

Parts, Purposes, Complexities

A routine for looking closely at systems.

Choose an object or system and use the following prompts.

- What are its **parts**?
 - What are its pieces or components?
- What are its **purposes**?
 - What are the purposes of each of these parts?
- What are its **complexities**?
 - How is it complicated in its parts and purposes, the relationship between the two, or in?

PURPOSE

What kind of thinking does this routine encourage?

This routine sparks curiosity by encouraging students to observe carefully, looking beyond the obvious features of an object or system, to surface questions and identify areas for further inquiry.

APPLICATION

When and where can I use it?

This thinking routine can be used to explore any object or system. The routine provides an opportunity to make students' thinking visible as they create lists, maps, and drawings of the parts, purposes, and complexities of various objects and systems.

LAUNCH

What are some tips for starting and using this routine?

You may introduce the three elements of this routine all at once, or you may want to introduce the three elements of the routine one at a time. If an object students are working with is present and/or physically visible, students might not need a lot of background knowledge. However, if students are working with a system (for example, a system of government), it may be helpful for students to have background knowledge or to have an opportunity to reflect on their experiences interacting with that particular system.

To take this routine to the next level, after students have considered the parts, purposes, and complexities of an object as it is, you may consider having students take apart the objects they are working with—and then continue to identify the parts, purposes, and complexities they notice, documenting their noticings on their maps or drawing by using a different color pencil, pen, or marker. You may consider swapping out the word “complexities” for more accessible terms, such as *puzzles* or *questions*.

FACILITATION

This activity is recommended for the following learner age ranges:

- **Preschool**
 - 15-30 minutes
 - Heavily facilitated by peer/teacher/caregiver
- **Elementary School**
 - 15-30 minutes
 - Lightly facilitated by peer/teacher/caregiver
- **Middle School**
 - 15-30 minutes
 - Lightly facilitated by peer/teacher/caregiver
- **High School**
 - 15-30 minutes
 - Lightly facilitated by peer/teacher/caregiver

This thinking routine was developed as part of the Agency by Design and Artful Thinking project at Project Zero at the Harvard Graduate School of Education. Explore the full PZ Thinking Routine Toolbox at pz.harvard.edu/thinking-routines.

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