

Where water brings  
nature to life.

BBC EARTH'S  
WILD  
AFRICA

BBC  
earth



The Field  
Museum  
CHICAGO

EDUCATORS GUIDE





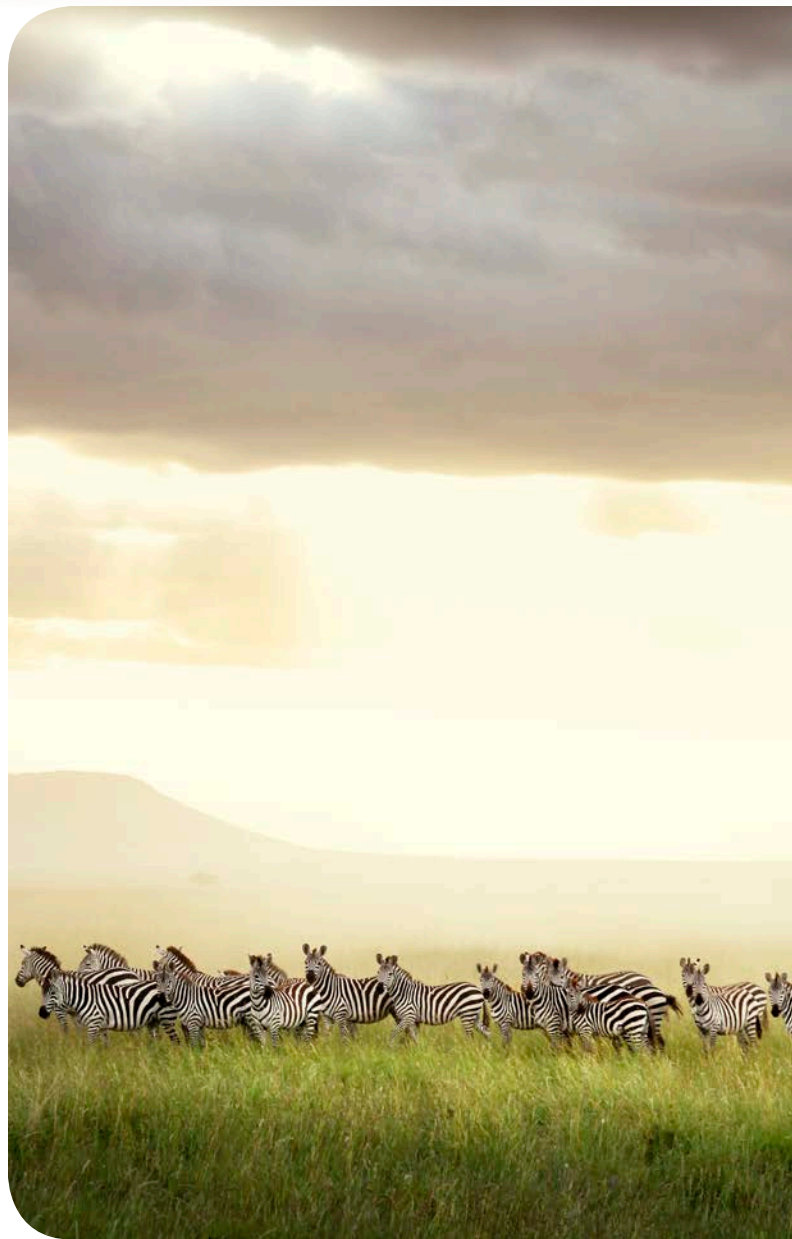
### Film Synopsis

Come with us on a spectacular 3D ride across, over, and through the magical realms of the most dramatic continent on earth: Africa.

Our guide through this enchanted kingdom is the sorcerer itself – water. Water crafts *Wild Africa*, conjuring up life wherever it journeys... traveling above the plains on seasonal winds, cascading along raging rivers or sheltering coral cities. Audiences will be plunged into fantastic places and meet amazing creatures.

On the journey through the magical realms of Africa, we'll discover the fascinating secrets of this enchanted kingdom. How spectacular volcanic lakes help turn thousands of flamingos pink, why the heat beating down on waterless dunes in the Namib Desert forces a lizard to dance; and why it snows on the equator.

It's an adventure where you will truly believe the real world is more extraordinary and awe-inspiring than any fiction.







## Introduction

The lessons in this guide are designed to focus student learning as they view the film *Wild Africa* and extend their investigations of key themes through classroom activities. In order to maximize student learning, this guide uses a pre-during-post lesson sequence model. Pre-viewing lessons prime students to think about how specific themes present in the film might relate to experiences in their own lives. Film prompts allow students to make content connections while viewing the film. Post-viewing lessons give students an opportunity to further explore and apply these concepts using examples from the film.

## Quick Tips for Teaching & Learning

Research suggests that students learn more from an informal learning experience such as an educational film, if that experience is integrated into a broader body of learning. In this activity guide you'll find pre-viewing and post-viewing lessons and film prompts designed to support and further student learning sparked by *Wild Africa*.

Film prompts serve as an effective strategy to engage students and focus their learning and observations during an educational film. Each lesson sequence contains prompts designed to stimulate critical thinking while viewing the film. Encourage students to think about these prompts and concepts from the pre-viewing lesson while watching *Wild Africa*. Then use those same prompts to begin a reflection after viewing the film.

Key vocabulary words for each activity are bolded in the lessons. These terms can be introduced during the **Engage** portion of each lesson, and students should practice using them as they participate in the **Investigate** and **Reflect and Share** portions of each lesson. Additional vocabulary terms that appear in the activity have been bolded and can be referenced in the glossary.







## Learning Standards

Each lesson in this guide is designed to allow students to engage, investigate, reflect on, and share their learning of content aligned to relevant Next Generation Science Standards (NGSS) Performance Expectations. The lesson sequences are intended to be integrated into larger units of study that scaffold toward mastery.

### Lesson Sequence One – Animal Families

Students who demonstrate understanding can:

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. [Clarification Statement: Changes organisms go through during their life form a pattern.]

3-LS2-1. Construct an argument that some animals form groups that help members survive.

### Lesson Sequence Two – Biogeology

Students who demonstrate understanding can:

4-ESS2-1 Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. [Clarification Statement: Examples of variables to test could include angle of slope in the downhill movement

of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.]

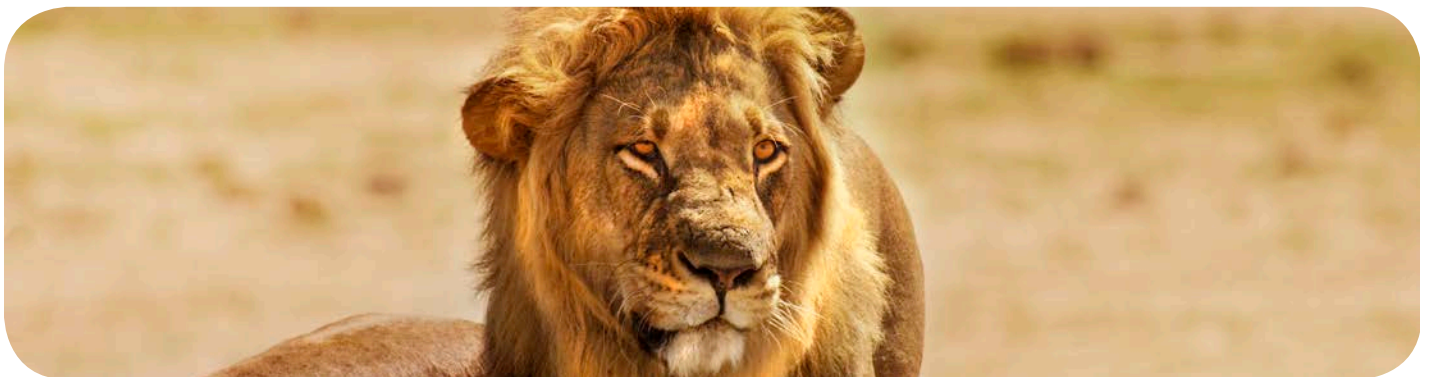
### Lesson Sequence Three – Ecosystems and Biodiversity

Students who demonstrate understanding can:

5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. [Clarification Statement: Examples of models could include diagrams, and flow charts.]

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. [Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.]



## **Lesson Sequence One: Animal Families** **Recommended for Grade 3**

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## **Lesson Sequence Two: Biogeology** **Recommended for Grade 4**

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## **Lesson Sequence Three: Ecosystems and Biodiversity** **Recommended for Grade 5**

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## Lesson Sequence Description

In this lesson sequence students begin exploring life cycles by examining their own **development** and the roles humans play in social structures at certain points within their **development**. Students create a **timeline** of their own **development** and draw conclusions about human **development** more broadly. While watching *Wild Africa* students are prompted to think about the **developmental** stages of animals they observe in the film, which roles different individual animals play within their social groups, and the ways in which that contributes to group survival. In the post-viewing lesson using characters seen in the film, students compare and contrast the ways in which humans and other animals grow and change over time.



## Next Generation Science Standards Alignment

Students who demonstrate understanding can:

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. [Clarification Statement: Changes organisms go through during their life form a pattern.]

3-LS2-1. Construct an argument that some animals form groups that help members survive

## Background

While the life cycles of gorillas and a coral may not seem to share any similarities on the surface, when observing life more broadly we notice that all **living** organisms grow and change over their lifetime and share the common events of birth, **development**, reproduction, and death. Human **development**, while unique in many ways, also shares these key events. Making observations across the diversity of life cycles that exist allows students to find both similarities and differences between their own **development** and that of other organisms. It is important to note that while individual organisms change over a lifetime, this process of change over time is different than evolution, which takes place in a population of organisms over the span of generations.

Different stages in human **development** are often reaffirmed by cultural customs that mark an individual's role within their social group. For example, people around the world mark passage into adulthood through a wide variety of customs.

Just as humans fulfill distinct roles within social groups during specific stages of their **development**, so too do many animals. For example, the role of many young animals including humans is to play with one another and interact with the world in ways that allow them to learn about their environment. The role of fully-grown animals is often to protect and care for the young. *Wild Africa* presents animal families that illustrate individuals in different stages of **development** and fill different roles within their groups. The matriarch of the African elephant herd, for example, plays an important role in caring for the herd by remembering specific routes to water sources passed on to her from generations past. The lesser flamingos of Lake Bogoria court one another and eventually select a mate, ensuring future generations of flamingos to come. The young mountain gorillas play with other members of their troop to learn about how to interact with each other and the world around them. Each role plays a part in the survival of the group.



## Objective

Students will increase their knowledge of how humans grow and change over their lifetime.

## Guiding Question

How do humans change over their lifetime?

## Time Required

30 minutes

## Materials

Time of My Life Graphic Organizer (one per student)

Time of My Life Milestone Cards (one per student)

Whiteboard or chart paper and markers

## Vocabulary Terms

**development** – the growth and change of an individual organism over its lifetime

**timeline** – a graphic organizer that represents the passage of time using events and their dates



## Engage

1. Ask students the following prompts: Do you remember anything from the time when you were a baby? What do you remember? Can you name some things that have happened to you since then?
2. Have students turn and talk to a neighbor about what has changed over time since they were babies.
3. Share out answers as a whole group. (Student answers may include physical changes, **developmental** changes, or new activities that students engage in as they age).
4. Guide students toward the understanding that in the past they were babies, and now they are kids, children, or youth.
5. Prompt students to think about the future. What will you become after a kid? After a teenager? After an adult? In what ways will you change as you get older?
6. Introduce the vocabulary word **development** as an individual's growth and change over a lifetime.
7. Have students turn and talk to a neighbor about the prompts.
8. Share out as a whole group while recording and compiling a class **timeline**.



## Investigate

1. Divide students into small groups. Pass out the Time of My Life Graphic Organizer, and have students sort activities according to their proper place on the **timeline** (baby, kid, teenager, adult).
2. Students should fill in the blank spaces on the **timeline** with their own ideas about what happens during each stage of life. Ask students to think about other ways that humans **develop**.

## Reflect and Share

1. Have students find a partner from a different group and compare their **timeline** to that of their partner. Students should discuss any differences across their **timelines**.
2. Prompt students to share the events they selected to fill in the blank spaces. Why did they choose those events?
3. Ask students the following question. Would you want to stay one age forever? Why or why not?

## Differentiation

- For students who need extra support, provide a word bank of additional milestones for vocabulary support. Also, creating pictures to go along with each milestone will assist students not ready to read or those acquiring language.
- For an additional challenge, provide a writing prompt titled, "My 16th Birthday". Ask the students to write a paragraph describing what they imagine their 16th birthday will be like. Include who they think will be at the party, what they receive as a gift, what new activities they might do, and their plans for their 16th year.



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When I was a baby I

As a kid I

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When I'm a Teenager I will

As an Adult I will

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# Time of My Life Milestone Cards

Begins to read and write.	Understands multiplication and division	Has grandchildren of their own	Understands simple language
Has children of their own	Graduates from high school	Starts to go to work	Learns to walk
Learns to drive a car	Goes on a first date	Begins to eat solid foods	Begins a career
Forms lasting friendships	Gets married	Learns to ride a bike	Says first word or phrase



## Film Prompts

Ask students to reflect on their understanding of **development** from the first lesson. Guide students towards the understanding that humans experience different stages in **development** as they grow. Before watching *Wild Africa*, inform students that they will see examples of different types of animal families, including mountain gorillas, lesser flamingos, and African elephants. As the film explores each animal family, prompt students to think about the following questions:

- What examples can you find in the film of individuals in the animal families engaging in activities we had on our human **development timeline**?
- What roles do you see individuals in animal families play at different stages of their life?
- How do individuals in different stages of **development** within an animal family help one another?







## Objective

Students will understand that animals grow and change over their lifetime in ways that are alike and unlike humans.

## Guiding Question

How do animals change over their lifetime?

## Time Required

30 minutes

## Materials

Time of My Life Venn Diagram (one per small group of students)

Whiteboard or chart paper and markers

## Vocabulary Terms

**development** – the growth and change of an individual organism over its lifetime

**timeline** – a graphic organizer that represents the passage of time using events and their dates

**characteristic** – qualities or features belonging to a person, place, or thing



## Engage

1. Provide students with the following prompt. Think about the ways that you changed from a baby into a kid and all of the ways you will continue to change as you grow in size and increase in age. Now think about animals you saw in *Wild Africa*. Did you see babies? Kids? Teenagers? Adult animals? How do you know?
2. Ask students to think about how the animals in *Wild Africa* are the same and different from them. How do they **develop**?
3. Have students turn and talk to a neighbor about how animals change over their lifetime.
4. Share out as a whole group while recording class data.

## Investigate

1. Divide students into small groups and pass out the Time of My Life Venn Diagram.
2. Introduce the word 'characteristic' as qualities or features belonging to a person, place, or thing.
3. Have students describe how animals change over time, humans change over time, and how and where they overlap. Ask students to complete the Time of My Life Venn Diagram in their small groups.



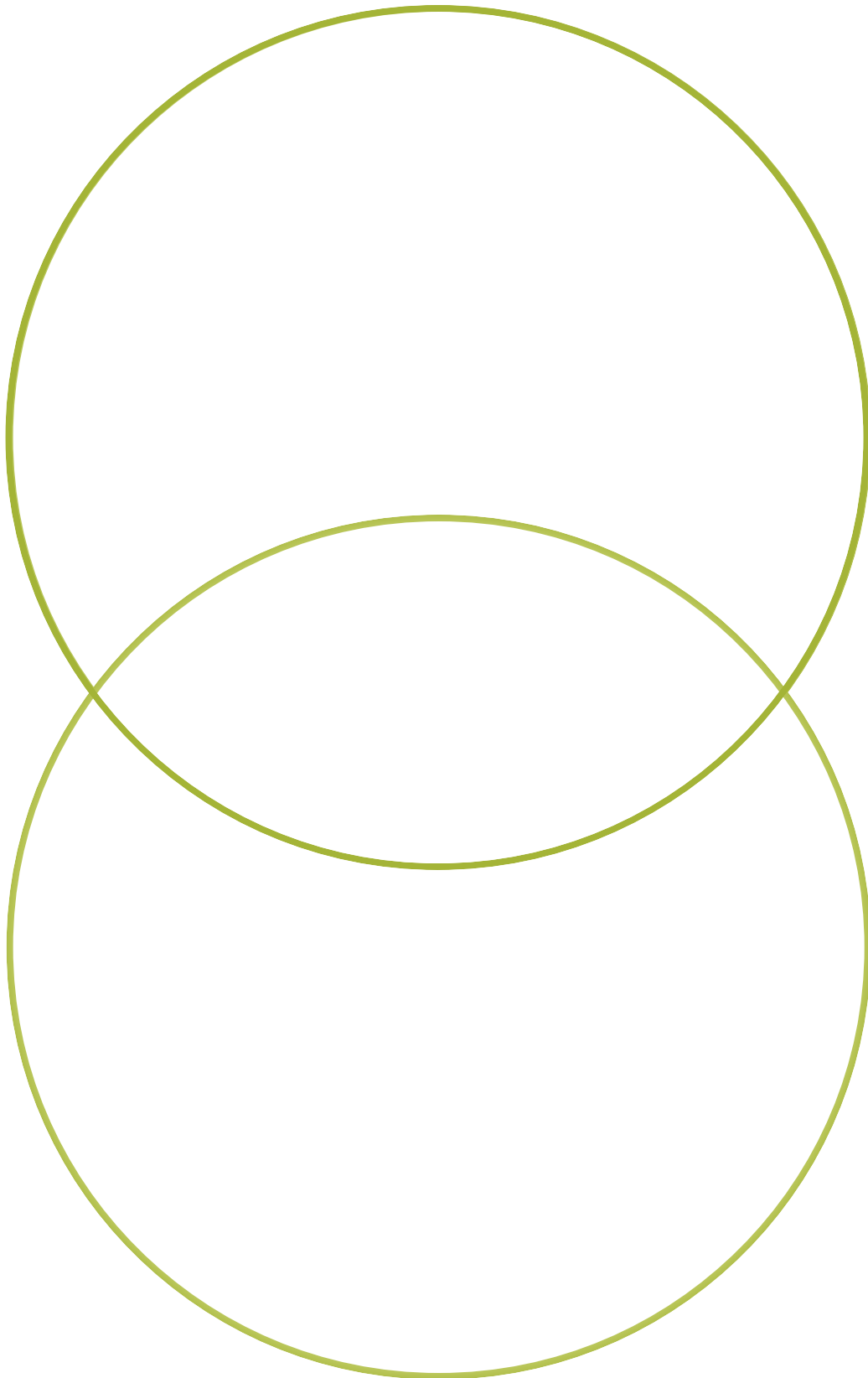
## Reflect and Share

1. Have students find a partner from a different group and compare their Time of My Life Venn Diagram to that of their partner.
2. Provide the following prompts. What similarities and differences can you find in your diagrams? What evidence can you cite from *Wild Africa* that supports their arguments? In what way do you think animals and humans are the most alike and most different?

## Differentiation

- For students who need additional support, provide a vocabulary bank along with the Time of My Life Venn Diagram. Include verbs that describe how animals and people change over time such as - grow, change, **develop**, learn, and age.
- For an extra challenge, ask students to select one animal from the film that is shown as a baby. Have students write a short narrative about the baby as it grows and **develops**. What does the animal see, hear, and smell in its habitat? What types of things will it learn to do on its own as it grows?







## Lesson Sequence Description

In this lesson sequence students begin exploring how the living and non-living elements of an environment interact and impact one another by examining their own experiences with water. Students design models that illustrate key processes in the water cycle: **evaporation**, **condensation**, and **precipitation**. While watching *Wild Africa* students are prompted to think about the living and non-living components of ecosystems they observe and the role that water plays within each ecosystem. In the post-viewing lesson, students draw conclusions about the relationship specific animals have with other components of their ecosystem, including water.



## Next Generation Science Standards Alignment

Students who demonstrate understanding can:

4-ESS2-1. Make observations and/or measurements to provide evidence of the effects of weathering or the rate of erosion by water, ice, wind, or vegetation. [Clarification Statement: Examples of variables to test could include angle of slope in the downhill movement of water, amount of vegetation, speed of wind, relative rate of deposition, cycles of freezing and thawing of water, cycles of heating and cooling, and volume of water flow.]

## Background

The water cycle is an important biogeological process that involves the continual shifting of water molecules into different states of matter: gas (vapor), liquid (water), and solid (ice). As the sun heats a body of water like the ocean, some of the liquid water molecules heat up enough to evaporate into the atmosphere becoming water vapor. This water vapor eventually moves up into the cooler upper atmosphere and gathers and condenses into clouds through the process of condensation. When the water molecules in clouds condense around small dust or other particles, enough water molecules can gather and condense to form droplets large enough to fall as rain, a form of **precipitation**.

Life on Earth relies on this process for water. Humans, for example, rely on fresh water from sources such as rivers that are regularly replenished by rain and snowmelt. Without a continual supply of fresh water humans cannot survive. The average adult human is made up of approximately 60 percent water, and humans contribute to the water cycle through biological processes such as perspiration. On a hot day, the water you drink may turn to sweat that evaporates to cool you down. That water vapor will condense into clouds and eventually fall as **precipitation**, which becomes water molecules in the ocean, a river, a glacier, or another living organism contributing to the continual cycle.

**Ecosystems** are made up of all of the living organisms such as plants, animals, and microorganisms and non-living components, such as air, water, and minerals within an environment. All of these components interact with one another to form a system. When these interactions are in balance, the ecosystem thrives, as seen in *Wild Africa* when millions of lesser flamingos gather to find a mate on the alkaline-saline lakes of the Great Rift Valley in East Africa, but if one component is compromised or removed, the other components are impacted. Water is a key non-living component in most **ecosystems**, and the interactions between water and the other living and non-living components impacts the condition of the ecosystem as a whole. Water influences the health of the living organisms within an ecosystem. For example, the African elephants shown in *Wild Africa* need to drink up to 50 gallons of water a day to stay healthy. Processes within the water cycle also depend on the living things present within the ecosystem for continued functionality. For example, trees take water from the soil and return it to the air as water vapor through the process of transpiration.





## Objective

Students will understand that water cycles into and out of an **ecosystem**.

## Guiding Question

- How does water move through an **ecosystem**?
- How does it enter an **ecosystem**?
- Where does the water go?

## Time Required

30 minutes

## Materials

- Water Cycle Diagram (one per small group of students)
- Whiteboard or chart paper and markers

## Vocabulary Terms

**evaporation** – the process of liquid changing into a gas

**condensation** – the process of changing from gas to liquid

**precipitation** – when water falls from the sky creating rain, snow, sleet, or hail

**ecosystem** – a community of living things together with their non-living environment



## Engage

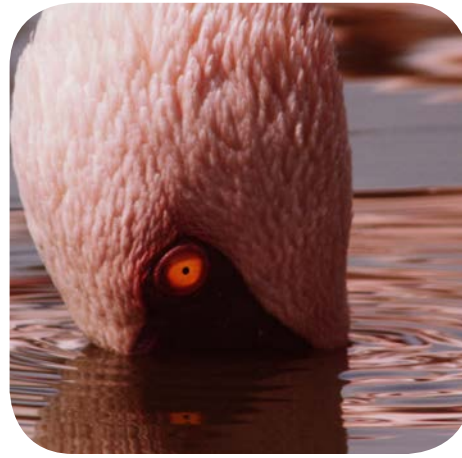
1. Ask students to think about the different ways in which they use water.
2. Instruct students to turn and talk to a partner, and together list at least five different uses for water.
3. Prompt student pairs to think about where that water comes from. Ask: how does it get to you? When you're finished with it, where do you think it goes?
4. Share out as a whole group while recording class data.

## Investigate

1. Introduce water cycle vocabulary: **evaporation, condensation, precipitation,** and **ecosystem,** providing examples of each.
2. Ask students if they have seen any of these processes taking place.
3. Tell students that they can use models to help them observe and better understand how the processes work.
4. Using a mirror, illustrate the process of **condensation** by breathing on it and showing the class that the mirror has fogged up. Ask students to describe what they notice as time passes, and guide them towards the understanding that they also witnessed the process of **evaporation** as they observed the **condensation** slowly disappearing.
5. Prompt students with the following question. How else can we observe each of the three phenomena in the water cycle - **evaporation, condensation,** and **precipitation?**
6. With a partner or small group, instruct students to use the Water Cycle Diagram to illustrate and label the parts of the water cycle.
7. Prompt students to think more deeply about the water cycle by developing a model to illustrate these processes for themselves.
8. Instruct students in groups to list three steps and accompanying materials necessary to create a model that illustrates each of the three phenomena on the Water Cycle Diagram.

## Reflect and Share

1. After student groups have designed their models, ask students to find a partner from another group and explain their model.
2. Students should think about the similarities and difference in their models.
3. Bring the full class back together. Prompt each student group to share out their model in a whole class discussion, while recording the data for the class in a three-column chart for each part of water cycle.
4. Ask students to reflect on common elements and differences in the larger group of models.



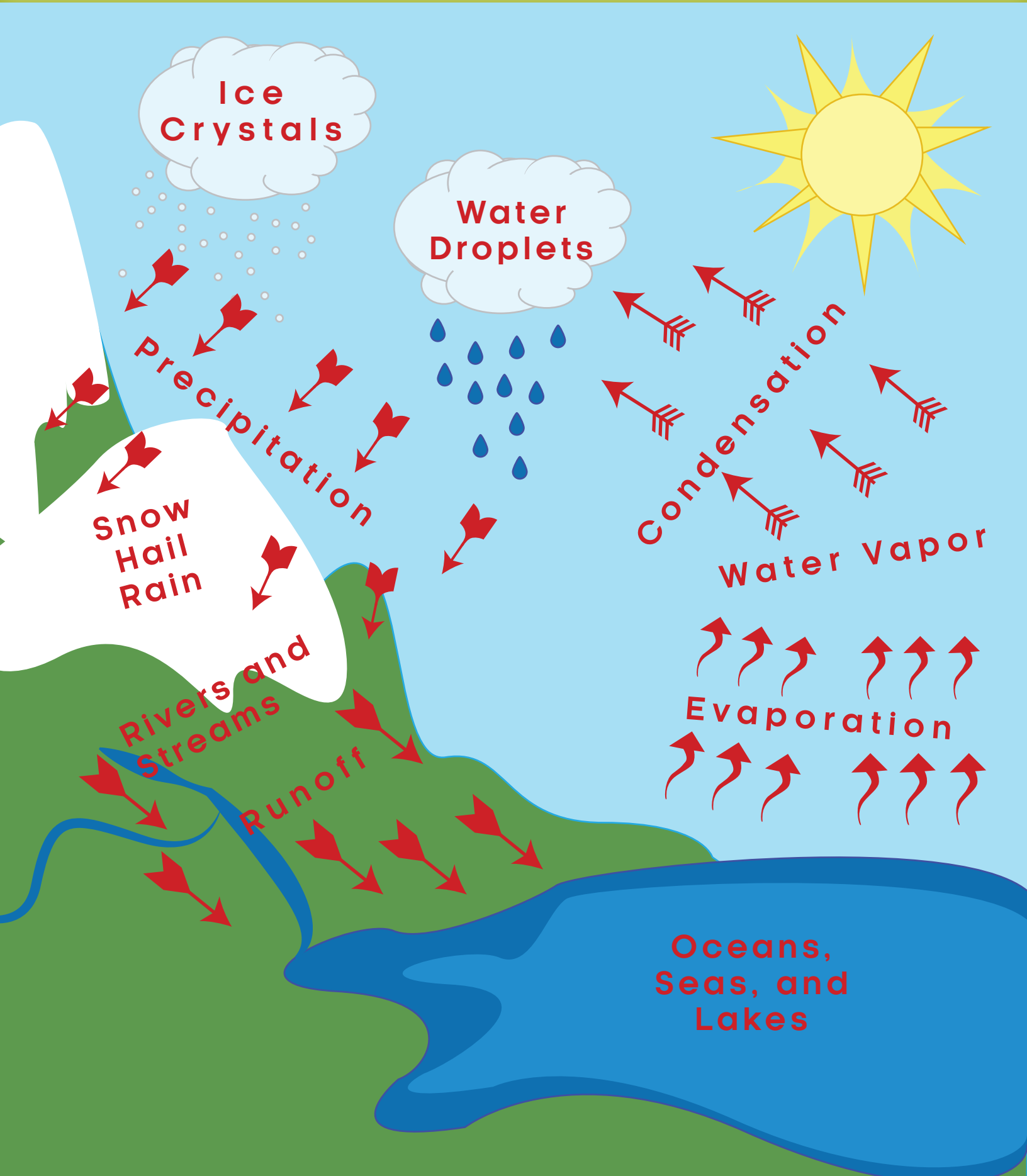
## Differentiation

- For students who need extra support, provide a list of pre-selected materials that the students can use to carry out their investigations.
- For an extra challenge, allow students to build their models at home or in the classroom and report their findings.



Evaporation	Condensation	Precipitation

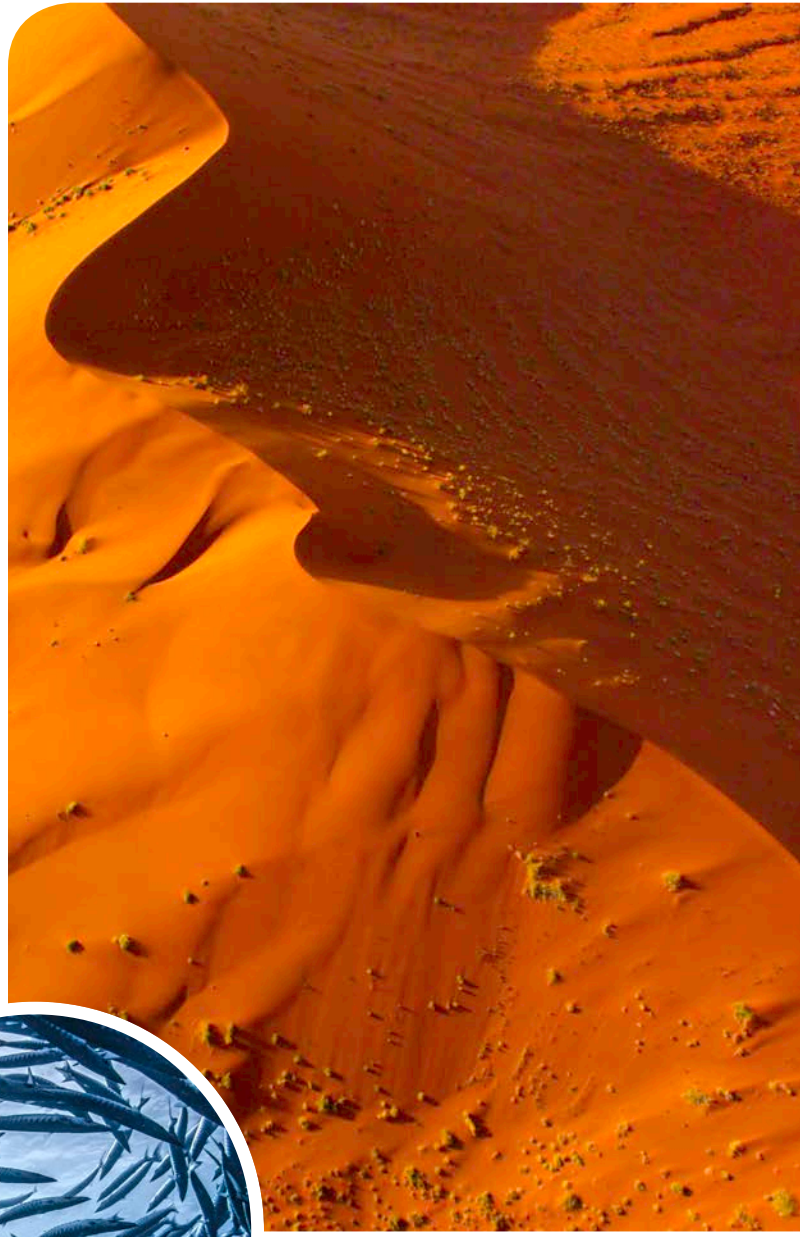




## Film Prompts

Ask students to reflect on their understanding of **ecosystems** from the first lesson. Guide students towards the understanding that all **ecosystems** have living and non-living parts that interact but **ecosystems** across the world can look very different. Before watching *Wild Africa* inform students that they will see examples of different types of **ecosystems**, including rainforest, wetland, savanna, desert, and coral reef. As the film explores each **ecosystem** prompt students to think about the following questions:

- What are the living components of this **ecosystem**?
- What are the non-living components of this **ecosystem**?
- What role does water play in this **ecosystem**? How does the water enter that **ecosystem**, and where does it go?







## Objective

Students will understand that the amount of water available in different **ecosystems** affects the behaviors and **adaptations** of the animal life there.

## Guiding Question

- How does the water in an **ecosystem** affect the **biodiversity** there?
- How does the water available in different **ecosystems** (desert, savannah, rainforest) shape the behavior and/or **adaptations** of the animal life there?

## Time Required

30 minutes

## Materials

**Concept map** (one per pair of students)

Whiteboard or chart paper and markers

## Vocabulary Terms

**concept map** – a type of graphic organizer used to help learners make sense of what they know about a subject

**relationship** – a connection between two or more things

**adaptation** – a change in a population of an organism over time that helps it survive in its environment and reproduce





## Engage

1. Pair students and ask each pair to list at least three different **ecosystems** they saw in the film.
2. For each **ecosystem** ask students to discuss their answers to the following prompts. Is water scarce or plentiful in these **ecosystems**? How do you know? Cite evidence from the film.
3. Share as a whole group while the teacher records data on each **ecosystem**.
4. After each group shares their **ecosystem** data, note if each **ecosystem** represented in the film is listed.
5. Prompt the full group to think about what other **ecosystems** they may have seen in the film, and add that information to the data displayed.

## Investigate

1. Prompt students to think about the different animal life they saw living within each **ecosystem**. What challenges does each animal face in acquiring water? How is each animal equipped to face those challenges? How is each animal prepared to survive in their **ecosystem**?
2. Pass out the **concept map**. Have students work in pairs or groups to fill in the **ecosystem** components and the **relationships** that each animal has to its **ecosystem**.
3. Use Egypt's Red Sea coral reef **ecosystem** from *Wild Africa* to provide an example of a **concept map** and suggested **relationships**.

## Reflect and Share

1. Have students find a new partner and share their **concept map**. Discuss the similarities and differences in the concepts and **relationships** that students noted.
2. Come together as a whole group and share out the **concept maps** that students created.
3. Discuss and record the different **relationships** that students generated between animals and their **ecosystems**.

## Differentiation

- For students who need extra support, fill in the arrows denoting **relationships** on the **concept map** before passing it out to students. For example, on the line between the **ecosystem** and animal box, write "supports life". On the line between the animal and **adaptations** box write "developed over time". Then copy and pass out the map.
- For an extra challenge, make a double-sided copy of the handout, and allow students to fill in information about all of the **ecosystems** described in the movie. Then ask students to write a paragraph arguing which **ecosystem** they think is the most difficult to survive in. Cite evidence from the film.





**Ecosystem**

Describe waters place  
in this ecosystem.

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**Ecosystem**

Describe waters place  
in this ecosystem.

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**Ecosystem**

Describe waters place  
in this ecosystem.

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**Animal Challenges**

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**Animal Challenges**

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**Animal Challenges**

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**Adaptations**

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**Adaptations**

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## Next Generation Science Standards Alignment

Students who demonstrate understanding can:

5-PS3-1. Use models to describe that energy in animal's food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. [Clarification Statement: Examples of models could include diagrams, and flowcharts.]

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. [Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.

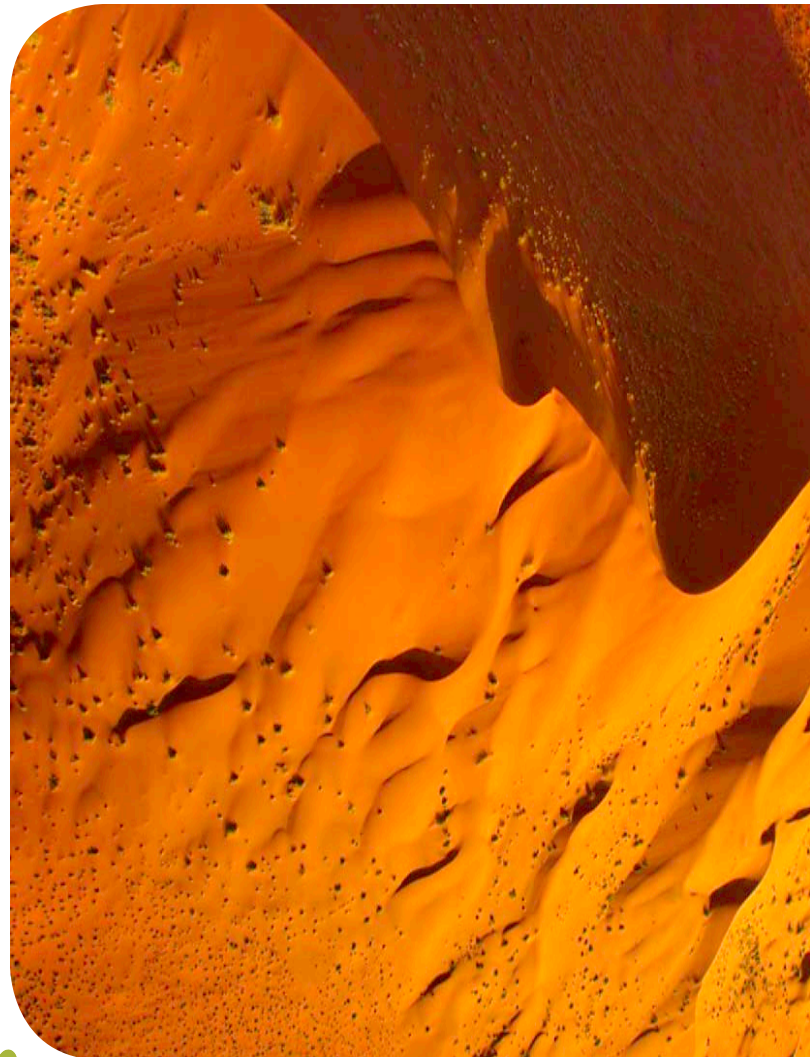
## Lesson Sequence Description

In this lesson sequence students begin exploring the **living** and **non-living** components of the **ecosystem** in which they live – their neighborhood. After mapping out the components of their **ecosystem**, students must draw upon prior knowledge to make predictions about how **ecosystems** in Africa might be similar to or different from their own. While watching *Wild Africa* students are prompted to think about the **living** and **non-living** components of **ecosystems** they observe and how these components interact with and impact one another. In the post-viewing lesson, students investigate their own wonderings about the biodiversity of African **ecosystems** presented in the film through group research projects.

## Background

**Ecosystems** are made up of all of the **living** organisms such as plants, animals, and microorganisms and **non-living** components, such as air, water, and minerals within an environment. All of these components interact with one another to form a system. When these interactions are in balance, the **ecosystem** thrives, but if one component is compromised or removed, the other components are impacted. Water is a key **non-living** component in most **ecosystems**, and the interactions between water and the other **living** and **non-living** components impacts the condition of the **ecosystem** as a whole. Not only does water influence the health of the **living** organisms within an **ecosystem**, the water cycle also depends on the **living** things present within the **ecosystem** for continued functionality. For example, trees take water from the soil and return it to the air as water vapor through the process of transpiration.

In every environment you can find a variety of organisms that contributes to the overall biodiversity of an **ecosystem**. Some **ecosystems** are able to support more biodiversity than others. *Wild Africa* presents **ecosystems** with a great amount of biodiversity such as the rainforest and the Red Sea's coral reefs and others where less biodiversity is observed like the Namib desert. The amount of biodiversity found in an **ecosystem** is a key indicator of the overall health of that **ecosystem**.







## Objective

Students will increase their knowledge of the **living** and **non-living** parts of **ecosystems**.

## Guiding Question

- What **living** and **non-living** things make up our **ecosystems**?
- How are **ecosystems** alike and different?

## Time Required

30 minutes

## Materials

T-Chart Student Handout (one per pair of students)  
Whiteboard or chart paper and markers  
World Map

## Vocabulary Terms

**living** – to be alive

**non-living** – no longer alive or never having been alive

**characteristic** – qualities or features belonging to a person, place, or thing

**ecosystem** – a community of living things together with their non-living environment

**environment** – the surroundings of an animal, plant, or human including the air, water, and soil



## Engage

1. Prompt students to think about their neighborhood. What are some common things to see across neighborhoods? Think about the **living** and **non-living** things in your neighborhood. How do you know something is **living**? **Not living**?
2. Turn and talk with a partner.
3. Share out different ways to identify **living** and **non-living** things. Teacher records the data in a T-Chart.

Characteristics of Living Things	Characteristics of Non-living Things

## Investigate

1. Pass out T-Chart student handout. Instruct students to fill in the T-Chart listing **living** and **non-living** things in their neighborhood with a partner.
2. Share out **living** and **non-living** things as a whole group while recording data in a class T-Chart.

Living Things in Our Neighborhoods	Non-living Things in Our Neighborhoods

## Reflect and Share

1. Introduce the word **ecosystem**. An **ecosystem** is all of the **living** and **non-living** things that work together in an **environment**.
2. Use a world map to illustrate where you live. Then, point out Africa, particularly the Serengeti, as discussed at length in the film.
3. Ask students if they think the **ecosystems** in Africa like the Serengeti look similar or different than our own? Why do you think so?
4. Instruct students to talk about how African **ecosystems** may be similar or different from our own with a partner.
5. Prompt students to think about what they already know about Africa, and what they want or need to know to better answer this question.

## Differentiation

- For students who need extra support, provide a word bank from which students can select **living** and **non-living** things in their neighborhood. Provide pictures along with the words for those reading below grade level or to assist those still learning the language.
- For an extra challenge, ask students to select another part of the world from the map. Remind the students that **ecosystems** look very different depending on their place in the world. Ask students to research the **ecosystem** of their chosen location, and make a list of the **living** and **non-living** components.



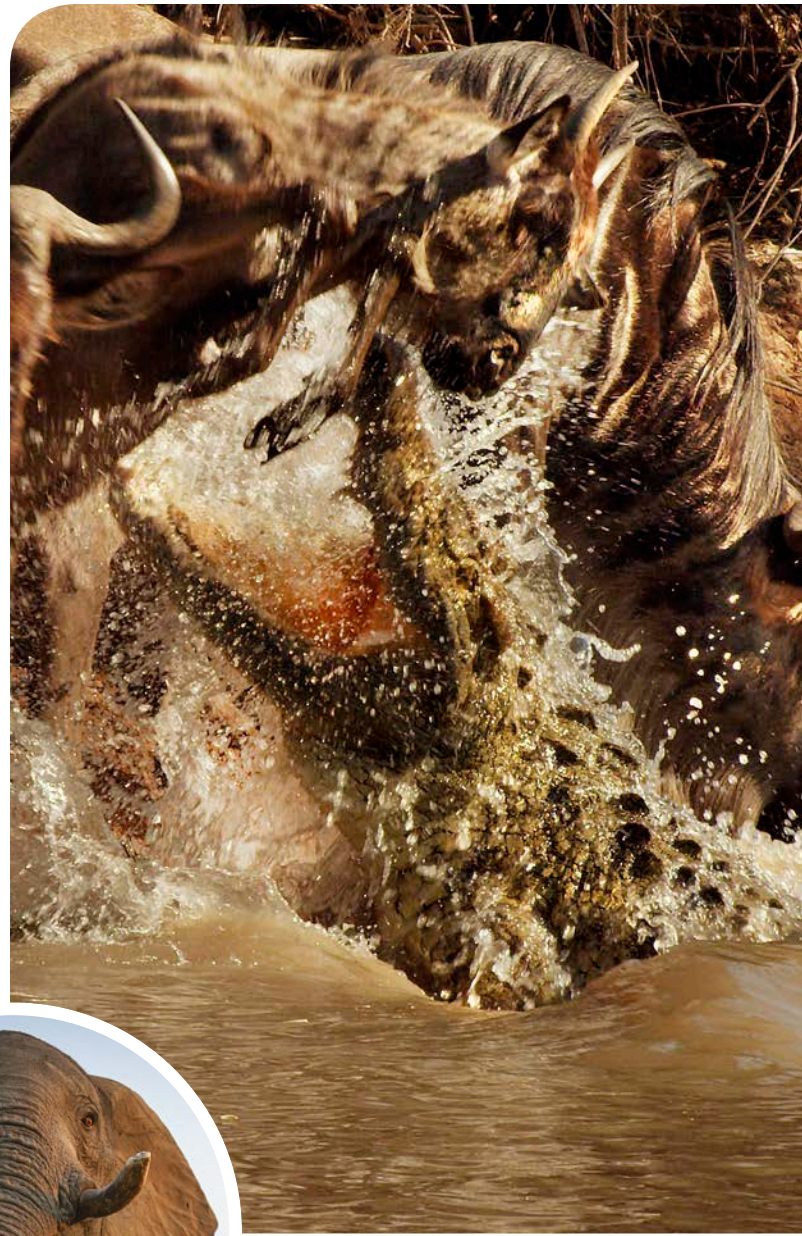
	Know
	Want to Know
	Learned



## Film Prompts

Ask students to reflect on their understanding of **ecosystems** from the first lesson. Guide students towards the understanding that all **ecosystems** have **living** and **non-living** parts that interact but **ecosystems** across the world can look very different. Before watching *Wild Africa* inform students that they will see examples of different types of **ecosystems**, including rainforest, wetland, savanna, desert, and coral reef. As the film explores each **ecosystem**, prompt students to think about the following questions:

- What are the **living** components of this **ecosystem**?
- What are the **non-living** components of this **ecosystem**?
- In what ways do the **living** and **non-living** things in this **ecosystem** interact?







## Objective

Students will understand that the **biodiversity** of each **ecosystem** is unique.

## Guiding Question

How does **biodiversity** vary across **ecosystems**?

## Time Required

90 minutes

## Materials

KWL Graphic Organizer (one per pair of students)

Whiteboard or chart paper and markers

Life science magazines, books, or BBCEarth.com

## Vocabulary Terms

**living** – to be alive

**non-living** – no longer alive or never having been alive

**ecosystem** – a community of living things together with their non-living environment

**environment** – the surroundings of an animal, plant, or human including the air, water, and soil

**biodiversity** – the variety of life in an environment





## Engage

1. Ask students to think about what **living** and **non-living** things they saw as they watched *Wild Africa*. What parts of the African **ecosystems** looked similar or different to their own?
2. Pass out the KWL Graphic Organizer to the students and have them work in groups or pairs. Ask them to talk with their group/partner to fill out the "Know" portion, citing evidence from the film.
3. Share out ideas as a whole group, while recording class data.

Know	Want to find out	Learned

4. Introduce the word biodiversity. **Biodiversity** is all the variety of life found in an environment. Each **ecosystem** has **biodiversity** (Bio = life, diversity = variety).

## Investigate

1. Prompt students to think about what else they want to know about Africa that may help them understand its diverse **ecosystems** with a partner or small group. Think about the **biodiversity** they saw in the film.
2. Instruct students to fill out the "Want to Find Out" portion of the graphic organizer, and write down questions they have about the **biodiversity** in each **ecosystem**.
3. Students should then decide on the three most important questions that they need to answer to better understand African **ecosystems** and their **biodiversity**.
4. Students can then use books, magazines, web pages such as BBCEarth.com, or review portions of the *Wild Africa* film to research the answers to their questions.



## Reflect and Share

1. As a whole group, fill out the "Learned" portion of the KWL chart while the teacher records the data.
2. Ask the class the following prompts: What did you find most surprising about the African **ecosystems** you saw? What was not surprising? What questions do you still have?



## Differentiation

- For students who need additional support, provide sentence starters for the "Want to Find Out" portion of the organizer, such as, "I wonder..."; "I am curious about..."; or "I would like to know...". Remind students of question words: who, what, why, where, which and how. Post these prominently when describing how to complete the organizer.
- For an extra challenge, allow students to explore a question that they still have about **biodiversity**. Ask students to write a paragraph stating their question, why they think it is an important question for study, and what they think they can learn from it. Provide students with resources to answer this question.





Living	Non-living

**adaptation** – a change in a population of an organism over time that helps it survive in its environment and reproduce

**biodiversity** – the variety of life in an environment

**characteristic** – qualities or features belonging to a person, place, or thing

**concept map** – a type of graphic organizer used to help learners make sense of what they know about a subject

**condensation** – the process of changing from gas to liquid

**development** – the growth and change of an individual organism over its lifetime

**ecosystem** – a community of living things together with their non-living environment

**environment** – the surroundings of an animal, plant, or human including the air, water, and soil

**evaporation** – the process of liquid changing into a gas

**living** – to be alive

**non-living** – no longer alive or never having been alive

**precipitation** – when water falls from the sky creating rain, snow, sleet, or hail

**relationship** – a connection between two or more things

**timeline** – a graphic organizer that represents the passage of time using events and their dates



**FOR MORE INFORMATION AND  
THEATRE LISTINGS, PLEASE VISIT  
[BBCEarth.com/WildAfrica](http://BBCEarth.com/WildAfrica)**

BBC EARTH RELIANCE ENTERTAINMENT AND IM GLOBAL PRESENT A BBC EARTH PRODUCTION IN ASSOCIATION WITH EVERGREEN STUDIOS "WILD AFRICA" DISTRIBUTED BY BBC EARTH AND GIANT SCREEN FILMS



NARRATED BY HELENA BONHAM CARTER MUSIC BY PATRICK DOYLE EXECUTIVE PRODUCERS DEEPAK NAYAR STUART FORD MIKE NEWELL MARCUS ARTHUR MIKE DEVLIN MILES KETLEY



PRODUCED BY MYLES CONNOLLY AMANDA HILL NEIL NIGHTINGALE WRITTEN BY MIKE SLEE DIRECTED BY MIKE SLEE PATRICK MORRIS NEIL NIGHTINGALE

WILD AFRICA IS A UNIQUE, INFORMATIVE PRODUCTION CREATED FOR THE GIANT SCREEN, WITH INSPIRATION AND FOOTAGE FROM ENCHANTED KINGDOM.

