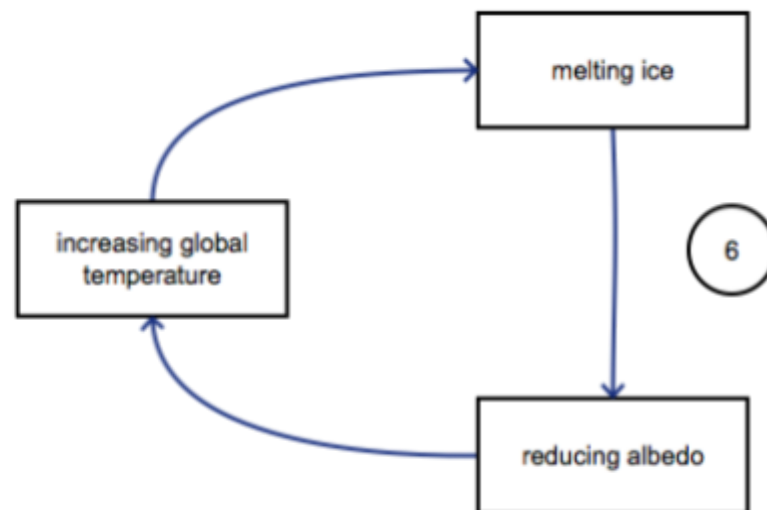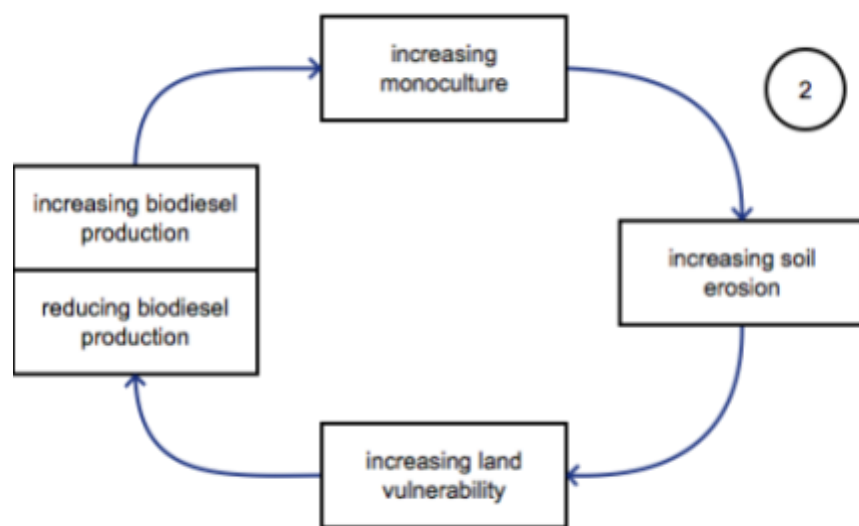
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