**NGSS Connections to Connectivity Project Videos:**

* Interconnections
* Speaking Out
* Plants Have Wings

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| **Middle School** | | |
| **NGSS Performance Expectation** | Crosscutting Concept | **Link to Video** |
| MS-LS1-2: Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function. | Structure and function | **Interconnections**: The earth works as a system, just like organisms have parts that contribute to the function of the organism as a whole. |
| MS-LS2-1: Analyze and interpret data to provide evidence for the effects of resource availability on organisms and populations of organisms in an ecosystem. | Cause and effect | **Speaking Out**: Resource availability for the globe, as well as the segment on air pollution and strategies to address it.  **Plants Have Wings**: The segment around pollinators and the efforts to help them with native plants. |
| MS-LS2-2: Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems. | Patterns | **Interconnections**: All segments are appropriate.  **Plants Have Wings:** The segment that discusses pollination strategies and different ecosystems. |
| MS-LS2-4: Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations. | Stability and change | **Speaking Out**: Contamination/air pollution affecting populations.  **Plants Have Wings**: Bee population dynamics. |
| MS-LS2-5: Evaluate competing design solutions for maintaining biodiversity and ecosystem services. | Stability and change | **Speaking Out:** Research air pollution solutions.  **Plants Have Wings:** Adopt planting Milkweed for bee populations at school or home. |
| MS-ESS3-2: Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of technologies to mitigate their effects. | Patterns | **Speaking Out**: How can you as a community plan mitigations, or predict what mitigations might be necessary based on current trends? |
| MS-ESS3-3: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment. | Cause and effect | **Speaking Out**: The segment where students are discussing with each other and their representatives, about how to address the air quality in their community. |
| MS-ESS3-4: Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. | Cause and effect | **Speaking Out**: Throughout the air quality segments, the industry connections to the pollution problem are explicitly pointed out. |

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| **High School** | | |
| **NGSS Performance Expectation** | **Crosscutting Concept** | **Link to Video** |
| HS-LS2-6: Evaluate the claims, evidence, and reasoning that the complex interactions in ecosystems maintain relatively consistent numbers and types of organisms in stable conditions, but changing conditions may result in a new ecosystem. | Cause and effect | **Plants have Wings**: The segment that discusses how different types of plants can influence pollinator populations. |
| HS-LS2-7: Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. | Cause and effect | **Speaking Out:** The segment on the school group planning air quality monitoring and interventions.  **Plants Have Wings:** The segment on grassroots organizing around increasing native plant populations. |
| HS-LS4-5: Evaluate the evidence supporting claims that changes in environmental conditions may result in: (1) increases in the number of individuals of some species, (2) the emergence of new species over time, and (3) the extinction of other species. | Cause and effect | **Plants Have Wings**: The segment that discusses how without native plants, pollinator populations would crash. |
| HS-ESS3-2: Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios. | Systems and system models | **Speaking Out:** The segment on the school group planning air quality monitoring and interventions |
| HS-ESS3-3: Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity. | Systems and system models | **Speaking Out**: The segment on the school group planning air quality monitoring and interventions  **Plants Have Wings:** The segment on grassroots organizing around increasing native plant populations. |
| HS-ESS3-4: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. | Cause and effect | **Speaking Out**: The segment on the school group planning air quality monitoring and interventions  **Plants Have Wings:** The segment on grassroots organizing around increasing native plant populations. |
| HS-ESS3-6: Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity. | Patterns | **Interconnections**: The entire video would connect here. |