

# Erdpuls Müllrose — Master Document Index

*Complete Guide to All Project Documents*

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# Erdpuls Document Ecosystem — Master Index

## Complete Guide to the Pattern Discovery Toolkit and Supporting Documents

**Erdpuls Müllrose — Living Laboratory & Makerspace Garden**

**Location:** Müllrose, Brandenburg, Germany

**Version:** 1.4

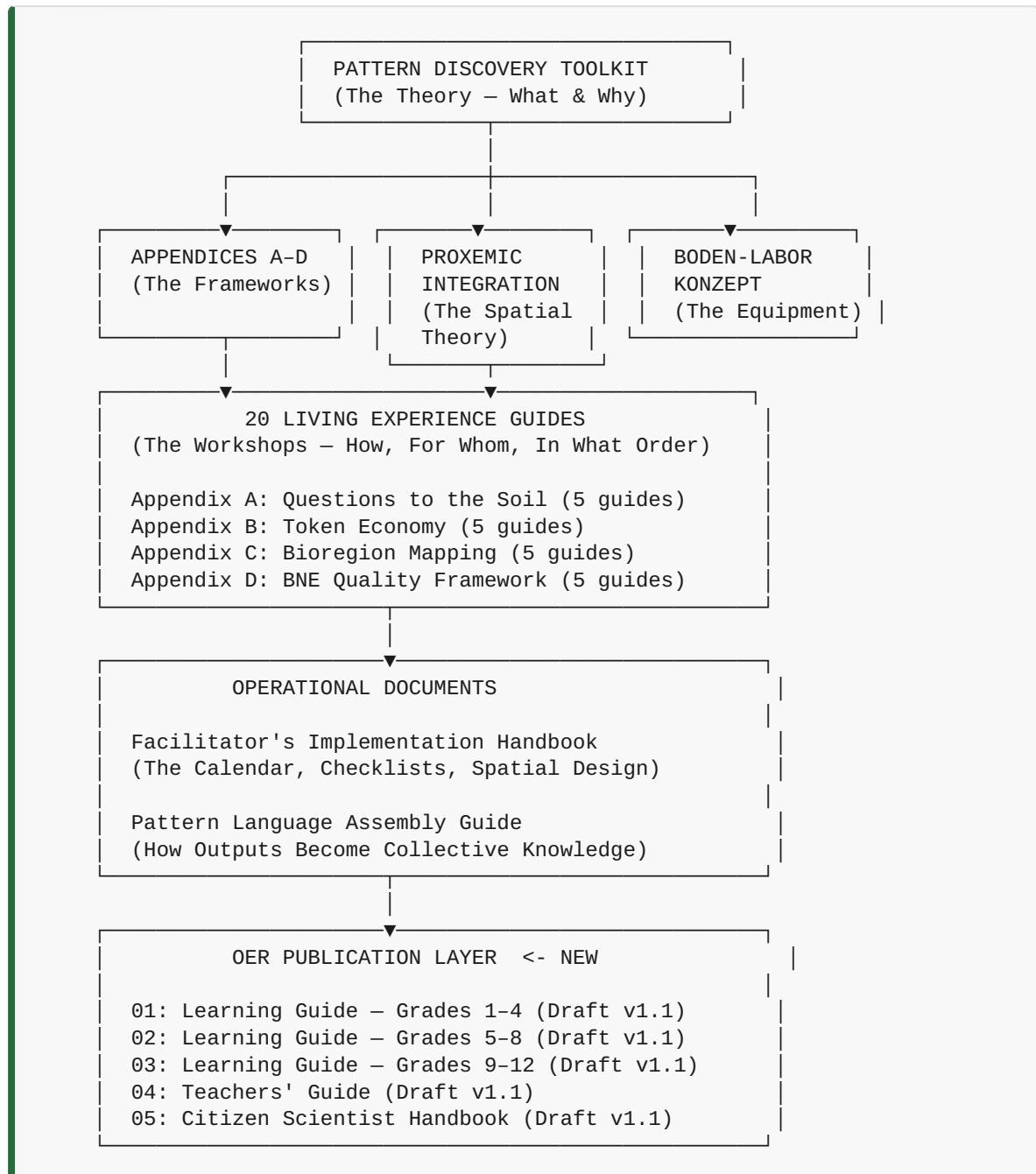
**Date:** February 2026

## Changelog

Version	Date	Changes
1.4	February 2026	BNE compliance update: BNE System Compliance Map section added (all 7 quality areas mapped to specific documents); Layer 7 (Authoring Standards) added to document catalog; Doc #7 (BNE Quality Framework — Living Guides) updated to v1.2 and DE translation recorded; Layer 2 description updated to reflect v1.2 guide additions (measurable learning objectives per target group, sustainability dimensions, SDG links, methodological foundations, facilitator qualification requirements, pre/post-workshop support references); Intellectual Traditions section header added; tradition count corrected (ten, not nine); statistics table corrected (49/57, not 69/69)
1.3	February 2026	SDG Alignment section added (8 confirmed SDGs, 2 pending author review, with tier classification and OER Layer expression column); statistics table updated with SDG counts
1.2	February 2026	OER Publication Layer added (5 new audience-specific guides); location field updated; license field updated to CC BY-SA 4.0; "Other" audience placeholder added; language availability columns added
1.1	February 2026	Institution name updated; license footer added; version updated for OER publication
1.0	October 2025	Initial release

## How This System Fits Together

The Erdpuls educational system is documented across multiple files that serve different purposes. This index explains what each document does, who should read it, and how they connect.



## Document Catalog

### Layer 1: Theoretical Foundation

#	Document	Purpose	Read First If You Are...	Status	Languages
1	<b>Pattern Discovery Toolkit</b>	The core method: what pattern languages are, how phenomenological observation works, the concentric ring structure, proxemics as spatial grammar (Section 1.5), the pattern card template, adaptation guide, theoretical roots.	Anyone new to the project. This is the starting point.	(done) Complete v1.1	EN
2	<b>Pattern Discovery Toolkit — Appendices</b>	Four technical appendices: A (Questions to the Soil protocol), B (Token Economy architecture), C (Bioregion Mapping protocol), D (BNE Quality Framework alignment).	A facilitator preparing to run specific workshop types.	(done) Complete v1.1	EN
3	<b>Proxemic Integration</b>	Weaves Edward T. Hall's proxemics into the toolkit: revised theoretical foundations, proxemic supplements for all 20 guides, standalone Proxemic Facilitator's Guide.	A facilitator who wants to understand <i>why</i> certain spatial arrangements produce deeper learning.	(done) Complete v1.1	EN

## Layer 2: Workshop Guides (The 20 Living Experience Guides)

#	Document	Appendix	Five Guides For...	Status	Languages
4	<b>Questions to the Soil — Living Guides</b>	A	Children/Youth, Adults/ Families, Elders/ Intergenerational, Artists/ Researchers, Cross- Border DE/PL	(done) Complete v1.1	EN
5	<b>Token Economy — Living Guides</b>	B	Same five target groups	(done) Complete v1.1	EN
6	<b>Bioregion Mapping — Living Guides</b>	C	Same five target groups	(done) Complete v1.1	EN
7	<b>BNE Quality Framework — Living Guides</b>	D	Same five target groups	(done) Complete v1.2	EN / DE

Each guide is standalone and field-ready. **As of v1.2 (February 2026), all 20 guides include the following BNE-compliant components:**

- **Overview table** with: title (trilingual DE/EN/PL), target group, group size, duration, location, season, **measurable learning objectives** (4 per guide, Area 1.2), **all four sustainability dimensions mapped** (ecological/economic/social/cultural, Area 2.1.1), **SDG links with justification** (2–3 per guide, Area 2.1.3), 4A-Pathway focus, curriculum links, **methodological foundations with citations** (Area 3.2.2/3.2.3), and prerequisites
- **Pedagogical rationale** (the challenge the guide addresses)
- **Preparation and materials list**
- **Session phases with timing** (phased experience structure)
- **Citizen Science Output specification** (contributing to open data infrastructure)
- **Token Economy integration table**
- **Facilitator Notes** including: guide-specific **facilitator qualification requirements** (Area 6.1.1 or 6.1.2), **pre-workshop preparation materials** reference (Area 3.3.1), **post-workshop follow-up resources** (Area 3.3.3)
- **Proxemic design notes** per phase

### Layer 3: Operational Infrastructure

#	Document	Purpose	Read This When...	Status	Languages
8	<b>Facilitator's Implementation Handbook</b>	Annual programming calendar, workshop preparation checklists, Proxemic Audit template, printable materials master list, spatial design guide for the five campus zones, month-by-month narrative, troubleshooting guide.	You are planning your first (or next) year of programming.	(done) Complete v1.1	EN
9	<b>Pattern Language Assembly Guide</b>	How to take a year's accumulated workshop outputs and synthesize them into a coherent, place-specific pattern language. The annual synthesis ritual. Year-over-year accumulation. Uses and outputs.	January, when the year's data needs to become knowledge.	(done) Complete v1.1	EN

### Layer 4: Campus and Equipment

#	Document	Language	Purpose	Status
10	<b>Erdpuls Boden-Labor Konzept</b>	EN	Soil Laboratory concept: design principles, three-tier equipment architecture, complete equipment list, seasonal rhythms, maintenance protocols.	External document — not in this repository

#	Document	Language	Purpose	Status
11	<b>Erdpuls Boden-Labor Konzept (DE)</b>	DE	German translation of the above.	External document — not in this repository
12	<b>Erdpuls Boden-Labor Einkaufsliste</b>	DE	Equipment shopping list spreadsheet with quantities, specifications, and suppliers.	External document — not in this repository

### Layer 5: Institutional Documentation

#	Document	Language	Purpose	Status
13	<b>Erdpuls BNE-Bewertung und Leitbild</b>	DE	Comprehensive BNE quality self-evaluation against all 69 Brandenburg criteria, plus the complete BNE-Leitbild (mission statement). Evidence of 86% full compliance.	External document — not in this repository
14	<b>BNE Qualitätskatalog Brandenburg</b>	DE	The official Brandenburg BNE quality catalog (source document, PDF). Reference for all quality-related work.	External document — not in this repository

### Layer 6: OER Publication Layer

*These five documents were generated in February 2026 as audience-specific learning guides for publication on WirLernenOnline, Zenodo, and OER Commons. All are Draft v1.1. German (DE) and Polish (PL) translations are pending Phase 3.*

*The "Other" audience slot (#06) is reserved. Audience definition pending from project author before file can be created.*

#	File	Audience	Purpose	Status	EN	DE
01	<a href="#">01_learning_guide_grades_1-4.md</a>	Grades 1–4, ages 6–10	Lower primary learning guide: phenomenological soil observation, will-forces developmental stage, Token Seeds, senseBox as conversation partner, Class Soil Portrait	Draft v1.1	(done)	(pending)
02	<a href="#">02_learning_guide_grades_5-8.md</a>	Grades 5–8, ages 11–14	Middle school learning guide: full 13-Question soil protocol, 4A-Pathway, systematic measurement, senseBox operation, Comparative Data Board, four token elements	Draft v1.1	(done)	(pending)
03	<a href="#">03_learning_guide_grades_9-12.md</a>	Grades 9–12, ages 15–18	Upper secondary research guide: independent inquiry, research question design, full senseBox deployment, GIS mapping (optional), UBECrc design exercise, open science contribution	Draft v1.1	(done)	(pending)



#	File	Audience	Purpose	Status	EN	DE
04	<a href="#">04_teachers_guide.md</a>	Teachers and educators	Teachers' companion: pedagogical theory, 4A-Pathway explanation, anthroposophical developmental framework, Brandenburg curriculum alignment tables, pre/post-visit activities, assessment rubrics, parent communication template	Draft v1.1	(done)	(pending)
05	<a href="#">05_citizen_scientist_handbook.md</a>	Adult citizen scientists	Citizen science handbook: global monitoring network, meaningful observation contribution, reading sensor data, blockchain basics for non-technical users, community science best practices, building a home senseBox station, local-to-global pattern connection	Draft v1.1	(done)	(pending)

#	File	Audience	Purpose	Status	EN	DE
06	(file name TBD)	Other (undefined)	[PENDING — AUDIENCE DEFINITION REQUIRED BY AUTHOR before this file can be created]	(not started)	—	—

### Phase 3 Translation Status

All OER guides (01–05) require DE and PL translations before full trilingual OER publication.

Recommended Phase 3 sequence:

1. `04_teachers_guide.md` -> DE (highest priority: the primary audience for German OER platforms is teachers)
2. `01_learning_guide_grades_1-4.md` -> DE then PL (most frequently used workshop audience)
3. `05_citizen_scientist_handbook.md` -> DE then PL (large potential audience on German-language OER platforms)
4. `02_learning_guide_grades_5-8.md` -> DE then PL
5. `03_learning_guide_grades_9-12.md` -> DE then PL

### Layer 7: Authoring Standards

Added February 2026. These two documents define how all Erdpuls documents are written and how Claude is prompted to assist. Stored in the `standards/` folder.

#	File	Purpose	Status
15	<b>Erdpuls Markdown Authoring Standard v1.1</b> ( <code>ERDPULS_MARKDOWN_STANDARD_v1_1.md</code> )	Defines formatting conventions for all Erdpuls documents: YAML front matter structure, divider style ( <code>* * *</code> ), table formatting, colophon language, platform capitalisation, token element notation, and file-naming conventions. Applied retrospectively to all documents in February 2026.	Active

#	File	Purpose	Status
16	<b>Erdpuls Claude Prompt v1.1</b> ( ERDPULS_CLAUDE_PROMPT_v1_1.md )	System prompt for Claude sessions: project context, document conventions, BNE compliance requirements, authoring priorities, and session startup instructions. Indexed in project knowledge — available to Claude in every session without manual upload.	Active

## Reading Paths

### "I have one hour. What should I read?"

-> Pattern Discovery Toolkit, Parts 1–2 (Foundations + Method). This gives you the concentric ring structure, the phenomenological observation method, proxemics as spatial grammar, and the basic workshop flow.

### "I need to run a workshop next week."

-> The specific Living Experience Guide for your target group and appendix. Then the corresponding Proxemic Supplement (in the Proxemic Integration document). Then the Universal Checklist in the Implementation Handbook.

### "I'm preparing the annual program."

-> Implementation Handbook (full). Then the Pattern Language Assembly Guide (to understand what the year is building toward).

### "I want to understand the theoretical framework."

-> Pattern Discovery Toolkit (full, including Part 5: Theoretical Roots). Then the Proxemic Integration (Part One: Revised Theoretical Foundations). Then the BNE-Bewertung for the quality framework alignment.

### "I need to write a funding proposal or certification application."

-> BNE-Bewertung und Leitbild (the institutional compliance document). Supplemented by the Pattern Language Assembly Guide (which shows what the program produces) and the Implementation Handbook (which shows how it operates).

### "I want to adapt this for my own initiative."

-> Pattern Discovery Toolkit, Part 4 (Adaptation Guide). Then the Appendices D.4 (Adapting to Other Quality Frameworks). Then select the Living Experience Guides most relevant to your target groups, understanding that every place will discover different patterns using the same method.

### "I am a classroom teacher preparing to bring my class."

-> `04_teachers_guide.md` first (your complete briefing document). Then the relevant student learning guide for your grade band (01, 02, or 03). The Implementation Handbook provides operational detail if needed.

### "I want to become a citizen scientist."

-> `05_citizen_scientist_handbook.md`. Then attend an Erdpuls Open Makerspace Day to build a senseBox station and start contributing to the openSenseMap network.

## The Five Target Groups Across All Documents

Every living experience guide is differentiated for the same five groups. This table shows where each group appears:

Target Group	Appendix A Guide	Appendix B Guide	Appendix C Guide	Appendix D Guide
<b>Children/Youth</b> (8–18)	Erdreich-Entdecker	Das Garten-Wirtschaftsspiel	Wo hört unser Ort auf?	Habe ich etwas Echtes gelernt?
<b>Adults/Families</b>	Boden-Begegnung	Sehen, was wir schon tauschen	Die Karte unter der Karte	Was macht es wert, wiederzukommen?
<b>Elders/Intergenerational</b>	Boden-Gedächtnis	Der Erinnerungsmarkt	Die Landschaft erinnert sich	Was ist es wert, weitergegeben zu werden?
<b>Artists/Researchers</b>	Boden-Tiefe	Wert jenseits des Preises	Kartografien der Zugehörigkeit	Messen, was zählt
<b>Cross-Border DE/PL</b>	Boden-Brücke	Eine Wirtschaft, Zwei Sprachen	Eine Landschaft, Zwei Länder	Qualität ohne Grenzen

*Note: The OER Layer (Layer 6) differentiates by school grade band rather than by Erdpuls target group. Guide 01 (Grades 1–4) corresponds to the younger range of the Children/Youth group. Guides 02–03 (Grades 5–12) correspond to the older range. The Teachers' Guide and Citizen Scientist Handbook serve audiences not covered by the 20 Living Experience Guides.*

## The Five OER Competency Clusters

All OER Layer documents are aligned to five competency clusters, which correspond to the Brandenburg BNE Gestaltungskompetenzen:

Cluster	BNE Alignment	Appears Most Strongly In
<b>Environmental Literacy</b>	4.1.1, 4.1.2, 4.1.3	All three student guides; Ch. 2 of Citizen Scientist Handbook
<b>Scientific Inquiry</b>	4.1.4, 4.2.1, 4.3.2	Guide 02 (full protocol); Guide 03 (research track); Ch. 2–3 of Handbook
<b>Technology Competence</b>	4.1.2, 4.3.2	Guide 02–03 (senseBox); Ch. 6 of Handbook (station building)
<b>Economic Understanding</b>	4.2.2, 4.2.3, 4.3.1	Guide 02 (four elements); Guide 03 (UBECrc design); Ch. 4 of Handbook
<b>Social-Emotional Learning</b>	4.2.4, 4.3.3, 4.3.4	Guide 01 (Token Seeds, closing circle); Guide 02 (4A-Pathway); Ch. 5 of Handbook

## BNE System Compliance Map

The Erdpuls document ecosystem achieves **86% full compliance** (49/57 criteria fully met) against the Brandenburg BNE Quality Catalog (Qualitätskatalog für BNE außerschulischer Anbieterinnen und Anbieter, MLUK Brandenburg, April 2023). All minimum requirements across all seven quality areas are satisfied. The table below maps each BNE quality area to the primary documents that demonstrate it and summarises the compliance status. For the complete criterion-by-criterion evaluation with evidence statements, see the *BNE-Bewertung und Leitbild* (Document #13).

BNE Area	Title	Status	Primary Documents	Key Evidence
1	Goals and Target Groups	[OK] 4/4	All 20 Living Guides (v1.2 Overview tables); BNE-Bewertung	Measurable learning objectives (4 per guide) differentiated per target group (1.2); five target groups defined across program (1.1); values-action gap as central problem statement (1.1.1 Lebenswelt)
2	Approach	[OK] 3/3	Toolkit (all parts); all 20 Living Guides (v1.2 Sustainability Dimensions row); Appendices A–D	All four sustainability dimensions (ecological/economic/social/cultural) explicitly mapped in every guide's Overview table (2.1.1); SDG links per guide (2.1.3); local-global linkage via Naturpark Schlaubetal <-> open data infrastructure (2.2)
3	Methods	[OK] 11/13 — [!] 2 partial	All 20 Living Guides; Proxemic Integration; Implementation Handbook	All guides demonstrate action-orientation, situated learning, participation, and reflection (3.1); methodological foundations cited with academic references per guide (3.2.2/3.2.3); pre-workshop preparation materials documented (3.3.1, via Guide Selection Aid and Appendix D); post-workshop follow-up resources documented (3.3.3, via OER platform, token economy, erdpuls@ubec.network)

BNE Area	Title	Status	Primary Documents	Key Evidence
4	Design Competencies (Gestaltungskompetenz)	[OK] 12/12	All 20 Living Guides; Appendix D; OER Layer; OER Competency Clusters table	All 12 Transfer 21 sub-competencies addressed (minimum: 1); competency clusters mapped in this index; each guide's Overview table maps guide-specific competency contributions
5	Quality Development	[OK] 6/7 — [!] 1 partial — [pending] 1 planned	BNE-Bewertung; Pattern Language Assembly Guide; BNE Quality Framework Living Guides (all target groups); Implementation Handbook	Development goals and three-phase plan with budgets (5.1.1/5.1.2); continuous praxis reflection via sensor data and Quality Cards/Compass (5.2.1); systematic self-evaluation in development (5.2.2, Phase 2); external evaluation planned (5.2.3, Phase 3); cooperation with national and international partners documented (5.3)
6	Facilitator Qualification	[OK] 3/4 — [!] 1 partial	All 20 Living Guides (v1.2 Facilitator Notes sections); Implementation Handbook	Guide-specific facilitator qualification requirements stated in every guide (6.1.1 formal qualification or 6.1.2 documented experience); Guide 5 (Cross-Border) carries mandatory bilingual DE/PL co-facilitation requirement; continuing education pathway via annual Erdpuls programming cycle documented

BNE Area	Title	Status	Primary Documents	Key Evidence
7	Organisational Conditions	[OK] 10/14 — [!] 2 partial — [pending] 2 planned	BNE-Bewertung und Leitbild; Boden-Labor Konzept; Implementation Handbook	Formal Leitbild with Vision and five Leitsätze (7.1); heritage campus with five zones (7.2); three-phase development plan with documented budgets €95k–€190k (7.3); cycling/transport info in development (7.4.1); community kitchen planned Phase 3 (7.4.3)

**Minimum requirements across all seven areas: met.**

*For the complete BNE criteria coverage reference at the individual guide level, see the BNE Criteria Coverage table in the introduction to each set of Living Experience Guides (Appendices A–D).*

## SDG Alignment

The Erdpuls program addresses eight confirmed SDGs (Tiers 1–2) and two additional SDGs pending author confirmation (Tier 3). The full evidence table with specific document citations is maintained in `00_METADATA_PACKAGE.md` (Section 1.4). The summary below is for quick reference and cross-referencing.

SDG	Title	Tier	Primary OER Layer Expression
<b>SDG 3</b>	Good Health and Well-Being	2 — Secondary	PM2.5/PM10/CO <sub>2</sub> /UV monitoring (Guide 05 Ch.3, Ch.6); WHO air quality thresholds explicitly cited
<b>SDG 4</b>	Quality Education	1 — Primary	Core purpose of all five guides; 12/12 Gestaltungskompetenzen; 86% of 69 BNE criteria; full curriculum alignment
<b>SDG 6</b>	Clean Water and Sanitation	2 — Secondary	Water infiltration test connecting to groundwater recharge, flood risk (All student guides Q8; Appendix A)



SDG	Title	Tier	Primary OER Layer Expression
<b>SDG 10</b>	Reduced Inequalities	2 — Secondary	Collective Threshold Model (4 participation pathways); multilingual OER; cross-border DE/PL access
<b>SDG 11</b>	Sustainable Cities and Communities	2 — Secondary	Bioregional mapping; commons-based token economy; community pattern language; heritage campus
<b>SDG 13</b>	Climate Action	1 — Primary	Continuous sensor monitoring; phenology tracking; longitudinal soil records; openSenseMap contribution
<b>SDG 15</b>	Life on Land	1 — Primary	13-question soil protocol; Life Count biodiversity monitoring; iNaturalist/GBIF contribution; Schlaubetal reference site
<b>SDG 17</b>	Partnerships for the Goals	1 — Primary	CC BY-SA 4.0 OER; open data (openSenseMap, GBIF); cross-border DE/PL program; open-source toolchain
<b>SDG 8</b>	Decent Work and Economic Growth	3 — Tertiary*	Non-monetary labour recognition via token economy (primarily in supporting documents; see metadata package)
<b>SDG 9</b>	Industry, Innovation and Infrastructure	3 — Tertiary*	Open-source senseBox IoT; Makerspace; citizen-built monitoring infrastructure (primarily a tool dimension)

\*Tier 3 SDGs are documented in the supporting document layer. Author should confirm whether to cite these in OER Layer platform submissions.

**Confirmed for platform submissions:** SDG 3, 4, 6, 10, 11, 13, 15, 17

## Intellectual Traditions

The toolkit draws on ten named intellectual traditions. This table shows where each is most active:

Tradition	Primary Document	Where It Appears Most Strongly
Christopher Alexander (Pattern Language)	Toolkit Parts 1, 3, 5	The ring structure, the pattern card, the narrative synthesis

Tradition	Primary Document	Where It Appears Most Strongly
Edward T. Hall (Proxemics)	Toolkit Section 1.5, Proxemic Integration	Sensory regimes per ring, facilitation spatial design, cross-cultural encounters
Goethean Science	Toolkit Part 1.2	Ring 0 body-calibration, "sensation before interpretation," the sensor dialogue
Phenomenology (Merleau-Ponty)	Toolkit Part 1.2	The body as instrument, observation before analysis
Bioregionalism	Toolkit Part 5, Appendix C	Ring 4, walking transects, boundary deliberation
Sense of Place (Tuan, Relph)	Toolkit Part 5	The entire project: converting space into place through sensory engagement
Citizen Science	Toolkit Part 1.3, all guides	The sensor dialogue, GPS tracks, iNaturalist integration, open data
Ubuntu Philosophy	Toolkit Part 5, Appendix B	The reciprocal token economy, the Collective Threshold Model
Education for Sustainable Development	Appendix D, BNE-Bewertung	The 12 Gestaltungskompetenzen, the 69 quality criteria, certification
Anthroposophical Developmental Theory	OER Guides 01–04	Grade-band differentiation, 4A-Pathway staging, pedagogical framing for teachers

## Total Document System Statistics

Metric	Value
Total documents (all layers)	21 (14 original + 5 OER layer + 2 authoring standards)
Living Experience Guides	20 (5 target groups × 4 appendices)
OER Audience-Specific Guides	5 (Gr. 1–4, Gr. 5–8, Gr. 9–12, Teachers, Citizen Scientists)
Proxemic integration points	120+ across all guides
Target groups served	5 (original) + 3 school grade bands + teachers + citizen scientists

Metric	Value
BNE quality criteria fully met	49/57 (86%) — all minimum requirements met across all 7 areas
BNE quality criteria partially met	6/57
BNE quality criteria planned	2/57 (Phase 2–3)
Gestaltungskompetenzen addressed	12/12
SDGs addressed (confirmed Tier 1+2)	8 (SDG 3, 4, 6, 10, 11, 13, 15, 17)
SDGs pending author confirmation (Tier 3)	2 (SDG 8, 9)
Languages (original toolkit)	EN primary, DE for institutional documents, PL for cross-border materials
Languages (BNE Living Guides)	EN (done) / DE (done, February 2026)
Languages (OER layer guides 01–05)	EN (done) / DE (pending Phase 3) / PL (pending Phase 3)
License	CC BY-SA 4.0
Software license	AGPL-3.0

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*This document and its translations were developed with assistance from Claude (Anthropic PBC). All strategic decisions, philosophical positions, and project commitments are those of the author.*

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*Alle Dokumente und ihre Übersetzungen / All documents and their translations. Müllrose, Brandenburg*  
— February 2026