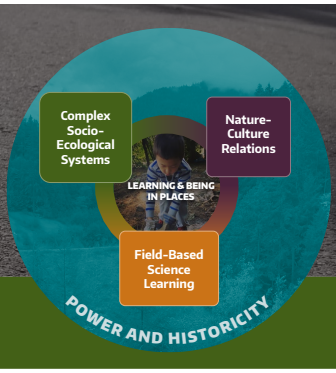
Learning in Places

Family Science Learning Engagement



LE 5.B What "Should We" Do? Making nature-culture relations over time

Activity Purpose

In this activity you will explore how your own decisions have multiple impacts and how they intersect with different timescales. This activity is intended to help you explore and consider the many dimensions of "should we" questions. There are many time scales that make a place what is today, and what it could be in the future. These time scales (a place's histories) span across land, water, plants, animals, and human communities over time. When we ask "should we" questions considering the multiple impacts and intersections of our decisions helps us make more sustainable and just choices. You can use the activity sheet provided, or you can use blank sheets of paper.

Activity Overview

This is a two-part activity.

- **Part 1:** Remember a time that you and your family had to make a big decision and explore all the things you considered. Use the "big decision" reflection tool to help guide your conversation.
- **Part 2:** Explore a new "should we" decision and make a "decision impact map" that explores its impacts!

5.C asks you to think about a decision through making observations around your home and neighborhood. If this activity seems hard to think about, doing 5.C first may help.

What can you do to support learning?

- This is an opportunity to explore an idea, activity or goal that your family has been considering and why it matters to you. For example, planting a garden. It is also an opportunity to explore something that your family has done for generations.
- Sometimes it is hard to choose a single should we question, consider multiple questions and then compare and contrast them.
- Thinking about the multiple impacts may take some practice. That is ok. You may need to share ideas with your kids to start.
- Consider sharing ideas or wonderings about an impact that connects to your decision and wont that doesn't seem to connect. This helps children know that it is good to explore ideas and to think about them together.

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Connecting with other families

» Call other family members and share your should we questions. You can ask them about what impacts they think a decision would have and add that to your decision map!

Disciplinary Core Ideas

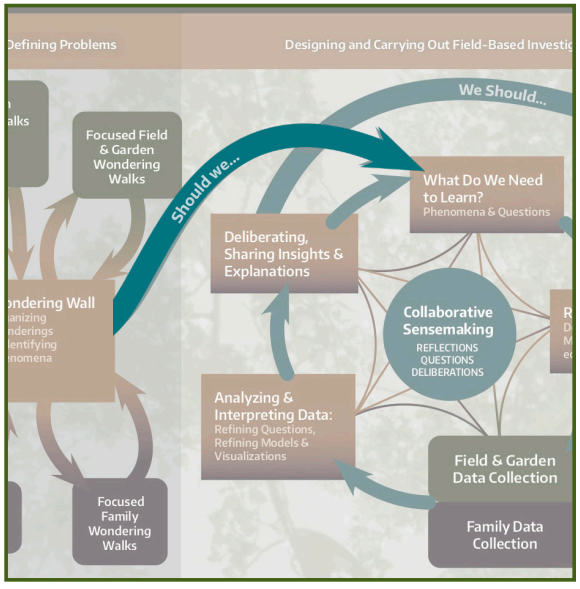
Human communities have always made socio-ecological decisions that are shaped by values and cultural practices. These choices reflect how human communities construct their relations (everyday, institutional, legal, etc....) with the natural world.

"Scientists use models...to represent their current understanding of a system (or parts of a system) under study, to aid in the development of questions and explanations, and to communicate ideas to others..." (National Research Council, 2012, p. 57).

Science Practices Emphasized

- Asking Questions
- Developing and Using Models
- Obtaining, Evaluating, and Communicating Information

YOUR PLACE IN THE SEASONAL STORYLINE



Key Ideas

"Should We" Questions

Asking "what should we do" and then making a decision is something that all people do everyday. Deciding what to do involves utilizing knowledge, clarifying values and goals, and exploring potential impacts. Socio-ecological "should we" questions (1) explore relationships between humans and the natural world, (2) explore multiple possibilities and how each decision impacts families, communities, and the natural world, and (3) encourages us to make more ethical and accountable decisions within the natural and social world. "Should We" questions require deliberation and action even with uncertainty.

Relationships in Socio-Ecological Systems

Thinking about relationships is a foundational practice to understanding and making decisions about complex socio-ecological systems. There are many forms of relationships within systems, and across systems. These relationships include predator-prey, helping-hurting, causal relationships (X causes Y to happen), among others. Research demonstrates that even young learners begin to understand causal relationships among organisms and natural components within a system.

CONNECT TO OTHER ACTIVITIES

- Learning Engagement 5.C: Modeling a Neighborhood "Should We" Question
- Learning Engagement 6.A: Observing and Modeling Specific Relations

LEARNING IN PLACES FRAMEWORKS TO CONSIDER

- Socio-Ecological Histories of Place
- Socio-Ecological Deliberation & Decision Making
- Asking Powerful Questions in Field-Based Science

What "Should We" Do?
Reflecting on a big decision.

LE # 5.B1

In this activity, your family will get to know what "should we" questions are and reflect on all the daily decisions you make. Asking and making decisions about "should we" questions is something that all people do as a part of their everyday lives, but we might not always think about them very much. In this activity use the following prompt to explore some big decisions. You can just have a conversation about each question or write one decision on a piece of paper and then compare them afterwards.

Example Decision

Big decision or event that has impacted your family. *Having grandpa move in with us.*

How did the need to make the decision come to be? What led up to it?	What values guided your decision?	How did the place you were or lived when you made this decision impact it?	What were the different options considered? Why was this the best decision to make?	Who else was impacted by the decision and how?	How did the decision impact you in the future? What did it change in your life?
• Grandpa was getting old and needed help doing his daily things. • Grandpa was feeling lonely because grandma passed away. • Parents were worried about him and so were our aunties and uncles.	• Family responsibilities are very important to us. • Being kind and taking care of elders is important. • Having multiple generations in one house strengthens our identity.	• We had enough extra space so grandpa could have a room of his own. • We lived far enough away from him that daily trips to check on him and help him was expensive, time consuming, and used too much gas.	• We considered different family members grandpa could go live with. • We considered having grandpa move closer to us so he could keep his own place. • We considered a place where grandpa would live with other people his own age.	• Our aunties, uncles and cousins because they come to our house more, but they have to travel further to see him. • Grandpa used to visit with neighbors in his old neighborhood and he can't anymore. They miss him.	• Grandpa is a part of our everyday life and he is happier. • We hear stories about his life. • We have a garden now and we compost our food and leaf litter. • We spend more money on & eat different foods. • Our energy use has increased. • We keep our toys off the floor more so grandpa won't trip.

What data and evidence was informing your thinking? We knew about life span data, we examined our energy use, we thought about our gas use and travel time.

How did the natural world shape this decision or is impacted by this decision? We didn't really think about this when we decided. We realize though that now grandpa has more places to walk but also our energy impacts are different. Also, our food and water consumption is different. Grandpa also notices birds and plants more than we did so we pay attention more too.

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What "Should We" Do?
Reflecting on a big decision.

LE # 5.B1

Big decision or event that has impacted your family.					
How did the need to make the decision come to be? What led up to it?	What values guided your decision?	How did the place you were or lived when you made this decision impact it?	What options were considered? Why was this the best decision to make?	Who else was impacted by the decision and how?	How did the decision impact you in the future? What did it change in your life?
What data and evidence was informing your thinking?					
How did the natural world shape this decision or is impacted by this decision?					

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What should we do?
Making nature-culture relations over time.

There are many time scales that make a place what is today, and what it could be in the future. These time scales (a place's histories) span across land, plants, animals, and human communities over time. In this activity you will explore how your own decisions have multiple impacts and intersect with different timescales. First you will practice thinking about how one or more of your decisions have multiple impacts and are connected to other things. Then you will explore how these layered impacts connect to different scales of time. Fill out as much of the chart as you want. There are no right or wrong answers!

Part 1: Mapping your decisions: What are the impacts?

Start out by identifying a key decision. Then you should "map" what are called primary and secondary impacts of your decision. **Primary impacts are the first layer of impacts from your decision.** They are the immediate things that are changed. Usually when we make a decision we think about primary impacts. However, sometimes we only focus on a few primary impacts and forget to think about the full scope of impacts - especially those in the natural world. **Secondary impacts aren't directly from your decision but rather emerge in response to the primary impacts.** There are tertiary impacts and further down the line. For this activity we are going to collapse all of the **indirectly emergent impacts** into the secondary category. Sometimes we think about secondary impacts when making decisions and sometimes we don't. This activity is intended to help your family consider and talk about secondary impacts. Finally, you will also consider feedback loops with respect to your decisions. **In ecosystems feedback loops describe how a change or decision in one part of a system impacts another part of the system and then how this change then causes feeds back to affect the original decision or phenomena.** These feedback loops can be positive or negative and create some of the basic regulatory dynamics of ecosystems. **PLEASE SEE THE INCLUDED EXAMPLE TO GET AN IDEA OF HOW THIS CAN WORK!** This activity is intended to help you think about these decisional dynamics and then consider how they intersect with different time scales. Different time scales are often changed by a complex interaction of primary and secondary impacts and the feedback loops that emerge.

Part 2: Mapping your decisions to scales of time.

Utilizing the second activity sheet to explore how your decision is connected to different scales of time. You likely already named some ways in part 1 of the activity so use that to help reflect in part 2. You will note that the activity sheet expects that you will wonder or have questions about each time scale. It is intended to help you wonder about it and to help motivate interest and the need to learn more. LE's 6-9 help do that!

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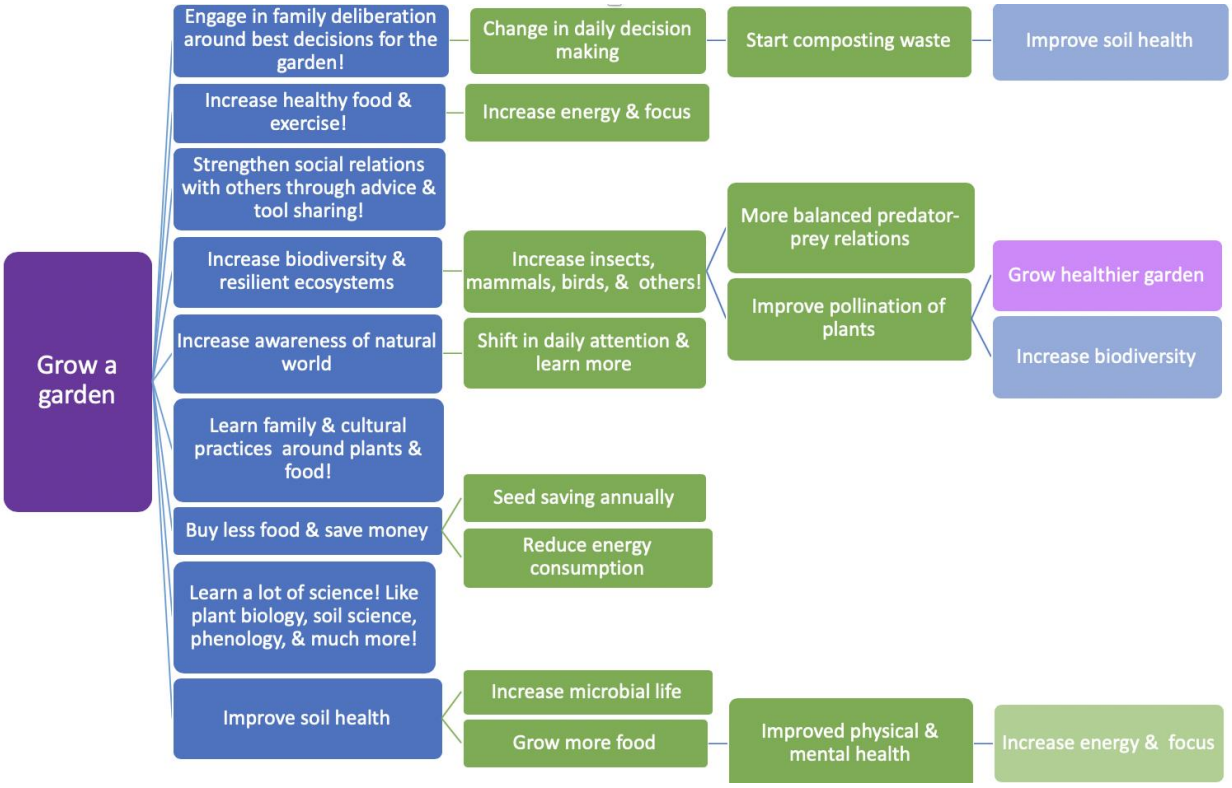
Part 1: Mapping your decision: Should we grow a garden? What will the impacts be?

Below is an example of a decision map around growing a garden. This decision map isn't complete but will give you an idea of the many different dimensions involved with deciding to grow a garden! The example below has the decision in the darker purple box, the primary impacts of growing a garden in the darker blue boxes, the secondary impacts of growing a garden are in the darker green boxes and the feedback loops are in the lighter blue, purple, and green boxes.



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Part 2: Mapping your decisions to scales of time.

You explored how places and societal structures shape your family decisions in previous learning engagements. This is also true at the different time scales that make a place what is today, and what it could be in the future. These time scales (a place's histories) span across land, plants, animals, and human communities. In this activity explore how your decision intersects with different timescales. Utilize your decision map to fill in as much as you can. You can also explore new potential impacts of your decision. You may not know, that is ok. If you aren't sure see if you can imagine some ways it might. You can use the table below, rewrite it for yourself, or you can just talk about each of these dimensions. If you think of new impacts of your decision using the different scales of time add them to your decision map! Also note this activity connects to LE 1.C.

What is your family's decision?		
Time Scales	**How did your decision have impacts with each time scale?**	**What questions or wondering do you have about whether your decision has impacts at this time scale?**
Geologic Time: Land and ocean processes, mountain formation, glaciation, etc.		
Plant, Animal, and Soil Time: Plants, animals, and soils of the area, species extinctions or adaptations		
Indigenous Peoples' Time: Recognizing First Peoples and their histories and current relationships to this place		
Nation State Time: How the development of nations over time has shaped and impacted this place		
Global Time: How this place is connected to, impacts, or is impacted by other places across the earth and interacts with other time scales		
Living Ethical Responsibilities and Possibilities Time: What's possible for this place?		

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