context and resources for understanding the comparison to average - climate datasets can serve as reference points when averaged over longer time spans. Learners are asked to observe patterns and trends and are instructed to use the Analyze Tool feature to get the exact temperature anomaly for their general location in order to compare what the difference was in 1880 to today. Learners are asked to think about why the differences have changed over time. This activity is an excellent complement to a lesson about climate change and its impacts. More advanced learners may be directed to explore where the data came from (source), how it is calculated, and how it compares to other measurements of temperature (satellite, model, ground-based). The data presented in this visualization are from the National Centers for Environmental Information which uses data from thousands of land and ocean temperature stations around the world to determine temperature averages and differences (anomalies).

Calculating Points

Learners will receive 10 points for completing the activity.

Citizen Science

This section provides a brief overview of citizen science and describes a few citizen science initiatives for learners to explore and become involved. The projects (CoCoRaHS and mPing) are just two of many projects available. Hundreds of projects are cataloged at CitizenScience.gov (https://www.citizenscience.gov/catalog/#). Encourage learners to explore the catalog and find a project that they are passionate about. Learners could consider joining a project as a group.

Where are you on the Steps to Resilience?

This section describes the U.S. Climate Resilience Toolkit (https://toolkit.climate.gov/) and the 5 steps it outlines for resilience:

1. Explore Hazards
2. Assess Vulnerability and Risks
3. Investigate Options
4. Prioritize and Plan
5. Take Action

The toolkit has lots of great content and resources related to resilience including case studies, experts, reports, and state climate summaries. Learners can explore case studies and information by location, region, and topics ranging from the built environment, health, transportation, water, food, energy, ecosystems, coasts, and tribal nations. There are also online tools such as the Climate Explorer (https://crt-climate-explorer.nemac.org/) that allows you to see the projected climate change for any county in the United States. These resources can supplement and enhance learners' curriculum related to climate change and resilience.

After learners have completed the various sections of the activity book, they can fill out all their points on the Steps to Resilience page and add up their total points. Learners earn a badge related to each of these steps depending on their overall score for completing the activity book. Each badge and step along the path to resilience is a critical piece. It is important to remember that these steps are part of a journey and

each badge is an accomplishment, necessary to support the end goal of resilience. Learners can cut out the badges they have earned.

Alignment with Next Generation Science Standards

The following table identifies the alignments between the concepts covered in the activities and the Disciplinary Core Ideas (DCI) of the Next Generation Science Standards.

Next Generation Science Standards Performance Expectation	**Activity**					
	Education Activity	***Community Resources Activity***	***Community Preparedness Activity***	***Environmental Justice Activity***	***Traditional Knowledge***	***Action Activity***
3-ESS2-2 Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years. **[ESS.2D]**						
3-ESS3-1/4-ESS3-2/ MS-ESS3-5 A variety of natural hazards result from natural processes. Humans cannot eliminate natural hazards but can take steps to reduce their impacts. **[ESS3.B]**						
5-ESS3-1 Human activities in agriculture, industry, and everyday life have had major effects on the land, vegetation, streams, ocean, air, and even outer space. But individuals and communities are doing things to help protect Earth's resources and environments. **[ESS3.C]**						
MS-ESS3-5 Human activities, such as the release of greenhouse gases from burning fossil fuels, are major factors in the current rise in Earth's mean surface temperature (global warming). Reducing the level of climate change and reducing human vulnerability to whatever climate changes do occur depend on the understanding of climate science, engineering capabilities, and other kinds of knowledge, such as understanding of human behavior and on applying that knowledge wisely in decisions and activities. **[ESS3.D]**						
3-5-ETS1-2 At whatever stage, communicating with peers about proposed solutions is an important part of the design process, and shared ideas can lead to improved designs. **[ETS1.B]**						

3-ESS2-2: https://www.nextgenscience.org/pe/3-ess2-2-earths-systems
3-ESS3-1: https://www.nextgenscience.org/pe/3-ess3-1-earth-and-human-activity
4-ESS3-2: https://www.nextgenscience.org/pe/4-ess3-2-earth-and-human-activity
5-ESS3-1: https://www.nextgenscience.org/pe/5-ess3-1-earth-and-human-activity
3-5-ETS1-2: https://www.nextgenscience.org/pe/3-5-ets1-2-engineering-design
MS-ESS3-5: https://www.nextgenscience.org/pe/ms-ess3-5-earth-and-human-activity