Cornell University

Civic
Ecology
Lab

http://civicecology.org

YES Nature to Neighborhoods
https://youtu.be/Ss3x_s2J2EE

Friends of Anacostia Park
https://youtu.be/e28JmmLr3IM
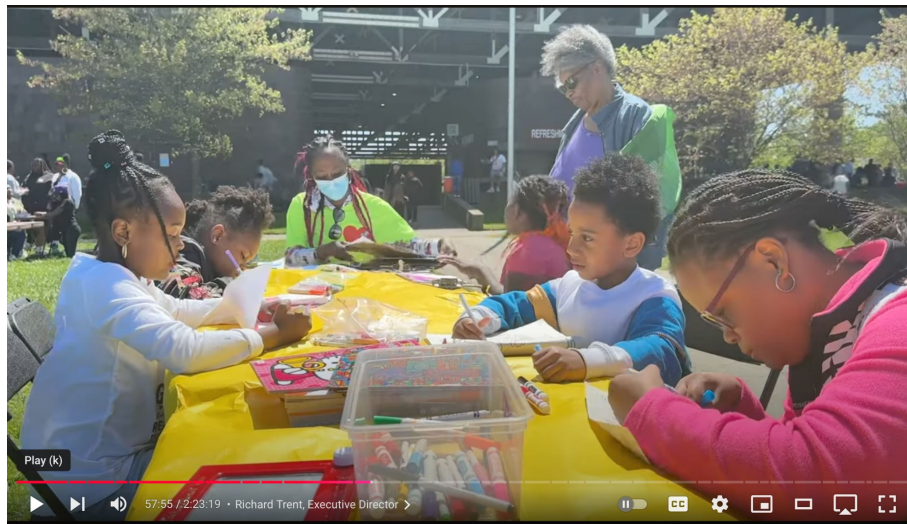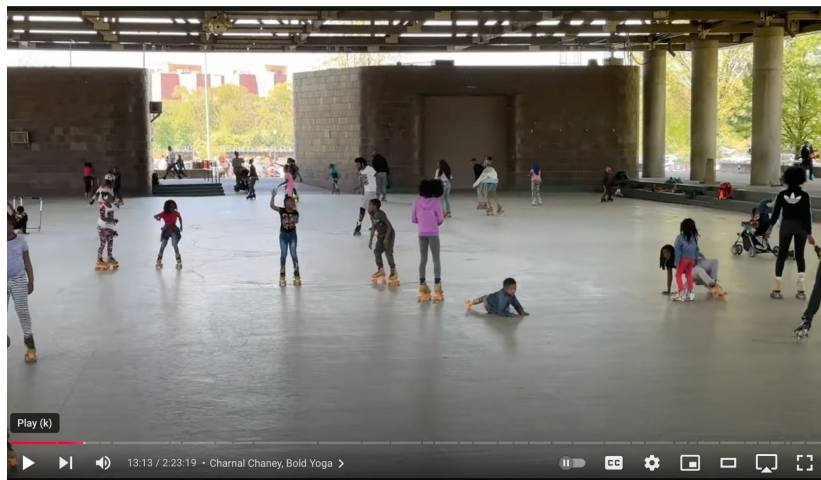
How did you connect to nature as a child?
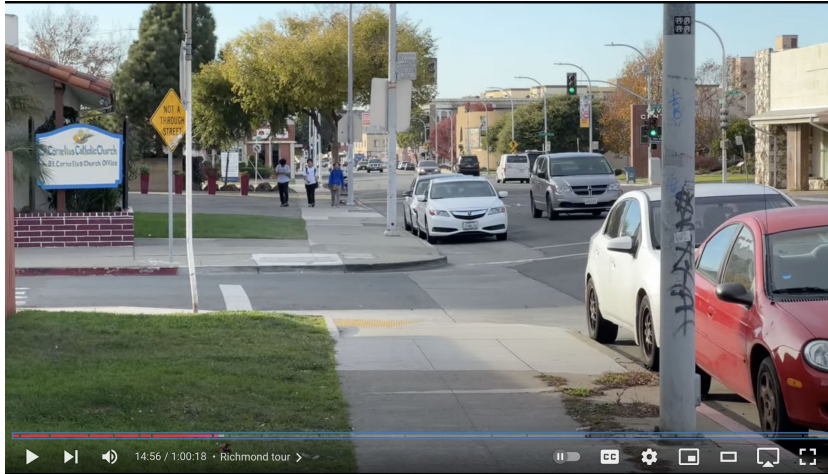
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A framework of nature education

1. Nature and ecosystems

2. Caring community

3. Equity and inclusivity

4. Multiple ways of knowing

9. Nature connection

10. Sense of place

Foundations

Nature education

Outcomes

Engagement

5. Learning and inquiry

6. Nature play and adventure

7. Ecological art and culture

8. Ecosystem stewardship

11. Human well-being

12. Ecological integrity
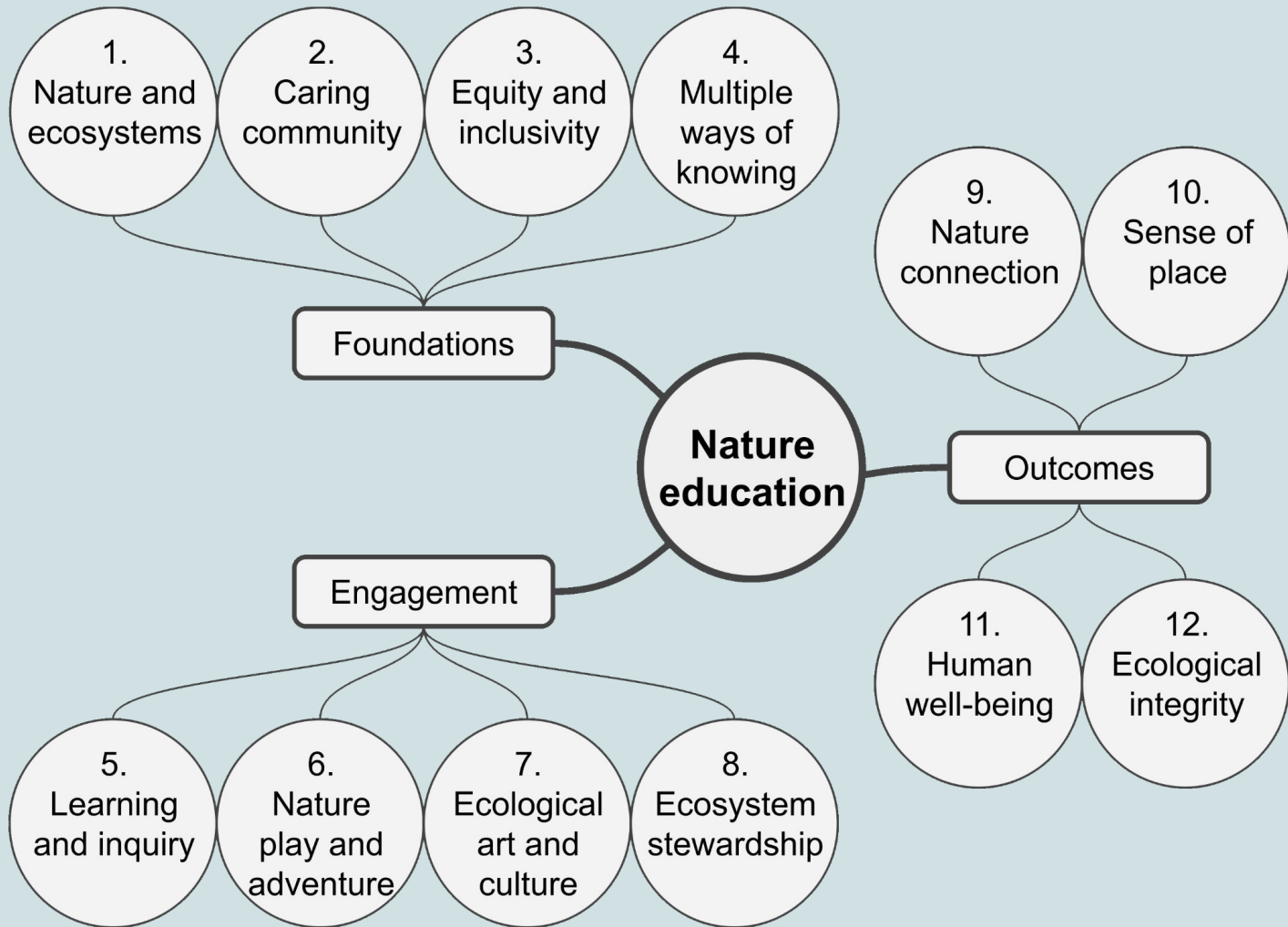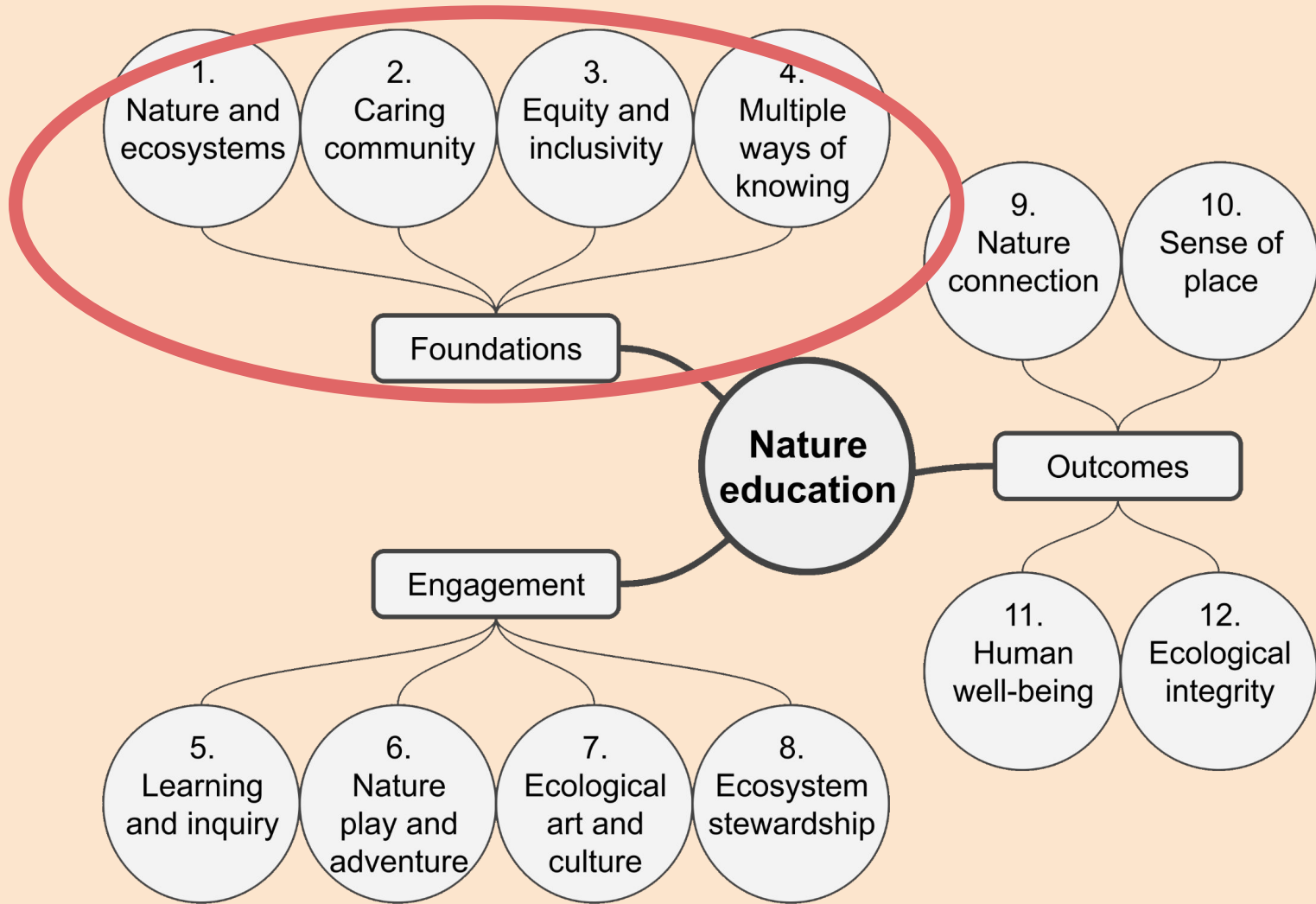
Nature Education Foundations

- **Program settings**: local ecosystems, communities, cities.

- **Values**: interests, commitments, ethics, beliefs

1. Nature and ecosystems

- **Nature** — including ecosystems, landscapes, wilderness species

- **Cities** — parks, green roofs, botanical gardens, nature centers

- **Viewpoint** — ecological corridors, biodiversity conservation areas, regenerative cultures, and deep ecology, and more

2. Caring community

- Nature educators create **welcoming spaces** for children and families to explore nature and strengthen social bonds.
- Establishing **cultural expectations** around nature-based activities
- Facilitate **social learning** among participants who learn about and care for nature.
- People from **diverse backgrounds and generations** come together through culturally relevant, nature-based activities, often involving recreation, sports, games, or wildlife observation.
- Creating **shared nature-based experiences**, helping participants develop stronger social capital, support one another, and contribute to local ecosystem improvement.

3. Equity and inclusivity

- **Eliminating barriers** to learning about and experiencing nature.

- **Factors** such as low income, cognitive and physical abilities, lack of role models, low expectations, and structural injustices can exclude people from nature-based activities.

- Educators **promote equity and inclusion** by using trauma-informed approaches, making programs more accessible, and addressing the historical roots of marginalization.

4. Multiple ways of knowing

- Nature education **embraces various ways of engaging with nature** beyond a science-focused approach, incorporating diverse cultural perspectives and knowledge systems.

- Participants are encouraged to bring their **cultural heritage and lived experiences** into their interactions with nature and their learning community.

- **Traditional ecological knowledge** of local and indigenous people

- Recognition of **animal and nature rights**

Which values are guiding your nature education?

I believe that…

Nature education

Foundations
1. Nature and ecosystems
2. Caring community
3. Equity and inclusivity
4. Multiple ways of knowing

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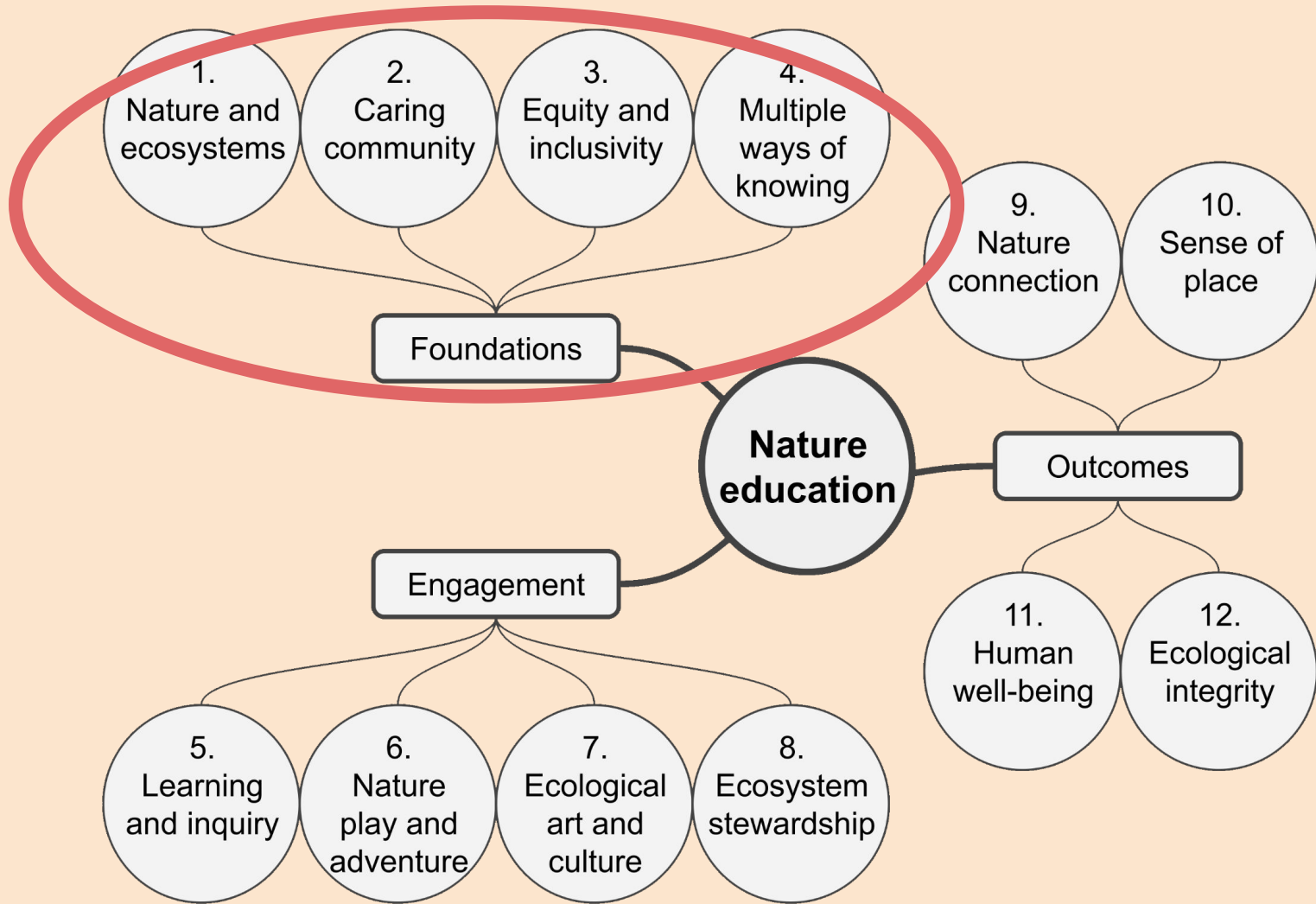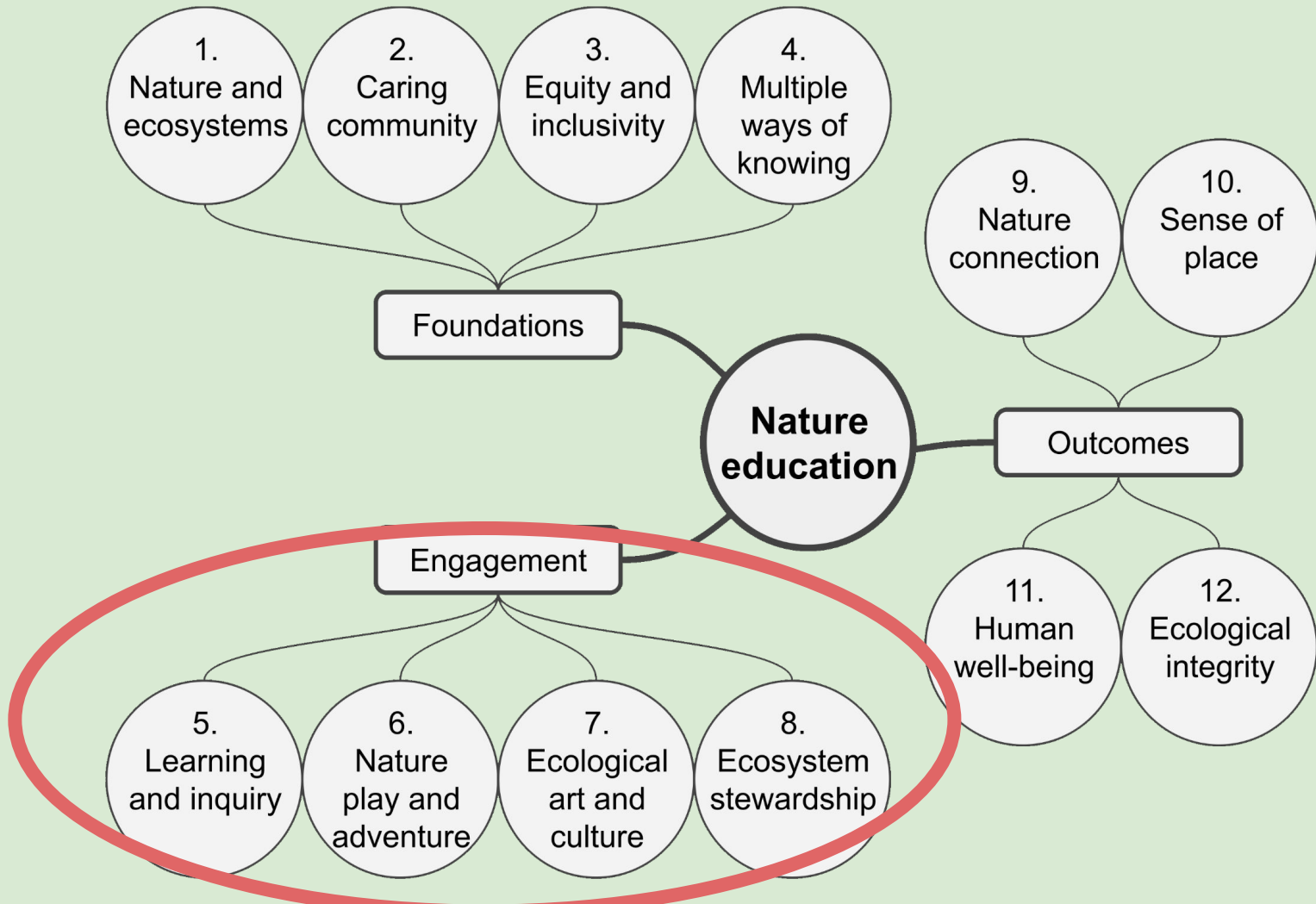
Nature Education Engagement

Engagement strategies capture diverse
teaching and learning approaches,
community involvement, and
**collaborative stewardship practices**

5. Learning and inquiry

- Outdoor and indoor nature education activities support learning through **unstructured exploration and formal inquiry**

- Nature interpretation, where guides share scientific facts and stories about natural phenomena, facilitates **outdoor exploration**.

- **Nature journaling** engages students in interdisciplinary learning, systematic observation, and deep reflection.

- Participants can contribute to research through **citizen science** projects, such as tracking bird migrations and conducting plant diversity surveys. **Community science** emphasizes exploration driven by community needs, local knowledge, and a commitment to stewardship

6. Nature play and adventure

- **Unstructured play** in nature supports positive child development, and fosters strong social relationships.
  - However, urbanization, technology, parental concerns, and narrow educational priorities often limit children's time in nature.

- **Adventure education, outdoor recreation, camping, and forest schools** are gaining popularity among children and adults.
  - These activities promote outcomes such as self-confidence, social competence, and leadership, comfort in outdoor settings, and a sense of awe.
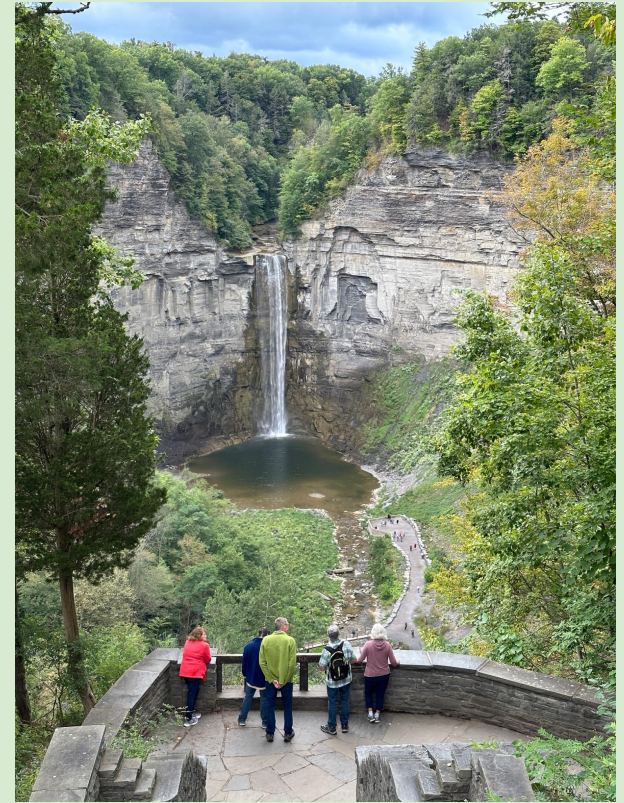
7. Ecological art and culture

- **Creating and exploring art** related to nature, ecology, and the environment helps people appreciate the beauty and fragility of the natural environment.

- As a means of expression, introspection, and communication, various forms of art and culture – such as **drawings, photography, designed landscapes, performance, exhibits, collections, and narratives** – convey stories, emotions, possibilities and values, shaping experiences and identities.

- Educators use ecological art to foster intellectual development and raise awareness about nature and environmental issues.

https://alumni.cornell.edu/article/making-magic-in-florida-cornellians-celebrate-art-nature-and-local-culture/

8. Ecosystem stewardship

- Engaging in **ecosystem stewardship** allows people of all ages to learn about and care for nature, including by designing nature-based solutions and rewilding damaged habitats.

- **Community gardening, beach cleanups, mangrove restoration**, and similar activities connect participants to nature and help them contribute to tangible restoration efforts.

- Effective stewardship relies on **conservation policies and public support** of nature protection, which can be enhanced by nature education programs.

Which nature education activities do you find most engaging?
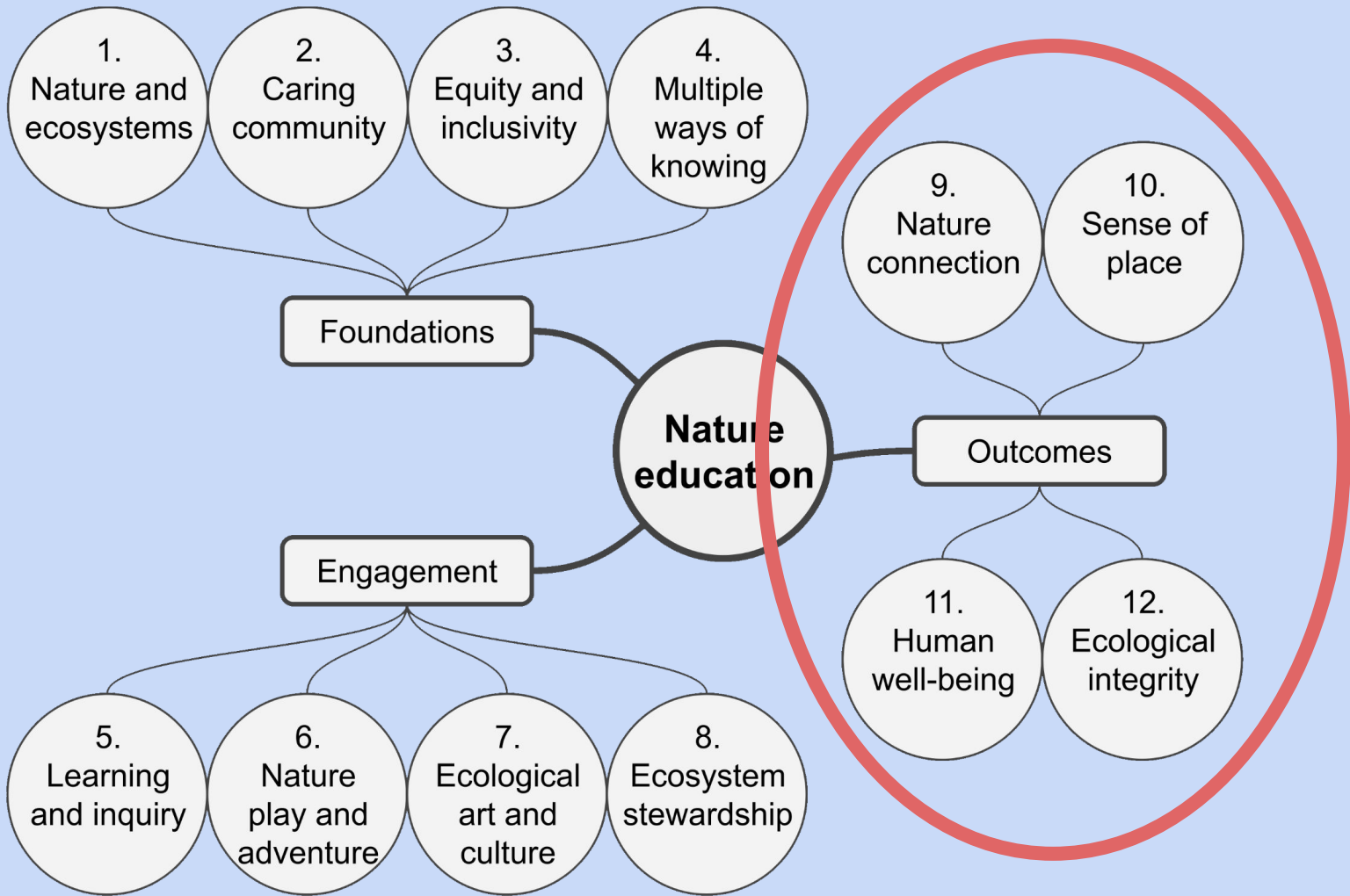
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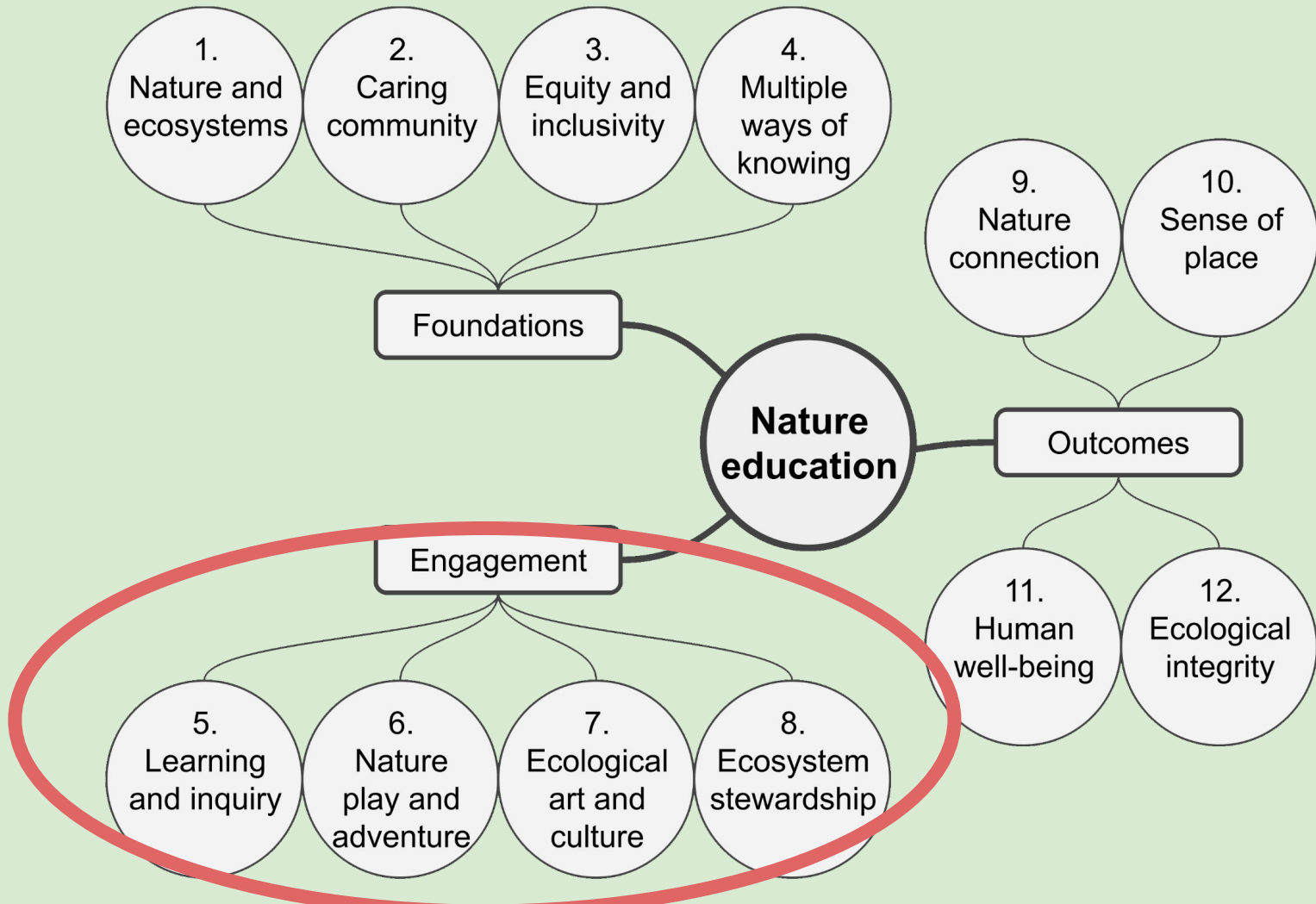
Nature Education Outcomes

- Desired outcomes include any results of nature education programs that can be measured or observed among **participants, communities, or ecosystems**

9. Nature connection

- Nature education aims to foster participants' nature connection, which reflects **how individuals understand, appreciate, identify with, and engage with natural landscapes**.

- Strengthening nature connection brings people closer to ecosystems, increases their interest in outdoor activities, and forges a **sense of responsibility** for ecosystem stewardship.

- **Ecological identity** reflects one's self-view in relation to nature, ecological processes, and the Earth.

10. Sense of place

- Nature education can influence one's **sense of place**, including place attachment, which is the bond between people and places, and place meaning, which is the symbolic significance or meanings ascribed to a location.

- "**Ecological place meaning**" shows how ecosystems and nature-based activities become integral symbols of a place for individuals, influencing their environmental behaviors.

- Educators shape participants' sense of place through **place-based education**, which grounds learning in the local community and environment, and by incorporating nature-related **storytelling, art, role models, and social learning**
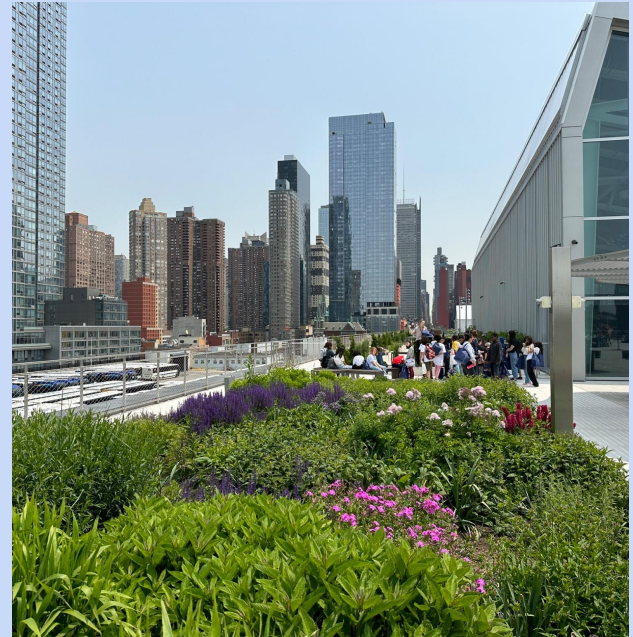
11. Human well-being

- Contact with nature offers numerous benefits to humans, including improved **physical health, enhanced mood, and strengthened social connections**.

- Nature exposure promotes **focused attention, physical exercise, and autonomy**, which are key components of well-being.

- Some healthcare providers have started **prescribing nature-based activities** – such as hiking, nature meditation, animal-assisted therapy, and horticulture programs – to patients for their physical and mental health

Did you know that ...
time spent in nature can reduce overall stress levels?[1]

naturerx.cornell.edu

https://alumni.cornell.edu/article/nature-rx-the-many-benefits-of-time-outdoors/

12. Ecological integrity

- Nature education aims to **mitigate impacts on climate and biodiversity** through ecosystem restoration and fostering societal transformation.

- Beyond **direct restoration**, nature education can drive **transformative changes in culture, social norms, government policies, economic systems, and civic engagement**, enabling human society to coexist with thriving ecosystems.

- For example, educators and participants of nature education programs can advocate for **biophilic urban zoning**, mobilize support for large-scale land conservation, petition against excessive **plastic use** polluting ecosystems, and contribute to establishing legal frameworks and cultural practices that recognize **ecosystem personhood**
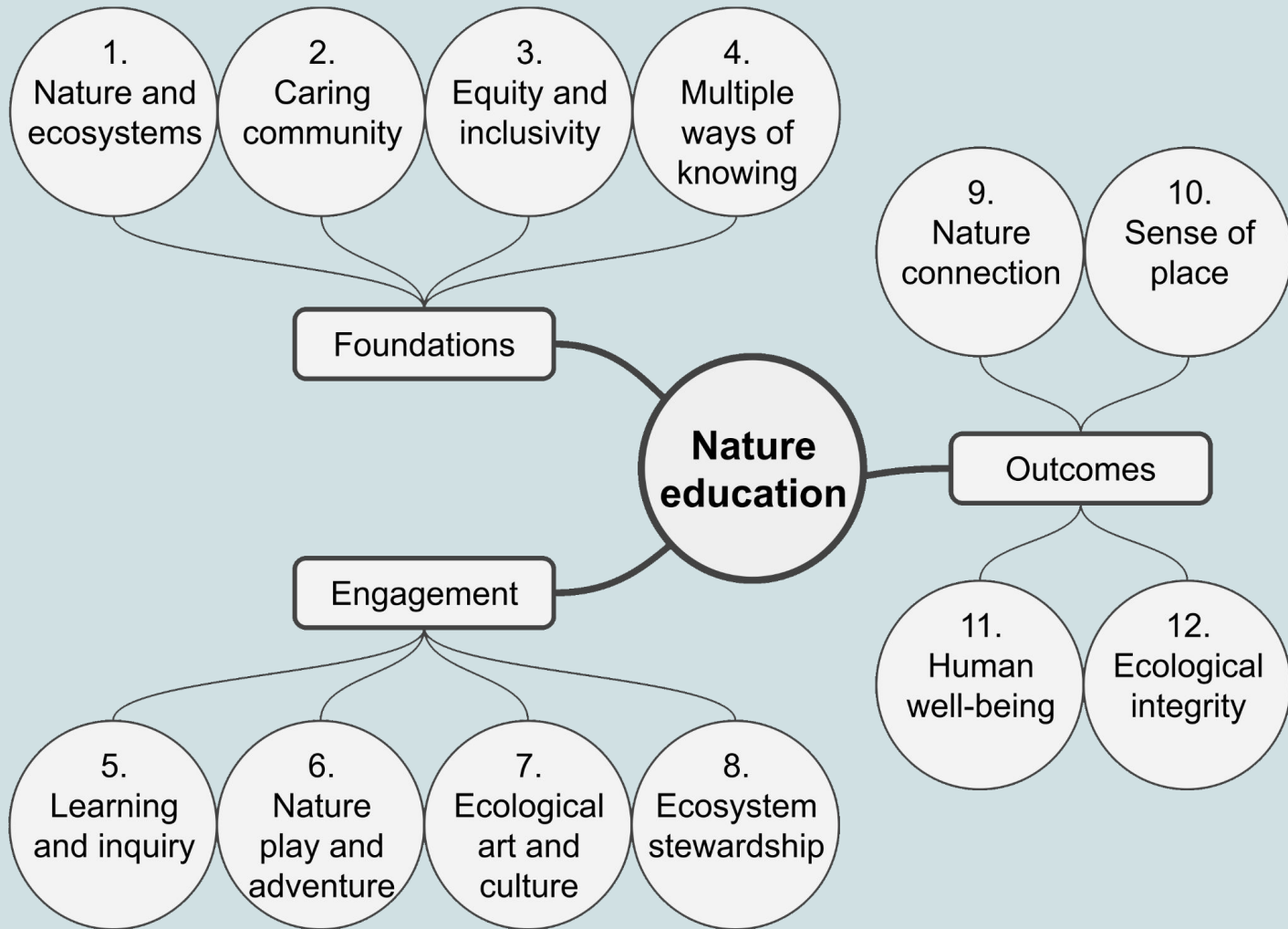
**Which nature education outcomes are important to you?**

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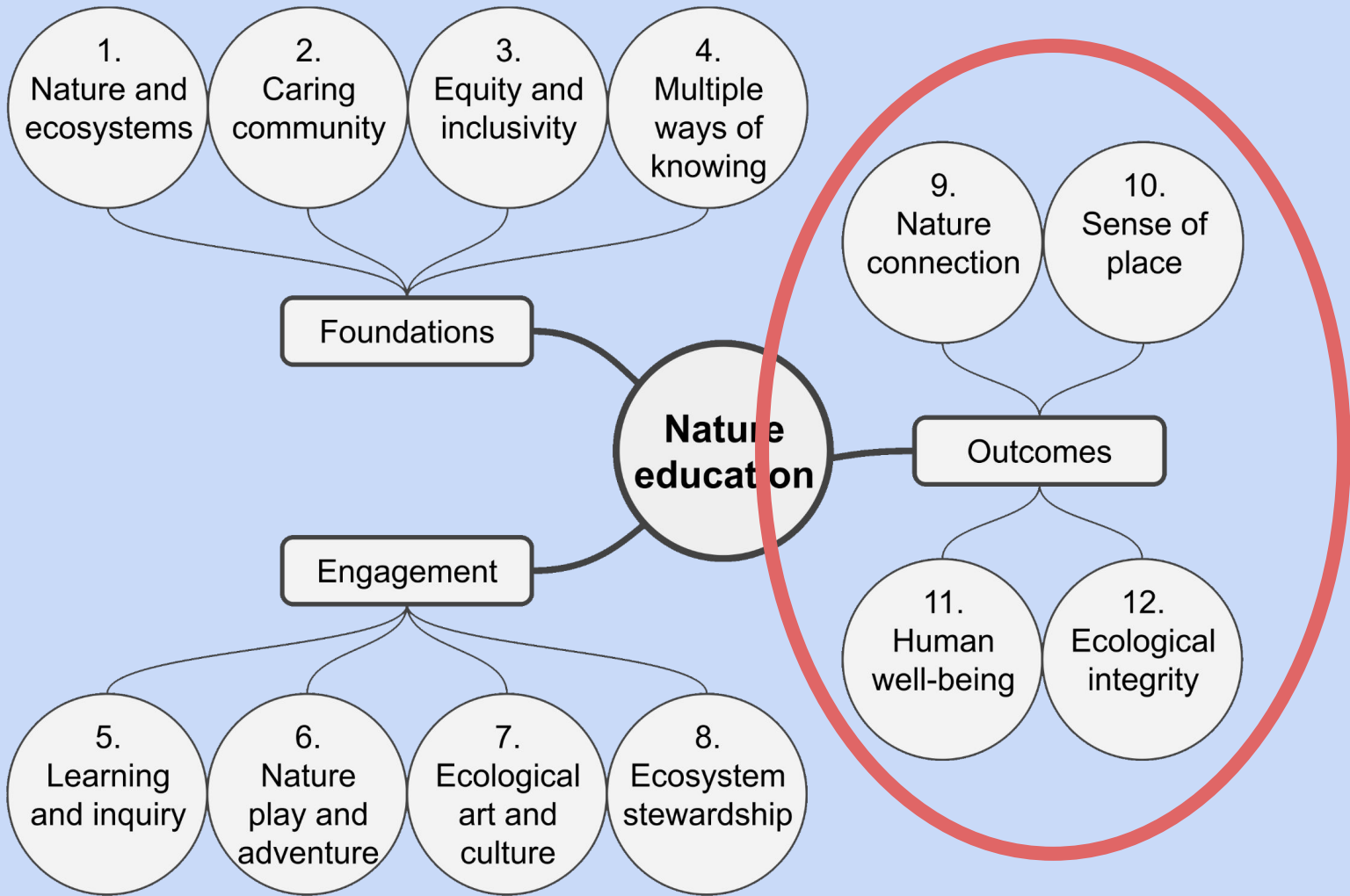
Nature Education: General Assumption

Spending time in nature and learning about nature contributes to **human well-being and appreciation of nature in the short term**, and to the **protection of species, ecosystems, and the biosphere through changes in behavior, policies, and institutions in the long term**.
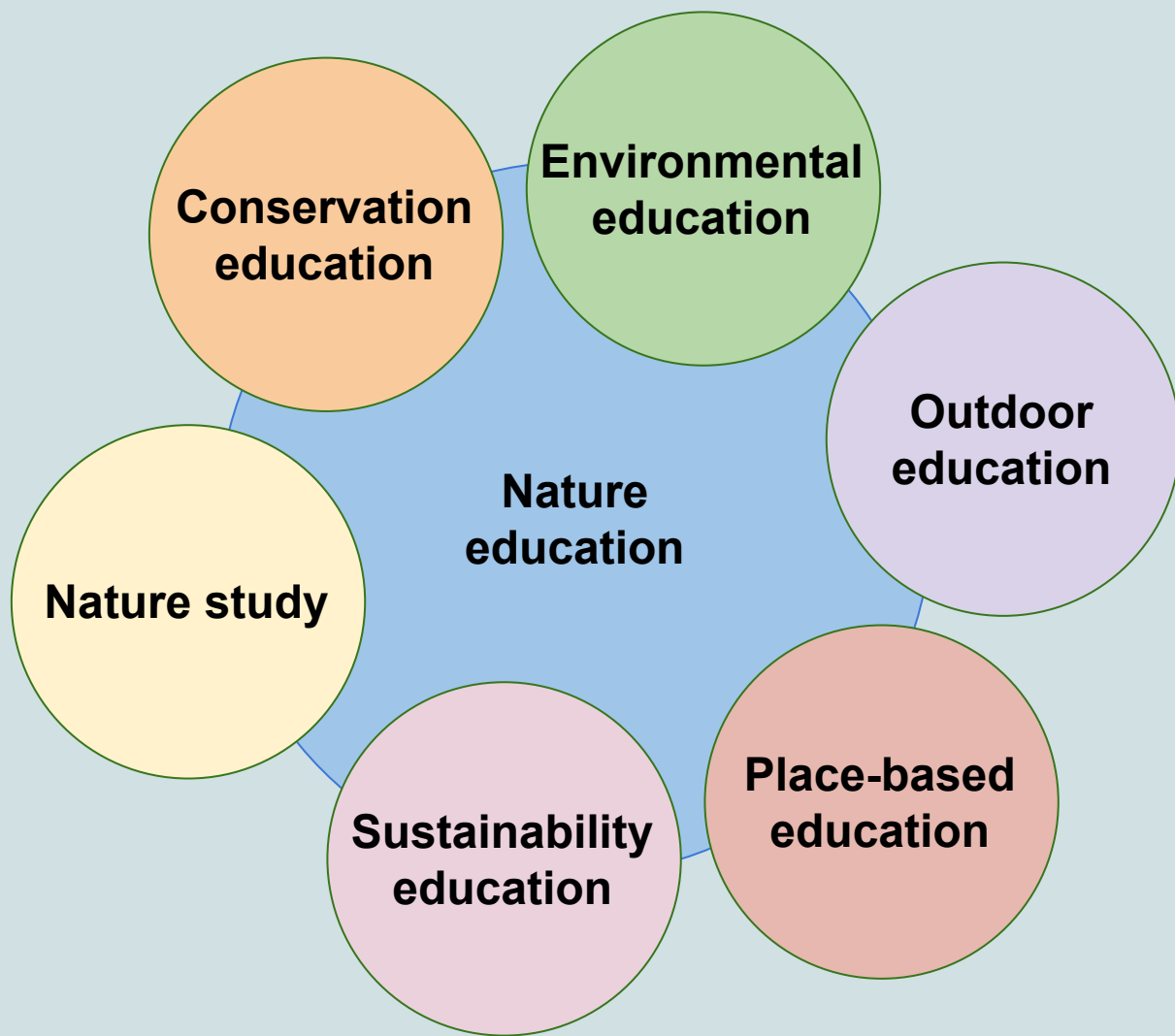
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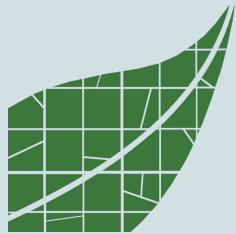
Thank you!

Nature Education

Online course in Spring 2025

Announcement will be posted:

http://civicecology.org

Civic Ecology Lab

Next webinar

Registration:

http://civicecology.org

Sustainability Education

Webinar
November 26, 2024
9:00–10:00am ET

Free registration:
civicecology.org/webinar

Cornell University

Civic Ecology Lab