

EXPLORING BIO

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euro teacher
pass academy

GH THE LENS OF

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euro
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a. **Welcome Everyone!!!**

- Where do we come from?
- Who is Tony? And what does he do?

b. Europass Academy of Creativity

<https://www.eacbarcelona.eu/en>

The **European Academy of Creativity** (EAC) is devoted to the design and delivery of programs oriented to wellbeing, creative arts, innovation and language teaching for the empowerment of schools and public and private companies and organizations.

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Europass Academy of Creativity

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Our partners

We operate within a European network of Schools specialized in Language courses, Teacher Education and Training, and Internship Placement.

- Europass Teacher Academy, the largest European provider of teacher training courses
- Europass Italian Language School, an online and on-site Italian language school founded in the early '90s, based in Florence, Italy
- Europass Berlin, a newly established German and Italian language school, and a mobility programmes center, based in Berlin, Germany

Exploring Biodiversity and Ecology Through the Lens of Creativity and Culture: Course Description

- We, humans, tend to perceive nature as something to control or visit rather than being instinctively aware that it is something of which we are an integral part and on which our lives depend. *How can we re-wild ourselves and the land which we use?* This course aims to reintroduce you and your students to your natural habitat through colorful, interactive encounters with diverse plants and animals.
- Combining **hands-on ecology** with visual arts, storytelling, and games makes it easy to form an **intimate knowledge of our planet's ecosystems** and a deep affection for the biodiversity which they support. It enables us to imagine a healthy, abundant future for our environment and take positive action towards that vision.
- Multi-sensory observation of nature has mental health benefits and is a way to include all kinds of learners. It can also act as a gateway into other learning opportunities and personal development. It is an ideal subject for boosting the confidence of quieter students as they can easily gain first-hand personal expertise in this fascinating topic.
- Each day of the course builds on the previous one, from introducing the concepts to hands-on field-based activities, to the creative treatment of a species encountered on a **field trip**, and then to act on what you have learned. The course takes a **place-based learning approach**, encouraging engagement with your local wildlife, folklore, community, and citizen science biodiversity recording schemes.

DAY 1 - EXPLORING BIODIVERSITY AND ECOLOGY THROUGH THE LENS OF CREATIVITY AND CULTURE.

Main Organizing Concepts

Exploring Biodiversity and Ecology Through the Lens of Creativity and Culture

Time	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	Biodiversity Theory & Practice	Ecology Theory & Practice	Biodiversity: How is offered	Biodiversity & Ecology Action Plan	Biodiversity & Ecology Action Plan	
09:30-11:00	<ul style="list-style-type: none"> Introduction to the course Who we are, Where do we come from 	<ul style="list-style-type: none"> Introducing ecology and the interdependence of living things How things depend on each other 	<ul style="list-style-type: none"> BIODIVERSITY EXPOSED "More than Bees" visit to Botanical Garden of Montjuic Dr. Font i Quer, 2 08038 Barcelona 	<ul style="list-style-type: none"> Adaptations for survival Hands-on activity on camouflage op 1. color paper cut offs. op 2. hide & seek 	<ul style="list-style-type: none"> Designing biodiversity conservation actions for your school Bird Feeding Station School Biodiversity Action Plan 	Cultural activities
11:00-11:15	Break	Break	Break	Break	Break	
11:15-13:15	<ul style="list-style-type: none"> Icebreaker activities JOURNEY STICK (DOCUMENTING BIODIVERSITY in any setting) 	<ul style="list-style-type: none"> Developing awareness of the local environment and the life it supports SIT SPOTS (learning to observing life) 	<ul style="list-style-type: none"> BIODIVERSITY EXPOSED "More than Bees" visit to Botanical Garden of Montjuic. 	<ul style="list-style-type: none"> Reacquainting ourselves with LOCAL BIODIVERSITY: Using Technology (Wikiloc) to create biodiversity cultural natural trails 	Course evaluation	
13:15-13:30	Break	Break	Break	Break	Break	
13:30-14:30	<ul style="list-style-type: none"> Exploring the concept of biodiversity through Creative activities What is Biodiversity How to Learn it 	<ul style="list-style-type: none"> Provoking students to think creatively BUGPOLIS Using art to document BIODIVERSITY Drawing/Painting plants and animals 	<ul style="list-style-type: none"> Debriefing of field trip Journal writing/ discussing 	<ul style="list-style-type: none"> Practical activities MICRO PONDS in/out of school. Observing the emergence of biodiversity. 	Certificate of Attendance	

Further information about the cultural activities are available on each location webpage.

Teacher Trainer: TONY TORRALBA 13-17/12/2021
BARCELONA, SPAIN

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c. Introduction to the course: What we want to take home with us?

- 1. A record of our own learning (journal).***
- 2. A general action plan for my own classroom/School.***
- 3. A set of activities or lesson that I can test and share with others.***
- 4. A new network of colleague that can support my professional development.***

d. External week activities

1. **Outdoors to conduct several activities of biodiversity.** Using urban green settings to explore Biodiversity & Ecology.

- JOURNEY STICK
- NATURAL TRAILS (WIKILOOC)
- SIT SPOTS



2. Museum of Natural Sciences of Barcelona

More Than Bees

<https://museuciencies.cat/en/exposicio-temporal/more-than-bees/>



Icebreaker activity: Constructing a Journey Stick. Art, Science, and Movement.



WHAT IS A JOURNEY STICK?

A journey stick (also known as a story stick or nature stick) is essentially a memento of a **nature walk**, featuring items collected while on the walk. These might be things like leaves, twigs, flowers, feathers, or anything else natural that you find along the way.

For our purposes, we will build one to explore the concept of **biodiversity** in places with restricted Access to nature. For example, in urban places like parks we can find many species of plants and other organisms that can represent the Local Biodiversity.

Each student presents its biodiversity stick and tells a story (it is a map that can be followed, it represents a personal preference, it is a guide to more knowledge, etc.)

LET'S GET A BAG TO COLLECT LEAVES, STICKS, WOOD PIECES. ETC.

Let's Go!!



f. Presentations of participants' schools/classrooms

- What is my schools like? My classroom?
- How are the issues of biodiversity and ecology treated at my school/classroom?
- How do I want to explore the issues of biodiversity and ecology in my classroom/school/ community?



<https://it.wikiloc.com/outdoor-navigation-app>

Tuesday 14 of Dicember, 2021

g. Exploring the concept of biodiversity

1. What is biodiversity ?

https://www.youtube.com/watch?v=GK_vRtHJZu4

2. Why is biodiversity important?

<https://www.unicef.org/globalinsight/stories/why-biodiversity-important-children>

3. How do we teach it? (pedagogies, resources, places, people)

<http://sciencenetlinks.com/lessons/introducing-biodiversity/>

4. How can they learn it? (indoors-outdoors, development, individual-collective)

https://www.researchgate.net/publication/320338232_Students'_early_experiences_of_biodiversity_and_education_for_a_sustainable_future

g. Exploring the concept of biodiversity

1. What is biodiversity?

The term means *biological diversity* and refers to all the variety of life – whether that's plants, animals, fungi or micro-organisms – as well as to the eco-systems they form and the habitats in which they live.

Biological diversity comprises three levels:

Species diversity: the variety of different species;

Genetic diversity: the variety of genes contained in plants, animals, fungi and micro-organisms; and

Ecosystem diversity: all the different habitats that exist.

g. Exploring the concept of biodiversity

2. Why is biodiversity important?

Biodiversity is essential for human health and well-being, economic prosperity, food safety and security, and other areas critical to all humans and all human societies.

Organisms, ecosystems and ecological processes supply us with oxygen and clean water, they help cycle carbon and fix nutrients, they enable plants to grow, they keep pests and diseases in check, and they help protect against flooding and to regulate the climate.

g. Exploring the concept of biodiversity

3. How do we teach it? (pedagogies, resources, places, people)

<https://www.facebook.com/Science-NetLinks-122822963502/>

g. Exploring the concept of biodiversity

4. How do they learn it?

https://www.researchgate.net/publication/320338232_Students'_early_experiences_of_biodiversity_and_education_for_a_sustainable_future

Factors: Indoors-outdoors
Development
Individual-collective
Sites

h. Using creative activities to make biodiversity accessible to children with different learning styles. (30 min.)

Important Concepts:

- Combining indoors and outdoors (that's what scientists do!)
- The role of Art.
- Developing observational skills (The Sit Spot, the journey Stick).
- Biodiversity and Math.
- Biodiversity and Play.
- **Inclusion & Diversity.**
- **Developing ALL senses.**

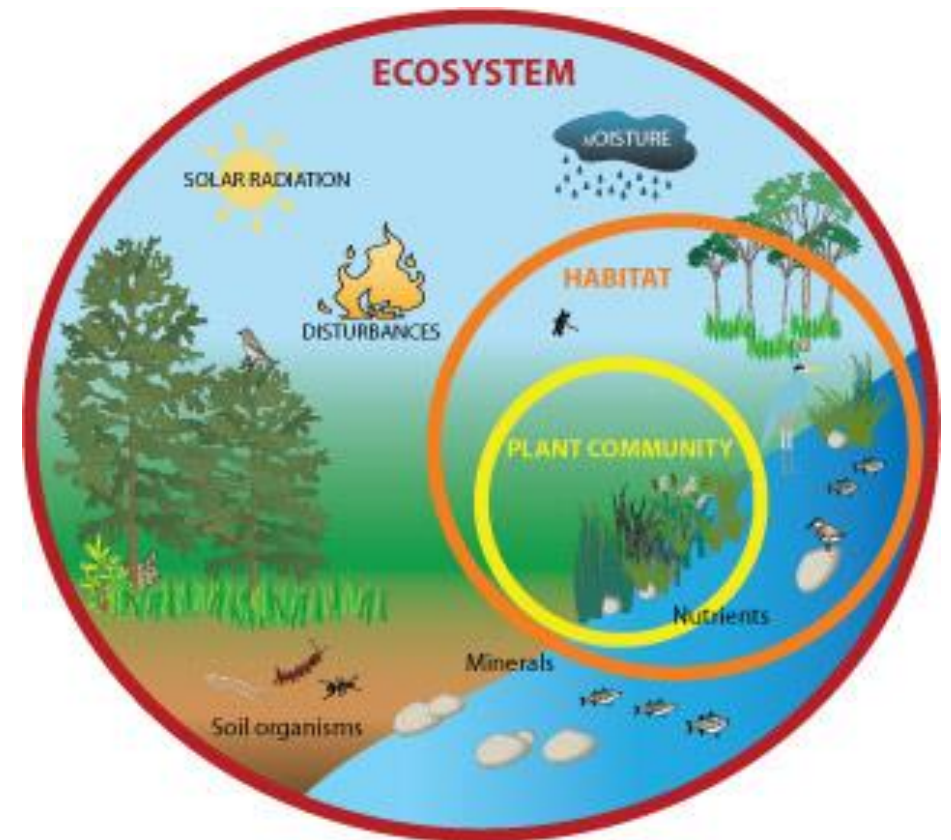
Transition: From Biodiversity to Ecology

1. *Exploring the concept of Ecology*

- a. **What is ecology?** Ecology is the study of the relationships between living organisms, including humans, and their physical environment; it seeks to understand the vital connections between plants and animals and the world around them.

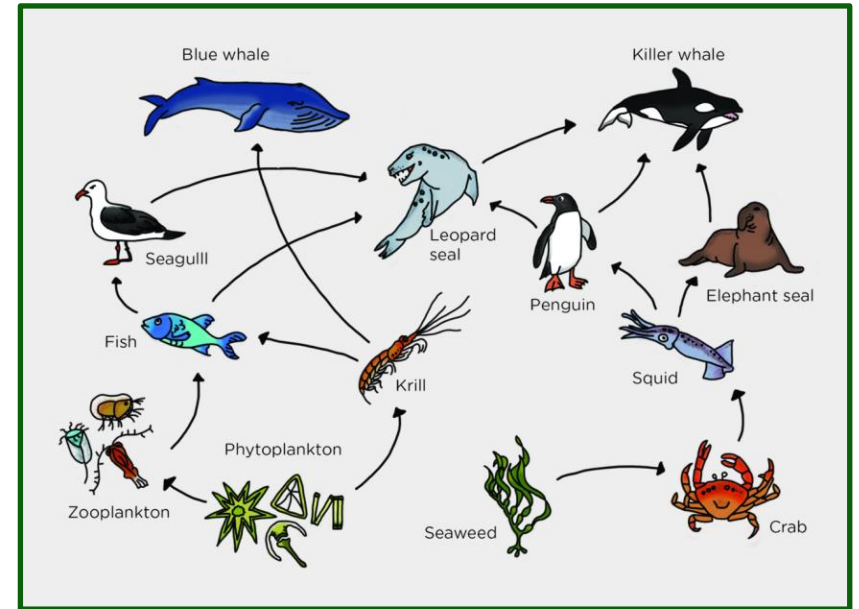
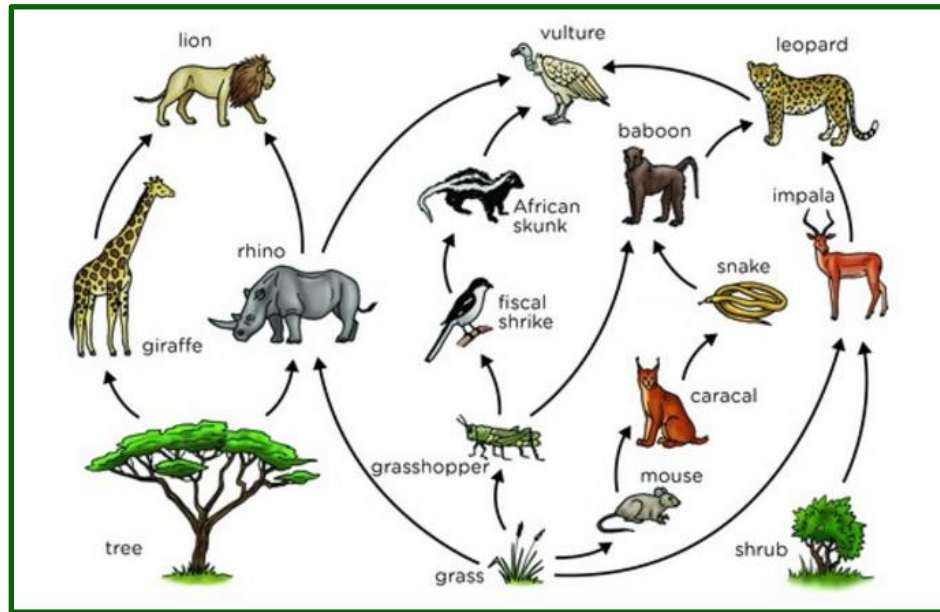
Let's test our understanding

<https://www.khanacademy.org/science/biology/ecology/intro-to-ecology/e/intro-to-ecology>



1. Exploring the concept of Ecology

a. The understanding of those relationships can take place across different environments:



<https://www.youtube.com/watch?v=bJEToQ49Yjc>

<https://www.khanacademy.org/science/biology/ecology/intro-to-ecology/v/ecology-introduction>

1. *Exploring the concept of Ecology*

B. Why understanding ecology is important?

Ecology enriches our world and is crucial for human wellbeing and prosperity. It provides new knowledge of the interdependence between people and nature that is vital for food production, maintaining clean air and water, and **sustaining biodiversity** in a **changing climate**.

1. *Exploring the concept of Ecology*

- c. **How do we teach it?** (pedagogies, resources, people)
- **inquired**-based approaches; **Problem-based/Project-based** activities.
 - physical/virtual means; In/out of classroom, (**go to where interactions take place**)
 - Go to or bring **those who actually DO ecology for a living** (ecologists).

d. **How do they learn it?** (indoors ☐ ---☐ outdoors, development, individual-collective).

Process: identification, recognize similarities/differences, role of organism.

1. *Exploring the concept of Ecology*

e. **What is the relationship between ecology and biodiversity?**

Increasing species diversity can influence ecosystem functions — such as productivity — by increasing the likelihood that species will use complementary resources and can also increase the likelihood that a particularly productive or efficient species is present in the community. For example, high plant diversity can lead to increased ecosystem productivity by more completely, and/or efficiently, exploiting soil resources (e.g., nutrients, water). While primary production is the ecosystem function most referred to in this article, other ecosystem functions, such as decomposition and nutrient turnover, are also influenced by species diversity and particular species traits.

2. Developing awareness of the local environment and the life it supports

- **SIT SPOTS** (*learning to observe life & Ourselves*)

A sit spot (or secret spot) is simply a favorite place in nature that you visit regularly to cultivate awareness as you expand your senses and study patterns of local plants, birds, trees, animals, etc.

Research shows that sit spot time is an opportunity for **self-exploration**, to develop a sense of self-awareness and an appreciation for a student's own space. Each student will have a **journal** in which they can **record their thoughts, their observations of what they hear, smell and see, pose questions or share their feelings**. After the allotted time, students will have a chance to share in a whole group discussion about what they recorded or experienced during their sit spot time.

SIT SPOTS AS PEDAGOGICAL TOOLS

https://www.goshen.edu/merrylea/wp-content/uploads/2021/01/Sit-spot_final.pdf

3. Provoking Students to Think Creatively about Biodiversity & Ecology

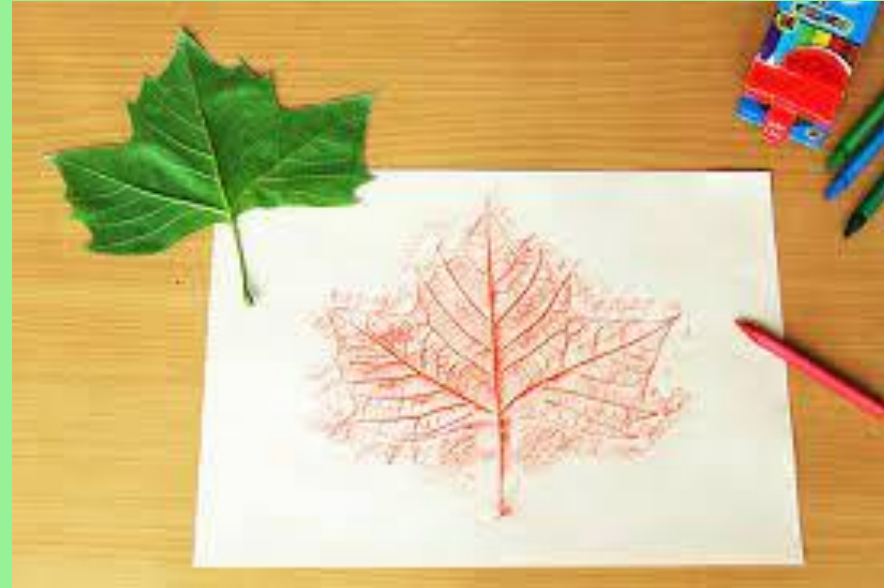
A. BUGPOLIS.



<https://www.natureplaywa.org.au/diy-bug-hotel-no-construction-required/>

3. Provoking Students to Think Creatively about Biodiversity & Ecology

B. Drawing/Painting Plants/Animals.



- MISTER FOREST PROGRAM.

Wednesday 15 of Dicember, 2021

1. Visit to The Museum of Natural Sciences of Barcelona:

How are Biodiversity & Ecology Displayed and Offered by Institutions (Museums) that Support Schools' Educational Mission?

https://museuciencies.cat/en/exposicio_temporal/more-than-bees/



During our visit we should have some questions and generate others.

1. How are biodiversity & Ecology visible through the exhibit?
2. What aspects of the exhibit could I use to direct the learning of my students?
3. Are there things of the exhibit that I would change? How?
4. What questions the exhibit produced for me?

Thursday 16 of Dicember, 2021

1. COLLECTIVE SHARING WHAT WE SAW AT THE MUSEUM.

Students, using their journals, offer their reflections of the visit to the museum.

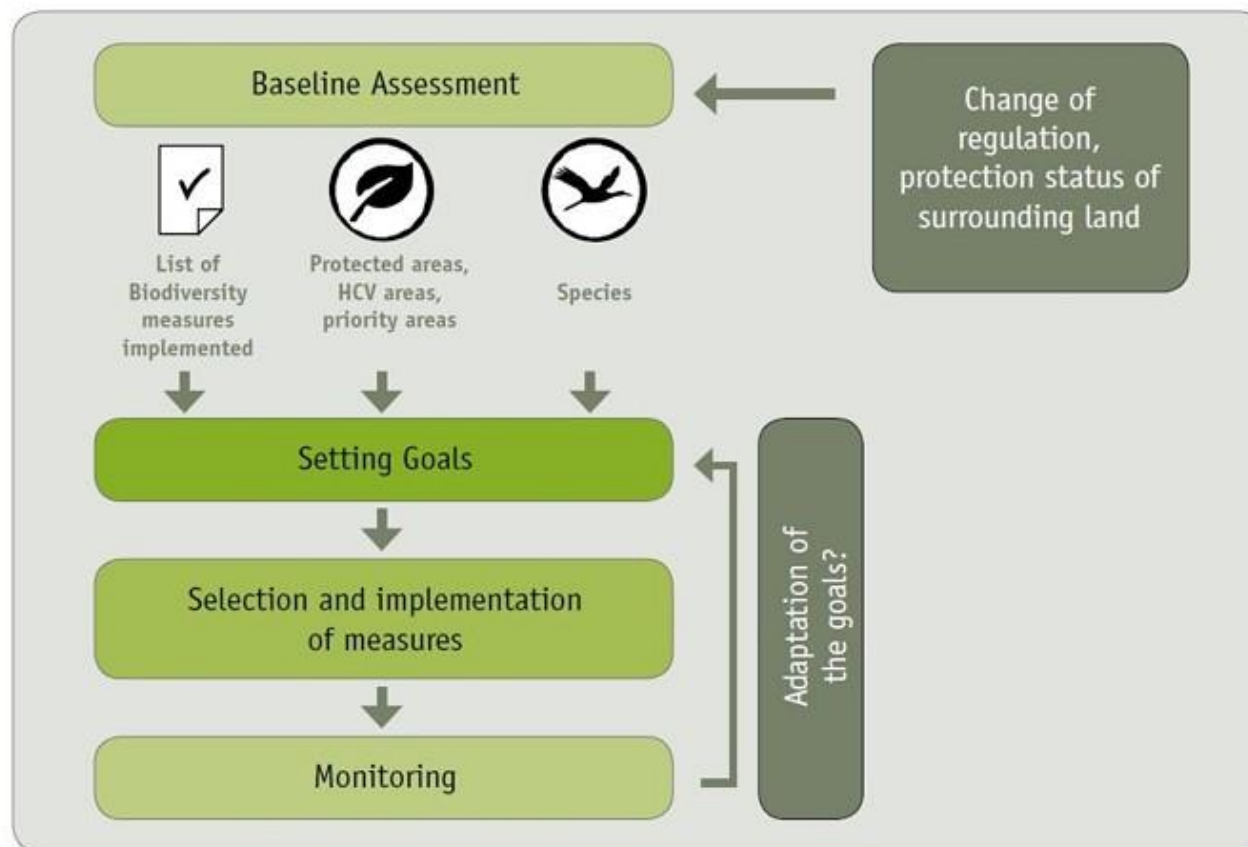
2. BIODIVERSITY & TECHNOLOGIES: Reacquainting ourselves with LOCAL BIODIVERSITY: Using Technology (Wikiloc) to create Biodiversity Cultural Natural Trails.

- Students will go out to a local park and using wikiloc will trace a biodiversity trail that should included a cultural/social aspect.
- Students present their natural/cultural trails

3. Practical activities: MICRO PONDS: the emergence of biodiversity & Ecology. <https://www.wildlifetrusts.org/actions/how-create-mini-pond>

Friday 17 of Dicember, 2021

1. Designing biodiversity conservation actions for your school:



http://www.heritageinschools.ie/content/resourcespdfs/Biodiversity_Action_Plan_for_Schools.pdf

2. Course evaluation.

i. These are two things I learned in this course?

a.

b.

ii. How is what I learned in this course relevant for my school or organization?

iii. Do I have anything to suggest towards the improvement of this course?

DAY 5 - EXPLORING THE CONCEPT OF
BIODIVERSITY.



its

EXPLORING BIODIVERSITY AND ECOLOGY THROUGH THE LENS OF CREATIVITY AND CULTURE

BARCELONA, DICEMBER 13-17, 2021

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