



EXPEDITION
DAYS



MCDOWELL
SONORAN
CONSERVANCY

Expedition Days Online

3rd GRADE HANDBOOK



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Welcome to Expedition Days Online!

This unit is designed to broaden your students' knowledge of the diverse Sonoran Desert environment and deepen their understanding of how they, too, are a part of this complex ecosystem.

Expedition Days Online (EDO) integrates inquiry and exploration into student learning, fits both in-person and virtual teaching formats, and is customizable to the needs of your classroom. The unit is aligned with multiple 3rd grade math, language arts, social studies, and science standards to create a holistic STEAM curriculum.

To help you integrate EDO into your teaching, in this packet you will find:

- A “how-to” overview for using the EDO curriculum.
- A comprehensive list of standards for each module.
- Concept maps for each of the modules.
- Activity list for each module with time estimates.

We have designed this unit to be both accessible and meaningful for you and your class. To continue improving Expedition Days Online and future programs, **if you participate, we ask that you:**

1. Have students complete the pre-assessment **before** using the materials: <https://www.surveymonkey.com/r/ZQJX8Z2>
2. Have students complete the post-assessment **after** using the materials: <https://www.surveymonkey.com/r/ZQ899SV>
3. Complete a teacher feedback survey when you are finished using the materials: <https://www.surveymonkey.com/r/FCF5K3L>

How to use Expedition Days Online

Expedition Days Online is designed to fit your unique classroom and we encourage you to customize the material to suit the needs of your students.

Here are some general suggestions for using the curriculum:

1. Use the module overviews and concept progressions to get a sense of what the module will entail and what your students will learn about.
2. **The resources page can be accessed here:**
<https://www.mcdowellsonoran.org/expo-modules> the **login code is: EDO**
3. On the resources page there are Study Guides with activities for each module. Students or teachers can download and print these from the student resources page.
4. On the student resources page, each module is an embedded presentation. These presentations include all necessary videos, links, concept information, and activity directions.
5. Please adapt this material for your particular instructional format and students.
6. If you have trouble accessing any of the materials please email expeditiondays@mcdowellsonoran.org.

How to Access the Web of Life Games

For individuals and groups, please view page 2 of the Study Guide

Classroom Teachers Only

Within the Web of life module, there are 3 uniquely created games made just for this module.

How to set up access for your students

1. Login with your email (that you registered with) and the password: **Welcome1**
<https://mcdowell-sonoran.web.app/admin/login>
2. You can ignore the request to create a new password. Just click to the side of the box or create a new password (this will come up every time you log in).

Ecosystems

This page is meant for Admins and Teachers only. If you are a student, please navigate to <https://game.mcdowellsonoran.org>.

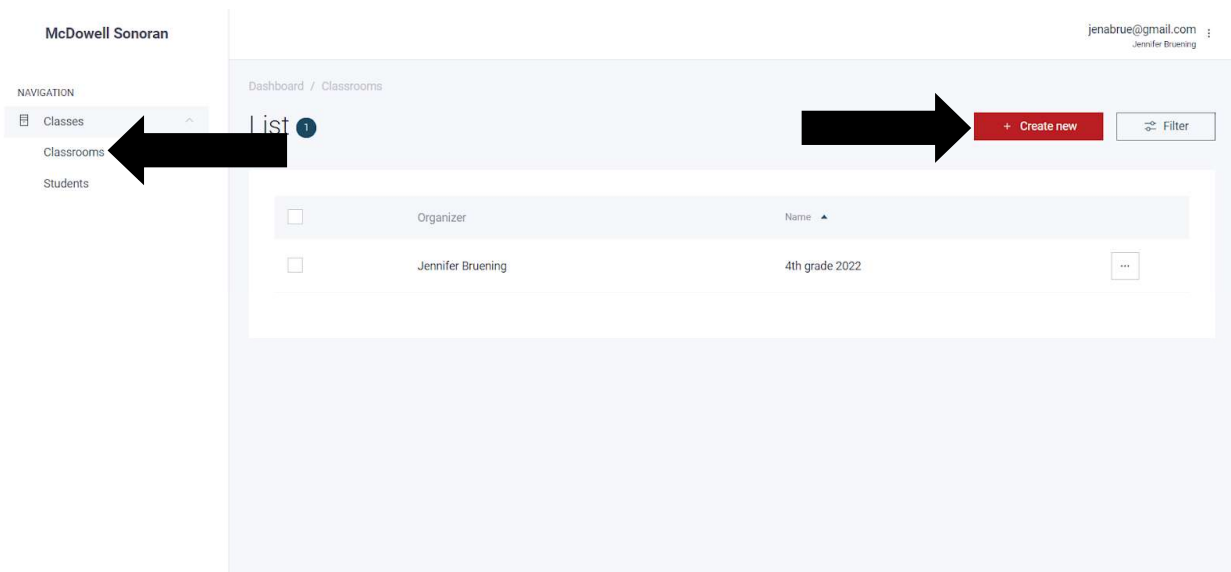
McDowell Sonoran

* Email
Email

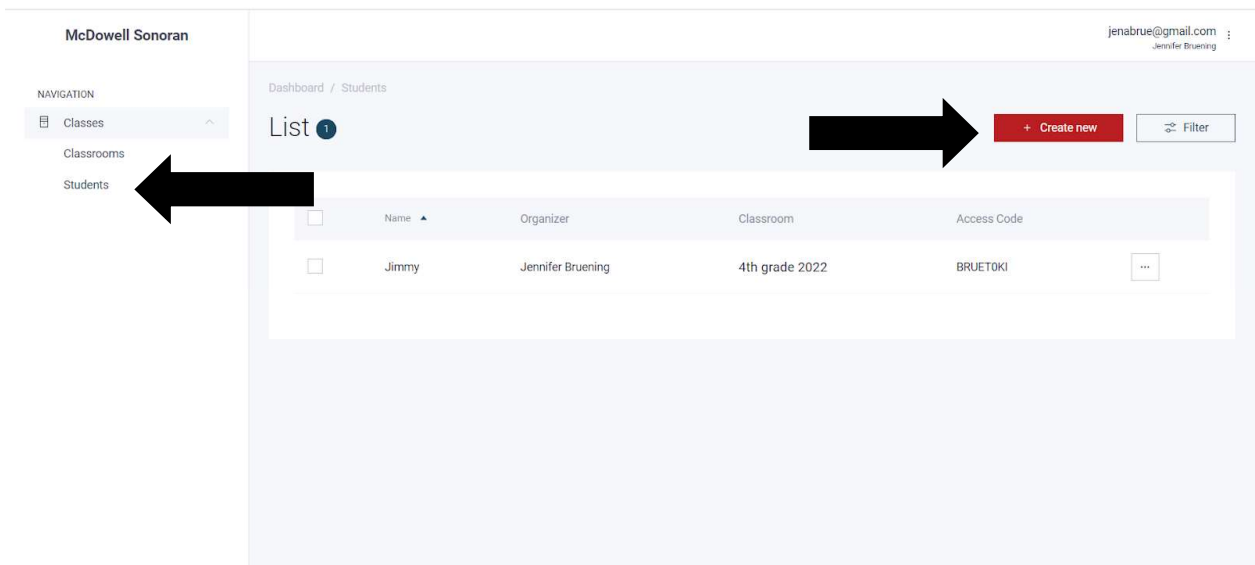
* Password
Password

Login

3. Create a classroom: Click on “Classrooms” in the navigation bar on the left, then select “Create new”, input information then save.



4. Create students: Click on “students” in the navigation bar on the left, then select “Create new”, input information including the student’s name and the classroom name you have just created. Then save.



5. Give each student their login information:
 - a. Teacher's last name= The **first four** of your last name
 - b. Access code= the **last four** digits of the access code given when viewing the students in the teacher's view.

Example:

The image shows two screenshots. The top screenshot is a 'List' view of students. It has a header with 'List 1', a '+ Create new' button, and a 'Filter' button. Below is a table with columns: Name, Organizer, Classroom, and Access Code. The first row shows 'Jimmy' as the name, 'Jennifer Bruening' as the organizer, '4th grade 2022' as the classroom, and 'BRUETOKI' as the access code. Two black arrows point from the 'Jennifer Bruening' and 'BRUETOKI' cells to the login form below. The bottom screenshot is a 'Web of Life' login page titled 'Login with your Access Code'. It contains a form with two input fields: 'Teacher's Last Name' with the value 'BRUE' and 'Assigned Code' with the value 'TOKI'. Below the fields are instructions: 'First four characters of Teacher's last name. (Example: Mrs. Jones = JONE)' and 'Random four characters assigned to you. (Example: 1A2B)'. There is a 'FORGOT ACCESS CODE?' link and a 'LOGIN' button.

Name	Organizer	Classroom	Access Code
Jimmy	Jennifer Bruening	4th grade 2022	BRUETOKI

Web of Life

Login with your Access Code

Teacher's Last Name
BRUE

First four characters of Teacher's last name. (Example: Mrs. Jones = JONE)

Assigned Code
TOKI

Random four characters assigned to you. (Example: 1A2B)

[FORGOT ACCESS CODE?](#)

[LOGIN](#)

6. If you have any trouble with logging in, setting up students, or with the game itself, please email Jen@mcdowellsonoran.org.

3rd GRADE STANDARDS

		Trash Through Time	Web of Life	Urban Desert	Tipping the Scales
Suggested Grade Level		3	3	3	3/4
3.L1U1.5:	Develop and use models to explain that plants and animals (incl. humans) have internal and external structures that serve various functions that aid in growth, survival, behavior, and reproduction.			✓	
3.L2U1.6:	Plan and carry out investigations to demonstrate ways plants and animals react to stimuli.		✓	✓	✓
3.L2U1.8:	Construct an argument from evidence that organisms are interdependent.	✓	✓	✓	✓
Math Standards					
3.NBT.A.2:	Fluently add and subtract within 1,000.			✓	✓
3.MD.B:	Represent and interpret data.			✓	✓
3.MP.1	Make sense of problems and persevere in solving them.				✓
3.MP.2	Reason abstractly and quantitatively.			✓	✓
3.MP.4	Model with mathematics.			✓	✓
3.MP.5	Use Appropriate tools strategically.			✓	✓
3.MP.7	Look for and make use of structure				✓
History and Social Science Standards					
3.SP1.1:	Create and use a chronological sequence of related events to compare developments that happened at the same time.			✓	
3.SP1.2:	Compare life in specific historical time periods to life today.	✓		✓	
3.SP3.3:	Identify and use evidence to answer compelling questions about Arizona.	✓	✓	✓	✓
3.SP1.6:	Construct arguments and explanations using reasoning, examples, and details from sources.	✓	✓	✓	✓
3.SP3.7:	Present summaries of arguments and explanations using print, oral, and digital technologies.	✓	✓	✓	✓
3.SP4.1:	Explain probable causes and effects of events.	✓	✓	✓	✓
3.G1.1:	Use and construct maps and graphs to represent changes in Arizona over time.			✓	✓

		Trash Through Time	Web of Life	Urban Desert	Tipping the Scales
3.G2.1:	Explain how people modify and adapt to the Arizona environment.			✓	✓
3.G4.1:	Describe how Arizona has changed over time.			✓	✓
3.H1.1:	Utilize a variety of sources to construct a historical narrative exploring Arizona's cultures, civilizations, and innovations.	✓			
Inquiry Elements					
Element 3:	Gathering and Evaluating Sources	✓	✓	✓	✓
Element 4:	Developing Claims	✓	✓	✓	✓
Element 5:	Communicating Conclusions	✓	✓	✓	✓
Element 6:	Taking Informed Action	✓	✓	✓	✓
English Language Arts Standards					
3.RI.1:	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers	✓	✓	✓	✓
3.RI.3:	Describe the relationship between a series of historical events, scientific ideas or concepts...using language that pertains to time, sequence, and cause/effect.	✓	✓	✓	✓
3.RI.7:	Use information gained from illustrations (maps, photographs) and the words in a text to demonstrate understanding of the text.	✓	✓	✓	✓
3.W.1:	Write opinion pieces on topics or texts, using reasons to support one's point of view.	✓	✓	✓	✓
3.W.2:	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.	✓	✓	✓	✓
3.SL.2:	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually quantitatively, and orally.	✓	✓	✓	✓

MODULE OVERVIEWS & CONCEPT MAPS

Urban Desert Overview

Student Time:

- 15-30 min. online presentation
- 60-90 min. completing activities
- 20-30 min. completing mini project

Major Theme

Human habitation of an environment changes that environment. Our job is to find a way to live with as little negative impact on the environment as possible.

Big Ideas

- We all live in the Sonoran Desert, even in urban areas.
- Adaptation is an evolutionary process where an organism becomes better suited to its habitat.
- Animals and plants have adapted to the Sonoran Desert environment.
- Humans are not physiologically adapted to the desert in the same way native Sonoran Desert animals are. Instead, we find external ways to control the environment to make it more comfortable for us.
- How humans interact with and control the environment changes the environment.
- Students can use observational methods to discover and investigate the urban desert we live in.

Urban Desert Concept Progression

What is a desert? Where is the Sonoran Desert? Do you live in the Sonoran Desert? How do you know if you live in the Sonoran Desert?



What do all living things need to survive? What are the challenges to living in the Sonoran Desert?



Since humans haven't been in the Sonoran Desert long enough to develop the types of physiological adaptations as plants and animals, how have people survived in the past? How do we survive now?



What is an adaptation? What are some examples of adaptations Sonoran Desert plants and animals have? Would these work for humans?



How have our survival methods impacted the environment?



Using what you know about Sonoran Desert plant and animal adaptations, how can humans integrate those adaptations into how we survive to minimize our impact on the environment?

Trash Through Time Overview

Student Time:

- 45-60 min. online presentation
- 45-60 min. completing activities
- 20-30 min. completing mini project

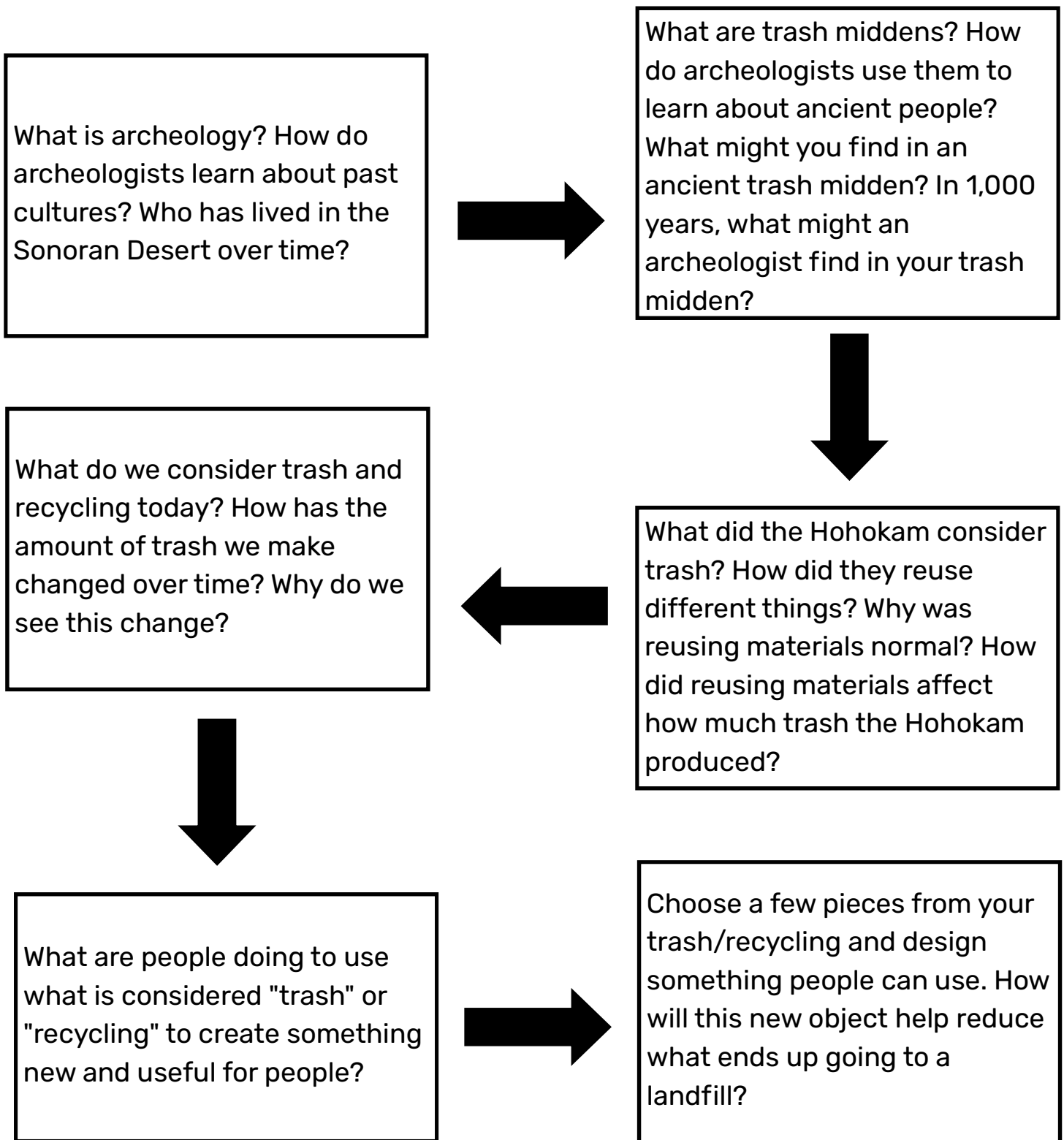
Major Theme

Humans have created trash throughout history but what we consider trash and our relationship to our environment has changed. We can learn from the past to make more sustainable decisions for the future of our environment.

Big Ideas

- Archeology is the study of human history through physical remains of what cultures have left behind, such as artifacts, structural remains, tools, and trash.
- Archeologists study trash middens to understand past cultures because trash holds the key to discovering what was important in people's daily lives.
- Human trash and what humans consider trash has changed over time.
- A society's trash reflects the resources available to its people.
- The trash a society produces affects the environment.

Trash Through Time Concept Progression



Web of Life Overview

Student Time:

- 30-45 min. online presentation
- 60-90 min. completing activities
- 30-45 min. completing mini project

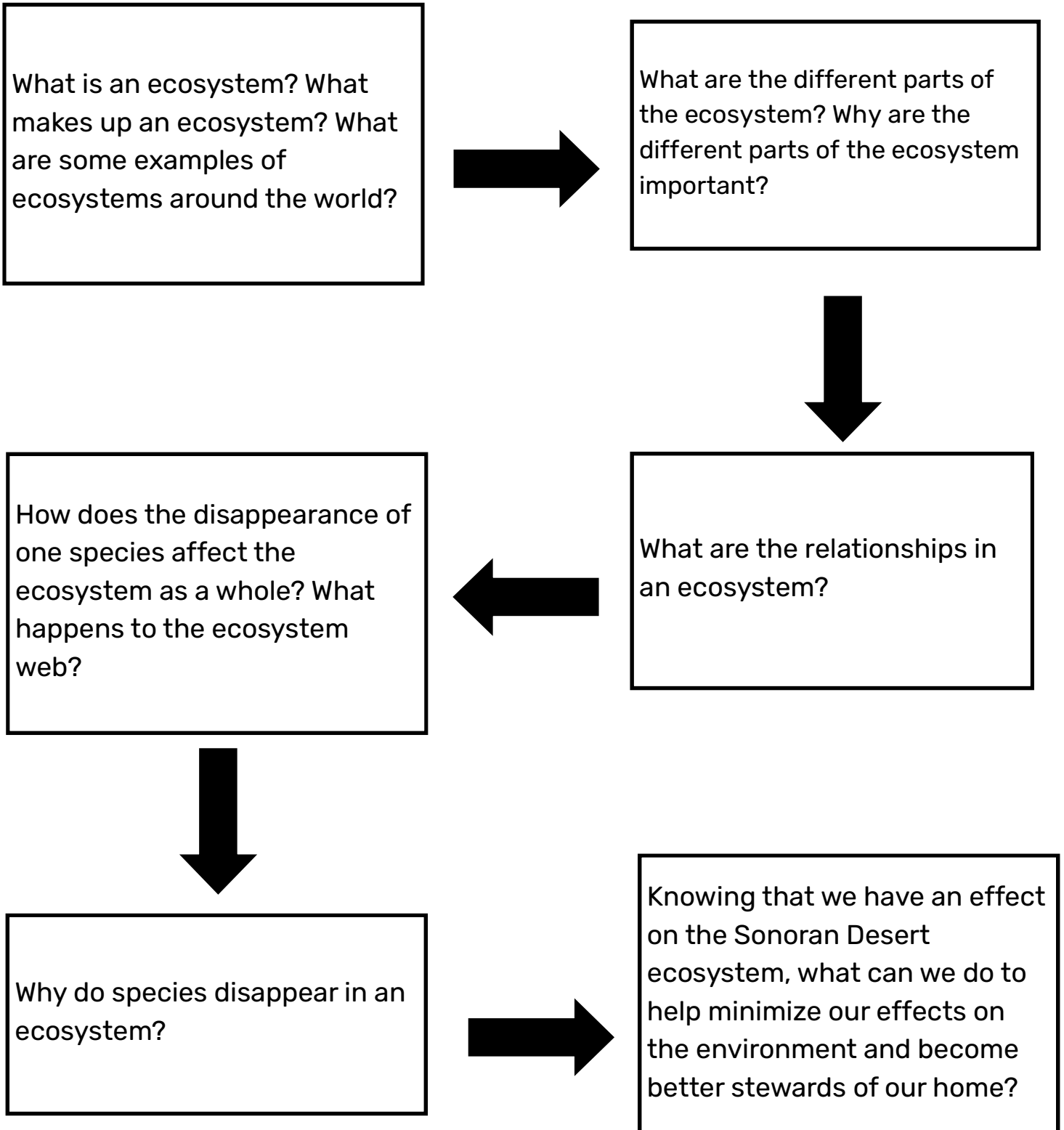
Major Theme

There are many ecosystems in the world, but all ecosystems have species that are interconnected and depend on one another for survival. Humans are a part of and affect the ecosystem they live in.

Big Ideas

- An ecosystem is a group of living things that interact with each other and their environment.
- The disappearance of any one species in an ecosystem will negatively affect other species and the entire ecosystem may become unbalanced.
- The Sonoran Desert is an ecosystem and humans are a part of it.
- Humans affect the Sonoran Desert ecosystem and are connected to the health of it.

Web of Life Concept Progression



Tipping the Scales (supplemental) Overview

Student Time:

- 45-60 min. online presentation
- 30-60 min. completing activities
- 20-30 min. completing mini project

Major Theme

There are multiple ways an ecosystem can become unbalanced, many of which are human caused. To ensure the health and longevity of the Sonoran Desert ecosystem, we must find ways to bring it back into balance.

Big Ideas

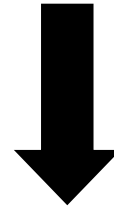
- Invasive species may cause an unbalanced ecosystem if they outcompete native species for resources and the native species disappear.
- The loss of keystone species, either through human or natural causes, can unbalance an ecosystem.
- Climate change stresses the environment and leads to unbalanced ecosystems.

Tipping the Scales Concept Progression

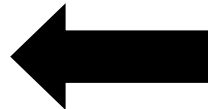
What is an invasive species? How do invasive species get into new ecosystems? What are examples of invasive species in Arizona? Do any of the invasive species surprise you?



What is buffelgrass? How has the buffelgrass affected the Sonoran Desert ecosystem? What is happening to the native grasses versus buffelgrass over time? Why are some invasive species so harmful to an ecosystem?



What can negatively affect keystone species populations? What happens to the ecosystem when the population of a keystone species becomes unbalanced?



What is a keystone species? What are keystone species in the Sonoran Desert? What are their relationships to other Sonoran Desert species?



What is the difference between climate and weather? How has the Sonoran Desert climate changed in the past 200 years? What are the effects of a changing climate?



How do the effects of climate change impact the Sonoran Desert ecosystem? What kind of imbalances can a changing climate cause? How are Sonoran Desert plants and animals affected? How are humans affected?

ACTIVITY LIST

Module	Activity	Page Number	Student Goals	Est. time (minutes)
Urban Desert	Finding the Desert	2-4	Decide if places on the map are in a desert. Use the second map to see if these places are in the Sonoran Desert.	15
Urban Desert	What Do You Need to Survive?	5	Decide whether each item is something you need to survive or something you want. Know what all living things need to survive.	10-15
Urban Desert	Adapting like a Sonoran Desert Species	8	Draw or write what you might look like if you had one or more Sonoran Desert plant or animal adaptations.	10-15
Urban Desert	Surviving in the Sonoran Desert	9-10	Compare how humans survived in the Sonoran Desert in the past with how we survive in the Sonoran Desert today.	15-20
Urban Desert	A Tale of Two Cities	11-13	Compare two temperature graphs from different cities and come up with possible answers for why there are differences between the two graphs.	15-20
Urban Desert	Desert Inspiration: Inventing with Adaptations	14-15	Take what you know about adaptation and human's impact on the environment and create a new design that will help humans survive in the desert with less impact.	20-30
Trash Through Time	What's in Your Trash?	3	Record what's in your trash or recycling. Describe what an archeologist in the future might say about you and your family based on your trash.	15
Trash Through Time	What Do You Consider Trash?	6	Identify what you consider trash and recycling.	5
Trash Through Time	Reuse to Reduce Waste	7-8	Come up with creative ways to reuse different items to keep them out of the landfill.	10
Trash Through Time	Recycling Versus Reuse	9	Explain the difference between recycling and reuse. Describe how people are getting creative with trash and recycling to create completely new items.	10
Trash Through Time	Changing Trash to Treasure	10-11	Design something new using items from your trash and recycling. Describe how this new item is useful and how it helps reduce the amount of waste going to the landfill.	20-30
Web of Life	Parts of an Ecosystem	2	Decide if each picture shows a living or nonliving thing. Explore how each part of the Sonoran Desert ecosystem is important.	15
Web of Life	Relationships in the Desert	3-4	Use your detective skills to determine how different species are connected in the Sonoran Desert ecosystem.	15-20
Web of Life	Disappearing Species	5	Determine what happens to the species in an ecosystem when one species disappears.	15

Web of Life	Design Your Web	7	Test your understanding of the relationships between species in an ecosystem and create your own ecosystem web.	15
Web of Life	Putting It All Together	9-11	Using what you have learned in Web of Life and other modules, design a new way humans can minimize our impact on the environment.	30-45
Tipping the Scales	Native or Non-native?	2	Identify species that are native and non-native to the Sonoran Desert.	10
Tipping the Scales	Buffelgrass in the Desert	3-4	Compare the populations of buffelgrass and native desert plants over time and come up with possible answers for why we see the changes in the two populations.	15
Tipping the Scales	Climate or Weather?	9	Use what you know about climate and weather to decide whether each statement in the following conversation is talking about climate or weather.	5
Tipping the Scales	Changing the Climate	10-11	Use the graph to come up with possible effects of human activity on climate in the Sonoran Desert.	10
Tipping the Scales	An Unbalanced Ecosystem	12	Explain how climate change affects the Sonoran Desert ecosystem, including the survival of invasive species and keystone species.	20-30

Additional Resources

Here are additional resources if you would like to dive deeper with your students on any of the module topics.

URBAN DESERT

- Sonoran Desert Museum adaptations online game: <http://desertmuseumdigitallibrary.org/kids/Games/Adaptations.html>
- NASA Climate Kids: <https://climatekids.nasa.gov/heat-islands/>

TRASH THROUGH TIME

- NSTA Talking Trash: <https://www.nsta.org/science-and-children/science-and-children-aprilmay-2020/talking-trash>

WEB OF LIFE

- Project WILD: <https://www.fishwildlife.org/projectwild/project-wild>
- The National Wildlife Federation Educator Tools: <https://www.nwf.org/Educational-Resources/Educator-Tools>
- PBS Human Impact on the Environment: <https://az.pbslearningmedia.org/collection/climate-change-understanding-the-impact/>

TIPPING THE SCALES (Supplemental)

- Metro Phoenix EcoFlora: <https://cazca.org/project/metro-phoenix-ecoflora/>
- City of Scottsdale, invasive plants: <https://www.scottsdaleaz.gov/fire/wild-fire-prevention/remove-invasive-plants>