

Using an Arctic Mystery for Polar Literacy – Peggau et al. Appendix. Alignment of Arctic Mystery with Polar Literacy Project Rubric

Criterion	Present	Absent
Pillars. Each kit ...		
1. Provides opportunities for youth to experience, grapple with, and come to a clearer understanding of polar literacy principle (PLP) concepts	X (Connects most with Polar Literacy Principles 1, 4, 5, 7)	
2. Introduces students to polar scientists, their personal stories, and the research they do through face-to-face, video (live or recorded), and/or written resources	X (Synthesized to create character Perm A. Frost, polar researcher featured in session 7 may be live or via video conference)	
3. Includes activities that are place-based and encourage students to make local connections (i.e., To connect what they understand about local phenomena to similar phenomena in the polar regions)	X (Each week may include reflective writing prompt to compare/contrast Arctic and local conditions)	
4. Is data-rich, providing one or more opportunities for students to grapple with authentic data sets and to engage in one or more creative “data jam” activities	X (Numerous data sets provided, including qualitative and quantitative)	
Pedagogical Elements. Each kit includes ...		
5. Activities that explicitly draw upon inquiry-based learning principles (e.g., The 4-E instructional model) and provide opportunities for students to engage in reflective discourse	X (Engage-Explore-Explain, each week starts with “opening” of next mystery envelope, each session broken into two segments with first part Explore and second part Explain, youth focused on different content and did outside reading on some topics, during pilots most youth spend 1 hour or more per week outside of sessions)	
6. Activities that allow informal facilitators to be responsive to the needs and interests of youth	X	
7. Easy-to-follow instructional materials that are responsive to the needs of informal facilitators, with limited time and a range of levels of experience	X (Facilitator guide available with video support, facilitators use dialogue techniques to promote discussion and meaning creation)	
8. Options for scaling materials to the ability levels of diverse youth audiences	X (Key questions provided each week for pre-session exploration and in-session dialogue, each challenge has multiple ways to solve it to appeal to different ability levels and interests)	
Specific Kit Elements. Each kit includes ...		
9. Assessable learning outcomes	X	
10. Supplies and consumables (e.g., Worksheets, manipulatives)	X	
11. Access to multi-media-based activities (e.g., Concept in a minute videos)	X	
12. Contextual information (e.g., Citations)	X	

Request Access to the Material here: https://osu.az1.qualtrics.com/jfe/form/SV_af1i5KAaOpBMo6i.