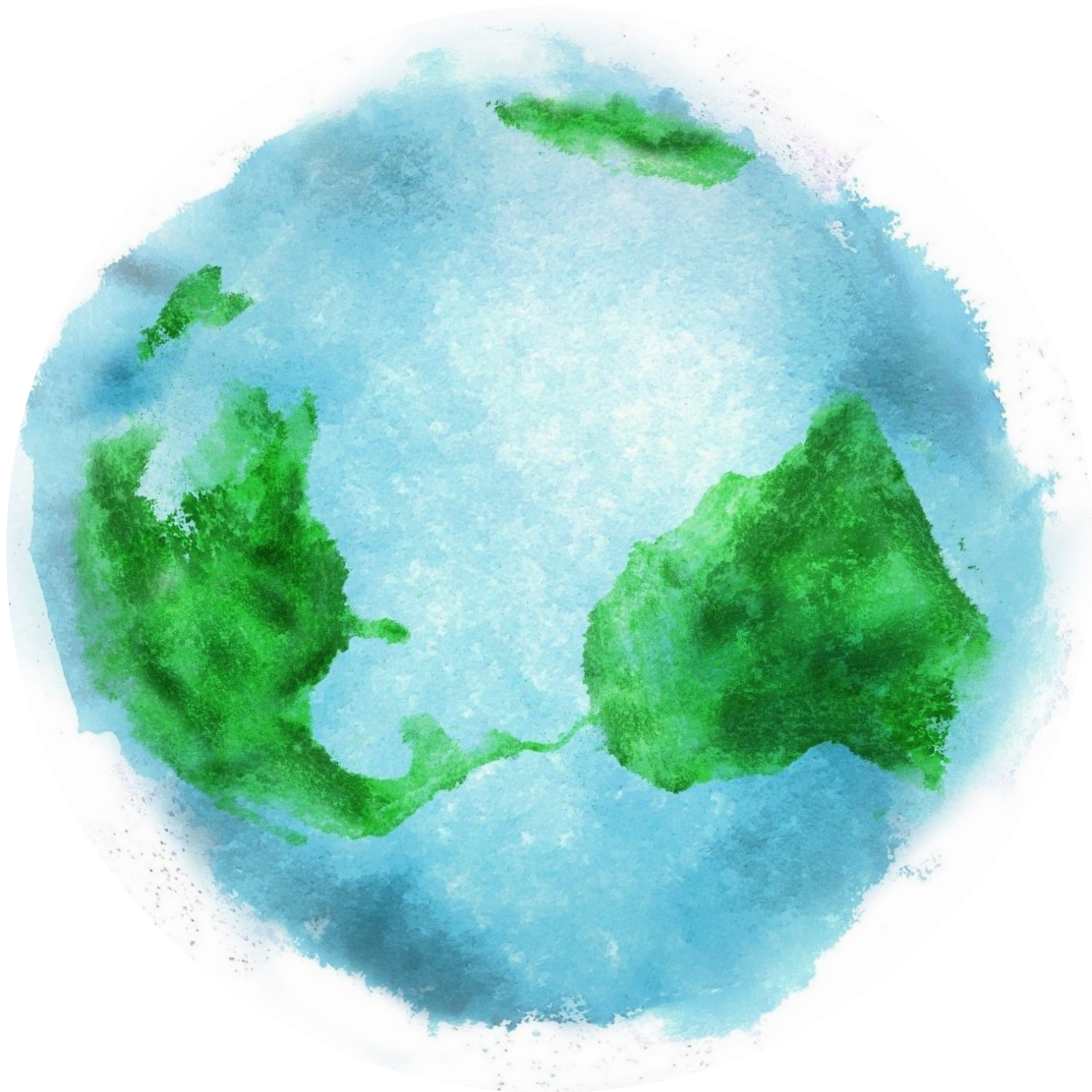


Rubrics for green competences assessment



Assessing Students in the 21st Century



ASSESS



Rubrics for green competences assessment

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Disclaimer:

These rubrics were created by David Sousa and Priscila Doran from NUCLIO's team with the contribution of Frances McCarthy from Blackrock Castle Observatory. The texts were retrieved and adapted from the GreenComp: the European sustainability competence framework by the JRC of the European Commission*

**Bianchi, G., Pisiotis, U., & Cabrera, M. (2022). GreenComp. The European Sustainability Competence Framework. Available online: https://green-comp.eu/wp-content/uploads/2022/02/jrc128040_greencomp_f2.pdf (accessed on 8 August 2022).*

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Note from the authors: The creation of these rubrics was a demanding and intense work, that required the interpretation and understanding of GreenComp Framework by the JRC of the European Commission and the adaptation of the content into rubrics for student assessment. This involved the adaptation of the texts and in some cases the simplification of the messages. Considering the GreenComp a document of excellence and important in every context of life and to all ages, we decided to create rubrics with three levels of complexity, which we propose to be used by the following:

- Level 1: Primary level education
- Level 2: Secondary Level education
- Level 3: Higher education and business

These rubrics are meant to be used as part of a positive and encouraging formative assessment of students. For an effective assessment approach, students must understand from the beginning how they will be assessed. Considering this, all the rubrics and other materials shared with students must be appropriately adapted to their needs and level of understanding. As such, in this work we focused on creating rubrics that are easy to understand by the students and which are described in a positive and non-judgemental way.

The Rubrics shared in this document are a first version of this work which will be revised and improved after feedback is collected from implementation in schools, collaboration with teachers and other stakeholders in education.

We encourage teachers to use these rubrics, considering the uniqueness of all students but also believing in the potential of every single human to evolve and learn.

Feel free to contact us with your feedback or with any questions you may have:

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INTRODUCTION

This document presents the first version of the Green Competence rubrics designed in the context of the CliC-PoLiT and ASSESS projects. They are to be considered still as a work-in-progress and as a first effort to simplify and contextualize the GreenComp framework by the JRC of the European Commission into the school context.

Students in school today will become the leaders, developers, innovators, and citizens of the future. In a fast-changing society that is eager for development, focusing student learning and assessment on content knowledge is not suitable anymore. Schools must update their methods and provide students multiple opportunities to grow and develop the skills, competences, and attitudes that they will need to be sustainable citizens and to solve the everchanging problems of our society.

Here we focus on the skills, knowledge, and attitudes that students must acquire to become environmentally sustainable citizens.

Planet Earth is our home, and it must be treated with care and respect. Understanding the value of our planet, reconnecting with it, and becoming citizens that work with the flows of nature and not against them is essential to ensure our future.

This work is complementary to the work developed in the ASSESS project, where rubrics related to other competencies like collaboration, critical thinking, creativity, ethical sense, diversity, and others were developed. These can be found here: <https://assess.nuclio.org/assessment-toolkit>

Finally, we encourage all teachers to view student assessment as a means to empower students and to give them the necessary feedback to support their growth and development in a positive way. Updating the tools we use to assess students is not enough. The most important part is to update our view of student assessment and to have a clear definition of our goals.

To learn more about the philosophy and mindset with which we encourage teachers to assess students, we recommend reading the book: “Assessing students in the 21st century”: <https://assess.nuclio.org/the-assess-book/>

The Green Competences

The rubrics presented in this document refer to the 12 competences listed in the GreenComp framework by the Joint Research Center of the European Commission. These are grouped in four areas which are described below as they are in the GreenComp document.



Figure 1. Visual representation of the GreenComp. © Joint Research Center of the European Commission

Embodying sustainability values

- **Valuing sustainability:** To reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.
- **Supporting fairness:** To support equity and justice for current and future generations and learn from previous generations for sustainability.
- **Promoting nature:** To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.

Embracing complexity in sustainability:

- **Systems thinking:** To approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems.

- **Critical thinking:** To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social, and cultural backgrounds influence thinking and conclusions.
- **Problem framing:** To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.

Envisioning sustainable futures:

- **Futures literacy:** To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable.
- **Adaptability:** To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity, and risk.
- **Exploratory thinking:** To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.

Acting for sustainability:

- **Political agency:** To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.
- **Collective action:** To act for change in collaboration with others.
- **Individual initiative:** To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet.

As written in the JRC document: “Ensuring a fair and decent livelihood for all people, regenerating nature, and enabling biodiversity to thrive, have never been more important.”.

“A sustainability competence empowers learners to embody sustainability values, and embrace complex systems, in order to take or request action that restores and maintains ecosystem health and enhances justice, generating visions for sustainable futures.”.

“Learning for environmental sustainability aims to nurture a sustainability mindset from childhood to adulthood with the understanding that humans are part of and depend on nature. Learners are equipped with knowledge, skills and attitudes that help them become agents of change and contribute individually and collectively to shaping futures within planetary boundaries.”

Considering this important message, we aim that this document can support all educators in this pursuit of an education that fosters a sustainable citizenship.

How these rubrics were created

As already mentioned, these rubrics were created in total alignment with the GreenComp framework by the Joint Research Centre of the European Commission. This framework divides the green competences in four areas (as detailed in the previous page), which we considered in this document as being **Competencies**. Each of these areas is divided into four competencies, which here we considered as **Indicators**.

For each indicator, the GreenComp offers a list of knowledge, skills, and attitudes statements, which were used to create these rubrics. Our goal was to transform these statements into levels of proficiency, so that they would make sense in a scale from 1 to 5, as commonly used in rubrics.

For this, we considered that, for a person to act in a certain way (demonstrating attitudes), they must first have the knowledge and the skills. As such, in general the attitudes were considered as the highest form of proficiency in the rubrics, appearing mostly in the levels 4 and 5. The knowledge and skills were then organized from level 3 to level 5 according to their complexity. Level 1 represents the total lack of knowledge, skills and attitudes related to the competencies and level 2 represents some knowledge but lack of skills and attitudes.

The texts were interpreted and adapted to a school context, considering that students must be able to fully understand what is expected of them and how they will be assessed. This way, some texts are different than the statements of the GreenComp, while in other cases they remain almost the same. Likewise, the statements were adapted to ensure a coherent approach between rubrics in a non-judgemental, human approach to student assessment.

We highlight here again that this is a work-in-progress and feedback is welcome.

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GREENCOMP RUBRICS

PRIMARY EDUCATION LEVEL

(please consider this level as a suggestion, and use these rubrics in other school levels and/or contexts if you see fit)

How to read the rubrics: To assess a student in one level of proficiency, this student must first fully accommodate the statements written on the levels below.

Embodying sustainability values (primary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Valuing sustainability: To reflect on personal values. To identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.</p>	Does not seem to be aware that personal values and principles influence actions that can damage the environment.	Shows some awareness about how values and principles influence actions that can damage or restore the environment.	Shows understanding that values and principles influence actions that can damage or restore the environment.	Can evaluate problems and actions based on the identification of sustainability values; Is willing to communicate with others and clarify views on sustainability values.	Demonstrates personal choices and actions that are in line with sustainability values and principles; Can discuss, showing tolerance and an open mind in relation to others and their world views.
<p>Supporting fairness: To support equity and justice for current and future generations and learn from previous generations for sustainability.</p>	Appears to ignore the importance of preserving nature for future generations.	Shows some awareness about the importance of preserving nature for future generations.	Knows the importance of preserving nature for future generations and for their own sake.	Knows about environmental preservation, namely realizing the effect of their actions for future generations, on other species and in environmental ecosystems.	Shows awareness of belonging to a common humanity and demonstrates reflection about personal needs as an effort to minimize impact on others: Demonstrates an effort to decrease material consumption.
<p>Promoting nature: To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.</p>	Appears to act as if humans are more important than other life forms; Does not seem to be aware about the interconnectedness of all beings.	Acknowledges that humans are part of nature; Seems to know a little about the importance of the interconnectedness of all beings and how that is important for the wellbeing of nature and human societies.	Knows that humans influence the ecosystem and that human activities can rapidly and irreversibly damage ecosystems. Seems to understand that humans are not more important than nature and that nature's wellbeing is important for our wellbeing.	Knows that our wellbeing, health, and security depend on the wellbeing of nature and that damaging nature or overusing natural resources can lead to disasters in human life. Can identify processes or actions that avoid or reduce the use of natural resources.	Demonstrates caring about a harmonious relationship between nature and humans, showing empathy towards all life forms and appreciation for nature's role in our wellbeing. Shows the willingness to protect nature and to reflect on personal behavior, assessing own impact, and identifying processes or actions to avoid or reduce it.

Embracing complexity in sustainability (primary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Systems thinking: To approach a sustainability problem from all sides; to consider time, space, and context in order to understand how elements interact within and between systems.</p>	<p>Appears to ignore or not care about the influence of human action on the environment, other people, and nature.</p>	<p>Is aware that human action influences the environment, people, and nature.</p>	<p>Knows that human action influences the environment, people, and nature and can identify if these potentially lead to positive, neutral, or negative results.</p>	<p>Demonstrates a mature reflection about the life cycle of materials and the consequence of their consumption on human life, other species, and nature across space and time.</p>	<p>Demonstrates a concern about the impacts of human actions on the environment, other people, and nature across space and time; Recognizes human activity as the root cause of large-scale problems like climate change, identifying the underlying causes.</p>
<p>Critical thinking: To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social, and cultural backgrounds influence thinking and conclusions.</p>	<p>Does not seem to be aware of the importance of evidence in tackling sustainability issues and is prone to forming personal opinions without any evidence to support them.</p>	<p>Understands the value of evidence in tackling problems related to sustainability but is prone to forming opinions based on evidence from any source, without concern for its' reliability.</p>	<p>Knows that scientific knowledge and understanding of sustainability is always evolving; Knows that some sources of information are reliable, and others aren't.</p>	<p>Applies personal reasoning, based on evidence, to create arguments about sustainability; Demonstrates a sceptical mind in relation to the reliability of information.</p>	<p>Can look at various sources of information and assess their reliability; Shows willingness to discuss sustainability, with an evidence-based perspective, being open to revise personal ideas according to new reliable information.</p>
<p>Problem framing: To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.</p>	<p>Does not seem to be aware of the complexity of sustainability challenges and that there are some for which there isn't yet a solution.</p>	<p>Seems to know that sustainability problems are complex but does not seem to be aware that some might not be entirely solved.</p>	<p>Knows that sustainability problems are complex and that some might not be entirely solved.</p>	<p>Understands that to find solutions for sustainability problems it is important to frame these problems considering various points of view in terms of people involved, time, place, etc</p>	<p>Can frame sustainability problems considering various points of view in terms of people involved, time, place, etc.; Demonstrates an effort to frame sustainability problems without being biased by personal judgment.</p>

Envisioning sustainable futures (primary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
Futures literacy: To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future	Does not seem to be aware of the importance of envisioning future scenarios for sustainability.	Seems to be aware that thinking about a sustainable future is important but doesn't seem envision alternative scenarios.	Can discuss about alternative futures, identifying a preferred one.	Knows that effects caused by humans play a major role when thinking about alternative and preferred sustainable futures.	Is concerned about the impact of one's own action on the future; Can identify actions and initiatives that can lead to a preferred future.
Adaptability: To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity, and risk.	Is not aware or does not care about the importance of adapting personal behaviours for sustainable futures.	knows the risks associated with transformations of natural environments by humans but demonstrates little adaptability of personal actions to promote more sustainable futures.	Can reflect about how sustainable own behaviour and practices are and acknowledges that there are local and global implications of unsustainable practices.	Can identify different lifestyles and consumption patterns to use fewer natural resources; Knows which aspects of personal lifestyle have higher impacts on sustainability and require adapting.	Can identify specific areas of own life that can be adapted to be more sustainable; Is willing to adapt to sustainable options, even if competing with personal interests.
Exploratory thinking: To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.	Does not seem to be aware that sustainability problems can relate do different disciplines.	Seems to be aware that sustainability problems can be connected to several disciplines.	Knows that sustainability problems are interdisciplinary and can only be solved through new ideas and ways of thinking.	Demonstrates interest in reflecting about sustainability problems, linking different perspectives, to achieve new ideas.	Explores the links of different disciplines to come up with new ideas and solutions when discussing sustainability; Is willing to make unusual choices to promote sustainable futures.

Acting for sustainability (primary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Political Agency: To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.</p>	Does not seem to be aware of the existence of environmental and sustainability policies	Seems to be aware of but shows no interest in environmental and sustainability policies.	Demonstrates curiosity about environmental and sustainability policies and can propose alternative pathways for sustainability.	Knows some relevant stakeholders for sustainability in their community (e.g. local parish, NGO's, municipalities, etc.); Is willing to engage in civic activities for sustainable development.	Is motivated to become an agent of change to achieve sustainability; Demonstrates initiative to participate in democratic decision making (within a school setting) and civic activities for sustainable development.
<p>Collective Action: to act for change in collaboration with others.</p>	Does not seem to be aware of the importance of working with others to act for sustainable change.	Appears to be aware of the importance of working with others to act for sustainable change but does not seem to put it in practice.	Knows the importance of collaboration to promote a more sustainable future and seeks this collective effort.	Seeks collaboration and acts in line with common goals.	Demonstrates worry and willingness to adapt personal behaviour for a more inclusive and fair future; Wants to give back to the community and nature.
<p>Individual initiative: To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet</p>	Does not show awareness that every action has an impact.	Knows that every action has an impact even if not immediate but does not show initiative to contribute to a more sustainable future.	Knows that every action has an impact, and that inaction is also a choice.	Shows initiative to use fewer resources, do better with fewer resources, and reuse the same resources. Advocates for individual and collective care for those in need and for the planet.	Recognizes that everyday action matters and cares proactively for the planet. Knows one's potential to bring about positive environmental change and can overcome one's own resistance to change.

GREENCOMP RUBRICS

SECONDARY EDUCATION LEVEL

(please consider this level as a suggestion, and use these rubrics in other school levels and/or contexts if you see fit)

How to read the rubrics: To assess a student in one level of proficiency, this student must first fully accommodate the statements written on the levels below.

Embodying sustainability values (secondary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Valuing sustainability: To reflect on personal values. To identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.</p>	Does not seem to be aware of or interested in the personal values and principles that influence actions towards the environment.	Appears to reflect on sustainability values that influence actions that can damage the environment, cause it no harm, restore it, or regenerate it.	Demonstrates personal reflection about actions and values in relation to sustainability; Shows awareness about how one's generation, culture and position in society, geography and history may influence personal values and actions towards sustainability.	Can evaluate issues and actions based on the identification of sustainability values and principles; Can articulate and negotiate sustainability values, principles, and objectives while recognizing different viewpoints.	Demonstrates personal choices and actions that are in line with sustainability values and principles; Shows readiness to critique and value various cultural contexts depending on their impact on sustainability, with an open mind to others and their worldviews.
<p>Supporting fairness: To support equity and justice for current and future generations and learn from previous generations for sustainability.</p>	Doesn't seem to be aware of the importance of preserving nature or shows no investment to respect it; Appears to ignore that ethical concepts and justice for current and future generations are related to protecting nature.	Knows that it is important to preserve nature and act in a sustainable way but knows little about ethical concepts and justice for current and future generations and how they relate to protecting nature.	Knows the importance of preserving nature for current and future generations, for nature, other species, and ecosystems as well; Knows that ethical concepts and justice for current and future generations are related to protecting nature.	Demonstrates commitment to decrease material consumption, questioning personal needs in respect to the interests and capabilities of current and future generations and nature itself;	Demonstrates a sense of belonging to a common humanity and nature; Shows a mentality of justice and equity, being aware of how different communities differ in how and how much they can promote sustainability.
<p>Promoting nature: To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.</p>	Does not seem to be aware of or to care about the impact of human activities in the ecosystems: Does not show interest in reflecting about own impact and relationship with the environment.	knows the main parts of the natural environment (geosphere, biosphere, hydrosphere, cryosphere, and atmosphere); Knows about the impact of human activities in the ecosystems but doesn't seem to be aware that humans are part of nature and interconnected with all other beings.	Knows that humans are part of nature and shape ecosystems. Shows awareness of how human activities can rapidly and irreversibly damage ecosystems and that exhausting natural resources can lead to disasters and conflicts (like loss of biodiversity, draughts, mass migration and wars).	Values the importance of nature's role in our wellbeing, health, and security; Can assess personal impact on nature and considers the protection of nature an essential task for every individual; Is critical towards the notion that humans are more important than other life forms.	Shows empathy toward all life forms, caring about a harmonious relationship with nature; Shows initiative in participating in actions to restore nature; Is able to critically reflect about the need to discover new ways of well-being that are not dependent on consumption of resources.

Embracing complexity in sustainability (secondary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Systems thinking: To approach a sustainability problem from all sides; to consider time, space, and context in order to understand how elements interact within and between systems.</p>	<p>Appears to ignore or not care about the relevance of life cycle thinking for sustainable production and consumption; is not aware of or ignores the importance of United Nations SDGs.</p>	<p>Seems to know little about the relevance of life cycle thinking for sustainable production and consumption; Acknowledges the importance of United Nations SDGs but is not able to identify them and/or is not aware of interconnections and possible tensions between individual goals.</p>	<p>Knows about life cycle thinking and its relevance for sustainable production and consumption; Knows the United Nations SDGs and is aware of interconnections and possible tensions between them.</p>	<p>Recognizes human activity as the root cause of large-scale problems like climate change, identifying the underlying causes; Demonstrates a critical reflection about how humans and nature interact across space and time and uses life cycle thinking to analyse the risks and benefits of human action.</p>	<p>Describes sustainability in a holistic way, considering environmental, economic, social, and cultural issues; Shows awareness of the unpredictable cascade effects of human action and the systemic consequences of environmental crisis for current and future generations and other species;</p>
<p>Critical thinking: To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social, and cultural backgrounds influence thinking and conclusions.</p>	<p>Seems to privilege own opinion over evidence-based discussions. Seems to ignore the existence of predominant narratives or to question them.</p>	<p>Seems to be aware of the existence of predominant narratives which shape the sustainability debate but does not seem to question them.</p>	<p>Shows willingness to discuss sustainability questions, being inquisitive about the links between human action, the environment and sustainability; Can look at various sources of evidence and assess their reliability to form opinions about sustainability.</p>	<p>Knows that tackling unsustainable patterns requires challenging the status quo; Can reflect on the roots and motives of decisions, actions, and lifestyles comparing individual vs societal benefits and costs;</p>	<p>Takes an evidence-based approach in the debate about sustainability and is ready to revise personal ideas when new data emerges; Can analyse information to determine whether it is in line with reliable evidence and values, knowing that it may be subject to potential vested interests;</p>
<p>Problem framing: To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.</p>	<p>Does not seem to be aware that sustainability issues can be complex and evolve nor that some cannot be entirely solved.</p>	<p>Shows awareness that sustainability issues range from relatively simple to complex problems but does not seem to be able to frame them in their complexity.</p>	<p>Demonstrates awareness that sustainability problems can be complex and evolve quickly; Recognizes that the measures and actions selected to solve a sustainability problem can differ according to how, when, why, and by whom the problem is framed.</p>	<p>Cares about improving problem framing through knowledge about the stakeholders involved in sustainability challenges; Seems to understand that to properly frame sustainability problems it is necessary to look at them from different perspectives.</p>	<p>Shows an effort to be unbiased and empathic when talking about sustainability problems; Presents current and potential sustainability issues in a complex and transdisciplinary way, considering the perspective of others, including all life forms and the environment.</p>

Envisioning sustainable futures (secondary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Futures literacy: To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future</p>	Shows no interest in envisioning possible future sustainability scenarios	Demonstrates little awareness about the role of human action in sustainable futures; Knows that the creation of future scenarios can inform decision making for a desired sustainable future but can create only limited scenarios based on limited evidence.	Knows the difference between expected, preferred, and alternative futures for sustainability scenarios; Knows that effects caused by humans play a major role when mapping alternative and preferred sustainable futures.	Identifies actions and initiatives that lead to a preferred sustainable future, demonstrating understanding of the difference between short-, medium and long-term approaches.	Demonstrates awareness that the projected consequences on self and community may influence preferences for certain scenarios above others; Can envisage futures for sustainability that are grounded in science, creativity, and sustainability values.
<p>Adaptability: To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity, and risk.</p>	Does not seem to be able to identify or adapt to different lifestyles and consumption patterns to use fewer natural resources.	Identifies but does not seem to adapt to different lifestyles and consumption patterns to use fewer natural resources.	Can identify which aspects of personal lifestyle have higher impacts on sustainability and adapt to different lifestyles and consumption patterns to use fewer natural resources; Knows the importance of the link between local impacts and global sustainability.	Knows that human actions can have unpredictable and uncertain consequences to the environment; Demonstrates the ability to navigate the ambiguity and uncertainty around sustainability issues, while considering alternatives.	Is willing to discontinue unsustainable practices and try alternative solutions; Is flexible, resourceful, and adaptable in coping with unexpected environmental changes.
<p>Exploratory thinking: To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.</p>	Does not seem to be open to or aware of the importance of diverse and innovative ideas when tackling sustainability issues.	Demonstrates little awareness about the importance of exploring and experimenting with new avenues and ideas to tackle complex sustainability challenges.	Knows the main concepts of circular economy and society; Seems to be aware of the importance of exploring and experimenting with new avenues and ideas to tackle complex sustainability challenges.	Embraces thinking both inside and outside of norms in relation to sustainability and accommodates divergent opinions.	Is willing to make unusual choices and is prone to experiment regardless of fear to fail when faced with sustainability challenges.

Acting for sustainability (secondary education level)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
Political Agency: To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.	Doesn't seem to know or care about how political systems, including their components, should work for sustainability.	Knows little about how political systems, including their components, should work for sustainability.	Can identify relevant social, political, and economic stakeholders in one's own community and region to address a sustainability problem.	Can engage in democratic decision making and civic activities for sustainable development; Can propose alternative pathways for sustainability.	Shows commitment to questioning the effectiveness of policies for sustainability and to becoming an agent of change to achieve it.
Collective Action: to act for change in collaboration with others.	Does not seem to be aware of the importance of empowering individuals and organizations to work collaboratively.	Shows some awareness of the importance of empowering individuals and organizations to work collaboratively but does not seem to apply it.	Knows the importance of empowering and working with others to promote nature and support fairness and that this collaboration requires respect for democracy; Shows motivation to learn about the various stakeholders in own community and how they can / could participate in collective action for sustainability.	Can identify the main stakeholders in the community, their strengths and knows how to work with diverse participants to create inclusive visions for a more sustainable future.	Shows commitment to change for a more inclusive and fair future and to give back to the community and nature; Demonstrates willingness to engage with others to challenge the status quo and to create transparent, inclusive, and community-driven processes.
Individual initiative: To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet	Does not seem to want or to be able to apply sustainability principles on an individual level.	Can apply the principles: to use fewer resources, do better with fewer resources, and reuse the same resources, but shows little initiative to do so.	Knows that every action matters and that maintaining the status quo and inaction are also choices; Knows one's own potential to bring about positive environmental change.	Knows that preventive action should be taken when certain action or inaction may damage all life forms; Can overcome one's own resistance to change and acts proactively for the planet.	Advocates for individual and collective care for those in need and for the planet; Is confident about anticipating and influencing sustainable changes and is willing to take action to try to solve sustainability problems.

GREENCOMP RUBRICS

HIGHER EDUCATION LEVEL AND BUSINESS

(please consider this level as a suggestion, and use these rubrics in other school levels and/or contexts if you see fit)

How to read the rubrics: To assess a student in one level of proficiency, this student must first fully accommodate the statements written on the levels below.

Embodying sustainability values (higher education and business)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Valuing sustainability: To reflect on personal values. To identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values.</p>	<p>Does not seem to be aware of the on-going debate around sustainability and the arguments and assumptions which underlie the different human, technological and ecological perspectives:</p>	<p>Demonstrates some awareness about the on-going debate around sustainability but cannot express the different perspectives on it.</p>	<p>Knows the main views on sustainability: anthropocentrism (human-centric), technocentrism (technological solutions to ecological problems) and ecocentrism (nature-centered), and how they influence assumptions and arguments.</p>	<p>Critically assesses and compares sustainability values and principles, underlying arguments, actions, policies, socio-economic models, and political claims; Is willing to share and clarify views on sustainability with an open mind to others and their worldviews.</p>	<p>Shows an open mind and a critical reflection about sustainable values, including those of various cultural, social, political, and economic contexts, including minorities, when problem framing and decision making on sustainability.</p>
<p>Supporting fairness: To support equity and justice for current and future generations and learn from previous generations for sustainability.</p>	<p>Appears to be unaware of or disengaged from the debates related to the importance of sustainability for current and future generations and the equity and justice issues around it.</p>	<p>Demonstrates knowledge about the debate related to the importance of sustainability for current and future generations but seems to be unaware of the equity and justice issues around it, ignoring that individuals and communities differ in how and how much they can promote sustainability</p>	<p>Demonstrates awareness of belonging to a common humanity and the importance of sustainability for current and future generations; Knows the importance of applying equity and justice in discussions about sustainability.</p>	<p>Demonstrates respect and understanding that different individuals and cultures differ in how and how much they can contribute to sustainability; Shows appreciation for cultural diversity, minorities, and indigenous traditions, regarding sustainability.</p>	<p>Shows an active questioning of personal needs and a commitment to align personal attitudes towards the interests of current and future generations and the environment; Demonstrates an inclusive view on sustainability considering equity and justice for current and future generations.</p>
<p>Promoting nature: To acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems.</p>	<p>Does not seem to be aware of the connection between humans and nature and the systemic chain reaction effects of human activities in the ecosystem (e.g., loss of biodiversity, draughts, mass migration and war).</p>	<p>Shows awareness about the interconnectedness of all beings (including humans) and nature. Seems to understand the systemic chain reaction effects of human activities in the ecosystems; Recognizes the need to restore nature.</p>	<p>Seems to be aware of how humans are part of nature and shape ecosystems, and that human activity can rapidly and irreversibly damage ecosystems; Knows that damaging and exhausting natural resources can lead to disasters and conflicts. Is willing to help to restore nature.</p>	<p>Understands the consequences of human impact at ecological, economic, social, and political levels; Can discuss about the need to decouple production from natural resources and wellbeing from consumption.</p>	<p>Shows empathy towards all life forms and is critical about the notion that humans are more important than other life forms; Advocates for nature's protection as an essential task of every individual and is open to promote awareness among others towards a more balanced notion of our place in nature.</p>

Embracing complexity in sustainability (higher education and business)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Systems thinking: To approach a sustainability problem from all sides; to consider time, space, and context in order to understand how elements interact within and between systems.</p>	<p>Doesn't seem to know the UN SDGs nor the concepts and aspects of complex systems (synthesis, emergence, interconnectedness, feedback loops and cascade effects) and their implications for sustainability.</p>	<p>Knows the UN SDGs but doesn't seem to be aware of the interconnections and possible tensions between them; Knows little about the main concepts and aspects of complex systems and their implications for sustainability.</p>	<p>Demonstrates awareness of the unpredictable cascade effects of human action; Knows the main concepts and aspects of complex systems and their implications for sustainability; Knows the UN SDGs and is aware of the interconnections and possible tensions between them.</p>	<p>Can apply complex systems thinking and make a critical evaluation of the complex interactions between environmental, economic, social, and cultural aspects of sustainability action, events, and crises (e.g., migrations or wars).</p>	<p>Shows concern about systemic consequences of environmental crises for current and future generations and for other species; Can identify in a system those challenges and opportunities that have the greatest potential to trigger change for sustainability.</p>
<p>Critical thinking: To assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social, and cultural backgrounds influence thinking and conclusions.</p>	<p>Does not show awareness or doesn't seem to care about biases that can influence the discourse on sustainability.</p>	<p>Knows that sustainability discourse is influenced by various biases but doesn't seem to know how to analyse and assess information to determine whether it is in line with evidence-based sources and scientific data.</p>	<p>Can describe the various biases that can influence the discourse on sustainability, including reasoning, communication, and political narratives; Understands that tackling unsustainable patterns requires challenging the status quo.</p>	<p>Knows that predominant narratives can shape the formulation of sustainability problems and that sustainability claims without robust evidence are often mere communication strategies, also known as greenwashing.</p>	<p>Routinely verifies information sources and communication channels on sustainability to assess the quality of the information they provide and to identify possible vested interests; Discusses in an evidence-based perspective and is willing to revise personal ideas when new data emerges.</p>
<p>Problem framing: To formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems.</p>	<p>Does not seem to be aware of the importance of identifying fair and inclusive actions in solving and mitigating sustainability problems.</p>	<p>Shows awareness about the importance of identifying fair actions to solve sustainability problems but is not aware that to do so it is necessary to look at sustainability problems from different stakeholder perspectives.</p>	<p>Knows that to identify fair and inclusive actions, it is necessary frame sustainability problems considering different stakeholder perspectives.</p>	<p>Can establish a transdisciplinary approach to framing sustainability challenges; Demonstrates an unbiased, empathic approach to factor in perspectives of multiple stakeholders, considering all life forms and the environment to frame current and potential sustainability challenges.</p>	<p>Strives to continuously explore the problematics of a sustainability issue, tapping into all sustainability competences when framing current and potential sustainability challenges. Identifies appropriate approaches to mitigate, adapt and potentially solve sustainability problems.</p>

Envisioning sustainable futures (higher education and business)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Futures literacy: To envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future</p>	Does not seem to be aware of the importance of developing scenarios for sustainability.	Knows that scenarios can inform decision making for a desired sustainable future, but does not base scenarios on science, nor creativity, nor sustainability values.	Can envisage alternative futures for sustainability that are grounded in science, creativity, and sustainability values.	Shows awareness that the projected consequences on self and community may influence preferences for certain scenarios above others.	Seeks to combine rigorous methods for thinking about the future with creative and participatory approaches and integrating past trends and present conditions when anticipating future implications.
<p>Adaptability: To manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity, and risk.</p>	Is not aware or does not care about the unpredictability and uncertainty of the consequences of human action on the environment nor which aspects of personal lifestyle have a higher impact.	Knows that human actions can have unpredictable and uncertain consequences to the environment; Knows little about which aspects of personal lifestyle have higher impacts on sustainability and require adapting (e.g. air travel, car usage, meat consumption, fast fashion).	Knows that human actions can have unpredictable and uncertain consequences to the environment; Identifies and adapts to different lifestyles and consumption patterns to use fewer natural resources.	Considers local circumstances when dealing with sustainability issues and opportunities; Knows that there is no single solution to complex socioecological problems, but rather different alternatives, depending on time and context.	In decisions on sustainability, demonstrates openness to commitments within and across domains (environmental, social, economic, cultural, political) and across;
<p>Exploratory thinking: To adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.</p>	Does not seem to care about or be aware of circular economy, sustainability, and sustainable development concepts.	Knows little about circular economy and sustainability and sustainable development concepts.	Knows about sustainable development concepts, including origins and further developments, main stakeholders, implications for society and the planet, environmental protection, restoration, and regeneration; Knows the main concepts of a circular economy and society.	Can combine knowledge and resources to tackle sustainability challenges; Creatively applies circular economy concepts, such as valuing quality over quantity and reusing and repairing.	Uses evidence and research to better understand, explain, predict, and manage change for sustainability; Accommodates divergent opinions and dares to make unusual choices.

Acting for sustainability (higher education and business)

INDICATORS	DESCRIPTORS				
	1	2	3	4	5
<p>Political Agency: To navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability.</p>	Does not know any policies that assign responsibility for environmental damage (e.g., "polluter pays") and does not engage in the political debate.	Knows policies that assign responsibility for environmental damage (e.g., "polluter pays"), but does not engage in the political debate	Knows how to engage with political and economic stakeholders to co-create sustainability policies with community representatives.	Engages in democratic decision making and civic activities for sustainable development.	Shows commitment to becoming an agent of change to achieve sustainability; Expects governments and public institutions to serve the common good and demands political accountability for unsustainable behaviour.
<p>Collective Action: to act for change in collaboration with others.</p>	Does not seem to know or care about the importance of collaborating with others when acting for sustainability.	Knows the importance of empowering individuals and organizations to work collaboratively but does not act accordingly.	Knows how to work with diverse participants to create inclusive visions for a more sustainable future and that this collaboration requires promoting democracy.	Prioritizes sustainability values and interests when taking collective action. Shows commitment to change for a more inclusive and fair future and to give back to the community and nature.	Can create opportunities for joint action across communities, sectors and regions and build diverse coalitions to address complex, ambiguous, and dynamic problems related to sustainability; Is willing to engage with others to challenge the status quo.
<p>Individual initiative: To identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet</p>	Does not seem to want or to be able to apply sustainability principles on an individual level.	Can apply the principles: to use fewer resources, do better with fewer resources, and reuse the same resources, but shows little initiative to do so.	Knows that preventive action should be taken when certain action or inaction may damage human health and all life forms (precautionary principle); Cares proactively for the planet and shows willingness to solve complex sustainability problems.	Advocates for individual and collective care for those in need and for the planet; Is confident about anticipating and influencing sustainable changes.	Can act promptly, takes personal initiative, and persists in achieving sustainability objectives even in contexts of uncertainty and unforeseen events; Takes initiative in mobilizing others to adopt more sustainable choices.