Environmental Essential Understandings

Provided on this document are environmental essential understandings that could be incorporated into concept-based units. The guiding questions and scaffolded questions are included with each essential understanding. Scaffolded questions for each essential understanding are scaled down to a basic level. Teachers may skip some basic scaffolded questions when students have mastered that understanding.

The layout of this page is as follows:

Essential Understanding (with concepts underlined and bolded)

   Essential Question
   • Scaffolded Questions

**Populations** are interdependent with the elements of their ecosystem.
   How are populations interdependent with the elements of their ecosystem?
   • What are populations?
   • What is interdependent?
   • How are populations interdependent?
   • What is an ecosystem?
   • What are elements of an ecosystem?

**Adaptations** are necessary for survival.
   How are adaptations necessary for survival?
   • What are adaptations?
   • What is survival?

**Supply and demand** can maintain populations.
   Why can supply and demand maintain populations?
   • What is supply?
   • What are examples of supply?
   • What is demand?
   • What are examples of demand?
   • What are populations?
   • How does supply and demand affect people?
   • How does supply and demand affect populations?
Diversity is necessary to maintain balance in the ecosystem.
Why is diversity necessary to maintain balance in the ecosystem?
- What is diversity?
- What are examples of diversity in plants? Animals?
- What is balance?
- What is an ecosystem?
- What are some examples of ecosystems?
- What is balance in an ecosystem?

Change in the environment may be positive or negative.
How can change in the environment be positive or negative?
- What is change?
- What is the environment?
- What is positive?
- What are positive changes? Give examples.
- What are positive changes in the environment? Give examples.
- What are negative changes? Give examples.
- What are negative changes in the environment? Give examples.

Change in the environment may be natural or man-made.
How can change in the environment by natural or man-made?
- What is change?
- What is the environment?
- What are changes in the environment? Give examples?
- What does natural mean? Give examples.
- What are natural changes in the environment? Give examples.
- What does man-made mean? Give examples.
- What are man-made changes in the environment? Give examples.

Humans/Living things can have a positive or negative impact on the environment.
How can humans have a positive or negative impact on the environment?
- What is negative? Give examples.
- What is positive? Give examples.
- What is impact?
- What are negative impacts and positive impacts? Give examples.
- Can impact be both positive and negative? How? Give examples
- What is the environment?
Survival of populations is dependent on balance.
Why is the survival of populations dependent on balance?
- What is survival?
- What are populations? Give examples.
- How do populations survive?
- What do populations need in order to survive?
- What is dependent?
- Upon what are populations dependent?
- What is balance?

Conservation of natural resources is necessary for human survival.
Why is the conservation of natural resources necessary for human survival?
- What is conservation?
- What are natural resources?
- How do we conserve natural resources?
- What is survival?
- What is human survival?
- What resources are necessary for human survival?

Manipulation of natural resources is necessary for human survival.
How is the manipulation of natural resources necessary for human survival?
- What does manipulation mean?
- What are natural resources?
- How do we manipulate natural resources?
- What is survival?
- What is human survival?
- What resources are necessary for human survival?

Populations adapt over time.
Why do populations adapt over time?
- What are populations? Give examples.
- What does adapt mean? Give examples of adaptations.
- How do populations adapt?

Choices we make today about the environment may affect the future.
How may choices we make today about the environment affect the future?
- What are choices? Give examples.
- What is the environment?
- What are choices we make about the environment?
- What is the future?
- When does the future begin?
Adaptations help animals survive changes in their environment. Why do adaptations help animals survive changes in their environment?
- What are adaptations? Give examples.
- What does survive mean?
- What are changes?
- What is environment?
- How do animals survive changes in their environment?
- Do animal adaptations usually happen quickly or over time?

Thriving requires more resources than survival alone. How does thriving require more resources than survival alone?
- What does thriving mean?
- What are resources?
- What is survival?
- What resources are needed to survive?
- What resources are needed to thrive?

All forms of life are affected by changes in the quality, quantity, and distribution of resources in their habitats. How can all forms of life be affected by changes in the quality, quantity, and distribution of resources in their habitats?
- What is affect?
- What are changes?
- What is quality? quantity? distribution?
- What are resources? Give examples.
- What are quality resources?
- What is a quantity of resources?
- What is distribution of resources?
- How is a plant or animal affected by resources? Give examples.

Changes in wildlife populations may be man-made or natural. How can changes in wildlife populations be natural or man-made?
- What are changes?
- What is wildlife? Give examples.
- What are populations?
- What are changes in wildlife populations? Give examples.
- What does man-made mean? Give examples.
- What does natural mean? Give examples.
- What are natural changes? Give examples.
- What are man-made changes? Give examples.
**Change** in the **environment** may be positive or negative.

How may change in the environment be positive or negative?

- What is change?
- What is the environment?
- What are changes in the environment? Give examples.
- What is positive?
- What are positive changes? Give examples.
- What is negative?
- What are negative changes? Give examples.
- Can changes in the environment be both positive and negative? Give examples.

**Choices** can affect the **future environmental balance**.

How can choices affect the future environmental balance?

- What are choices? Give examples.
- What does affect mean?
- How do choices affect things?
- What is the future?
- When does the future begin?
- How do choices affect the future? Give examples.
- What does environmental mean?
- What is balance?
- What is an environmental balance?

**Choices** can affect the natural **balance** of the **environment**.

How can choices affect the natural balance of the environment?

- What are choices? Give examples.
- What does affect mean?
- How do choices affect things?
- What is the natural balance? Give examples.
- What is the environment?
- What is the natural balance of the environment?

Any **change** in the **environment** can alter the **balance**.

How can any change in the environment alter the balance?

- What is change?
- What is the environment?
- What are changes in the environment? Give examples.
- What does alter mean? Give examples.
- What is balance?
- How we can someone alter the balance? Give examples.
- What is balance in the environment?
• How we can someone alter the balance in the environment? Give examples.

**Economics influence decisions** which may cause **pollution**.

How do economics influence decisions, which may cause pollution?
• What are economics?
• What is influence?
• How do economics influence? Give examples.
• What are decisions? Give examples.
• How do economics influence decisions?
• What is pollution? Give examples.
• What are some decisions that cause pollution?
• What are some economic decisions that cause pollution?

**Power** may **influence choices** that affect the **environment**.

How may power influence choices that affect the environment?
• What is power? Give examples.
• What is influence?
• How does power influence? Give examples.
• What are choices? Give examples.
• How does power influence choices?
• What is affect?
• What is the environment?
• What affects the environment?
• How do choices affect the environment?

**Migration** causes **conflict**.

How does migration cause conflict?
• What is migration? Give examples.
• What might migrate?
• Why might things migrate?
• What is conflict? Give examples.

**Pollution** affects **genetics**.

How does pollution affect genetics?
• What is pollution? Give examples.
• What are genetics?
Pollution affects survival.
How does pollution affect survival?
- What is pollution? Give examples.
- What is survival?

Predator/prey relationship is necessary for balance.
Why is predator/prey relationship necessary for balance?
- What is a predator? Give examples.
- What is prey? Give examples.
- What are relationships? Give examples.
- What is a predator/prey relationship? Give examples.
- What is balance?
- How might relationships be in balance?

Interdependence can change as natural resources change.
How can interdependence change as natural resources change?
- What is dependence?
- What is interdependence?
- What is change?
- How can interdependence change?
- What are natural resources? Give examples.
- How do natural resources change? Give examples.

As one species population changes, it can influence the balance of other animal and plant populations.
How can the changes in one species population influence the balance of other animal and plant populations?
- What is a species? Give examples.
- What is a population? Give examples.
- What is change?
- How can species populations change? Give examples.
- What is influence?
- How can populations influence other populations?
- What is balance?
- How are populations in balance, or are they?
- What are plant and animal populations? Give examples.
Perceptions about environmental issues may cause conflict or change.

How may perceptions about environmental issues cause conflict or change?
- What are perceptions?
- What are environmental issues? Give examples.
- What perceptions do you have about different environmental issues, such as climate change, roads in national forests, cutting timber on public lands (national forests), and shooting wolves in Yellowstone National Park?
- What are conflicts?
- How can perceptions cause conflicts?
- How can perceptions about environmental issues cause conflicts?
- What is change?
- How can perceptions cause change?
- How can perceptions about environmental issues cause change?

Limitation of natural resources can cause conflict.

How can limitation of natural resources cause conflict?
- What is a limitation? Give examples.
- What is a natural resource? Give examples.
- What is a limited natural resource?
- What is a conflict?
- What are conflicts over natural resources? Give examples.

Humans may have a positive or negative impact on the environment.

How may humans have a positive or negative impact on the environment?
- What is positive? Give examples.
- What is negative? Give examples.
- What is impact?
- What is the environment?
- What are positive impacts on the environment?
- What are negative impacts on the environment?

Choices we make today may influence/impact decisions in the future about the environment.

How may choices we make today influence/impact decisions in the future about the environment?
- What are choices?
- What is influence?
- How do choices influence?
- What is impact?
- How do choices impact?
- What are decisions?
- How do choices influence/impact decisions?
• What is the future?
• How do choices influence/impact decisions about the future?
• What is the environment?
• What are some decisions we make about the environment?
• How do decisions we make influence/impact the future of the environment?

Our choices have influences on the past and future.

How do our choices have influences on the past and future?
• What are choices?
• What are influences?
• What is the past?
• How do choices influence the past?
• What is the future?
• How do choices influence the future?

All species, whether native or exotic, have an impact on the environment.

How can all species, whether native or exotic, have an impact on the environment?
• What are species? Give examples.
• What is the environment?
• What are different types of environments?
• What is native?
• What are native species?
• What are some native species in each of the different types of environment?
• What are exotic species?
• What are some exotic species in each of the different types of environment?
• What is impact?
• How do species impact an environment?

Animals have different adaptations that function in similar ways.

How can animals have different adaptations that function in similar ways?
• What are adaptations? Give examples.
• What is function?
• What are different animal adaptations? Give examples.
• What are the different functions of animal adaptations? Give examples.
The primary motive for most animals is survival.
Why is the primary motive for most animals’ survival?
• What are motives? Give examples.
• What is primary?
• What are primary motives? Give examples.
• What is survival?

Survival may depend on the ability to adapt.
How may survival depend on the ability to adapt?
• What is survival?
• What is an ability? Give examples.
• What is adapt? Give examples.

An ethical community needs to balance its needs with environmental resources.
Why does an ethical community need to balance its needs with environmental resources?
• What is ethical? Give examples.
• What is community? Give examples.
• What is an ethical community?
• What is balance?
• What are environmental resources? Give examples.
• What is a balance of environmental resources?

Humans affect wildlife through their interaction with the environment.
How do humans affect wildlife through interactions with the environment?
• What does affect mean?
• What is wildlife? Give examples.
• How do humans affect wildlife?
• What is the environment? Give examples.
• What are the types of environments? Give examples.
• What does interact/interaction mean?
• How does wildlife interact with the environment? Give examples.
• How do humans interact with the environment? Give examples.

Populations increase and decrease in cycles.
Why do populations increase and decrease in cycles?
• What are populations? Give examples.
• What does increase and decrease mean? Give examples.
• How do populations increase? Give examples.
• How do populations decrease? Give examples.
• What are cycles?
Living things **change** and **adapt** to their **environment**.

How can living things change and adapt to their environment?

- What are living things?
- What is change?
- How do living things change?
- What is adapt?
- How do living things adapt?
- What is environment?
- What are the types of environments?
- Which living things live in the different types of environments?

**Natural selection** determines the **survival** of a **species**.

How does natural selection determine the survival of a species?

- What is natural selection?
- What is survival?
- What is a species?

**Survival** is of the **fittest**.

Why is survival of the fittest?

- What is survival?
- What is the fittest? Give examples.