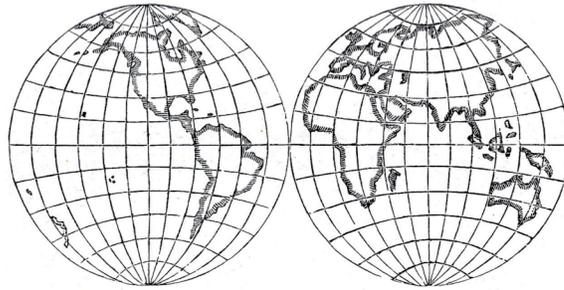


PARTS, PEOPLE, INTERACTIONS

EXPLORING COMPLEXITY



Identify a system and ask:

What are the **parts** of the system?

Who are the **people** connected to the system?

How do the people in the system **interact** with each other and with the parts of the system?

How does a change in one element of the system **affect** the various parts and people connected to the system?

Parts, People, and Interactions

What Kind of Thinking Does This Routine Encourage?

This thinking routine helps learners slow down and look closely at a system. In doing so, young people are able to situate objects within systems and recognize the various people who participate—directly or indirectly—within a particular system. Learners also notice that a change in one aspect of the system may have both intended and unintended effects on another aspect of the system. When considering the parts, people, and interactions within a system, young people begin to notice the multitude of subsystems within systems. This thinking routine helps stimulate curiosity, raises questions, surfaces areas for further inquiry, and introduces *systems thinking*.

When and How Can This Routine Be Used?

This thinking routine can be used to explore any system. This routine can be used on its own, or in combination with another routine. Here are some ideas and considerations for putting this thinking routine into practice:

- Before beginning this routine, it may be helpful to lead your students towards a firm understanding of what a system is. Definitions are helpful, but we've found that concrete examples (e.g., subway systems, town recycling systems, the lunch line system at school, etc.) work best.
- In order to engage in this thinking routine, your students will have to identify a system to explore. One way to do this is to have your students situate an object within a broader system. For example, a postage stamp can be situated within the broader postal system and a bicycle helmet can be situated within a broader transportation system.
- Encourage your students to name the systems they would like to explore. This can be tricky for some learners and it may be helpful for you to reorient them to an agreed upon definition of a system, or a concrete example that you shared earlier. You can then ask your students if their system meets the criteria for a system you'd discussed previously.
- Systems are made up of subsystems, and are themselves parts of broader systems. In order to avoid going down the rabbit hole of *everything is connected to everything*, it may be helpful for you to encourage your students to define the boundaries of their system.
- Working in groups, it is helpful for young people to first make a list of all of the parts, and people involved in a system, and then to map out their system on chart paper to make the interactions between all of the parts and people in their system visible.