Civic Systems

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1: Here & Now

We're in this together

Civics is complicated—probably the most complicated subject you'll ever study. Civics deals with sidewalks and superhighways, rain puddles and seaports, neighborhoods and nations. It involves all kinds of people—schoolkids and senators, garbage collectors and governors, beggars and billionaires. And everything and everyone in between.

It's complicated, but we'll show you ways to make better sense of it all.

About this course

Many courses you've taken in school give you lots of answers to remember. This course is different, and may seem strange at first. Some guidelines:

- The future will be more complicated than the present. Old solutions won't solve new problems.
- To solve problems, you need to make sense of the real world.
- In the real world, everything connects. You'll need to understand "systems."
- Making sense of systems requires organized thought. School subjects aren't very good organizers of information.
- Thinking about ways to organize thought improves how you do it.
- For sense-making purposes, the real, everyday world is a better "textbook" than textbooks about it.
- Everything you learn should be useful, right here, right now.
- Writing makes you think. (Keep a journal.)
- Dialog makes you think. (Work with others.)

We're not going to tell you much. We're just going to give you a series of things to do and let you teach yourself how to make more sense of reality—yourself, others, the world.

Investigation: A first look at systems and civics

We ignore most of what we see—that's normal. If we paid attention to everything around us, we wouldn't be able to focus on what we think is important. But we'd like you to become more aware of what's significant in your surroundings.

Below is a photo of an ordinary street in an ordinary U. S. city.[1] Work together with a few other people; choose one or two of the indicated features (A through H), and find answers to these questions: (Record your conclusions in your journal.)

- What's its purpose? What problems does it solve? What would happen if it, and other similar things, weren't there or in similar places everywhere?
- Who owns it? How was it paid for? Who controlled its design and location? Where did construction materials come from?

[1] In Florida where the authors live. Photo by Howard Brady.

Systems, systems, everywhere

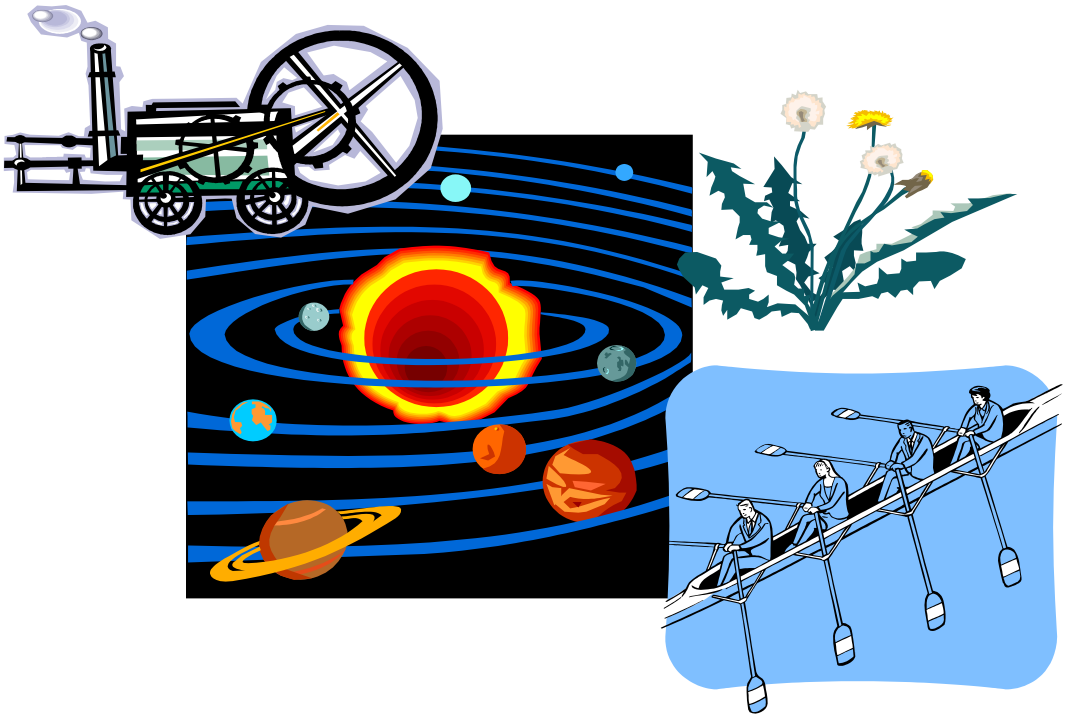
A system is an assembly of related and interacting parts. If one part of a system changes, other parts change.

You're surrounded by countless systems:

- Large systems—the solar system, the economic system of the United States, a thunderstorm
- Middle-sized systems—your local water system, the school library
- Small systems—cell phones, a kid on a bicycle, a burning candle
- Biological systems—an oak tree, your digestive system
- Social systems—a school club, the Navajo nation
- Systems of molecules—your life depends on them.

The universe is a system, as are atoms. *Every science is a study of systems.* Making sense of them is essential to survival.

Four systems:



Investigation: A first look at systems and civics (part 2)

For the features you've selected from the street scene, answer these questions. (Some may be difficult):

- How and why does it connect with other things? What doesn't show in the photo that's related and important? Identify the linked systems.
- In your own neighborhood how do similar features (and their linked systems) affect your life?
- How is each feature related to government?
- If you don't know an answer, where would you go to find out?

Record your answers in your journal, and be ready to present them to others. This is more complicated than it may seem at first, so take your time. Use additional pictures or diagrams, if possible.

All the items (A through H) are evidence of people working together to help them survive and prosper. When people work together to solve important problems, they create systems.

That's what civics is all about.

Investigation: Target Area

Making sense of "right here, right now"—your immediate experience—will be your most important project for the rest of your life. For a strange reason, that task is hard: it's so familiar you tend to ignore it. This is what's meant by the old saying, "a fish would be the last to discover water."

To help you, we want you to focus on a "Target Area" for continuing investigation.

If you're in a school, your Target Area is the school itself and the property it sits on. This will be your "laboratory."

If you're not part of a regular school, choose a familiar area—your place of worship, your immediate neighborhood, or a similar accessible area. (Make sure your area has 50 or more people in it at least some of the time, to make it complex enough to be interesting.)

1: Begin a list of major features within the Target Area's boundaries. Listing everything is impossible, of course, but you should be able to identify many important categories of things—organisms, structures, materials, resources, tools, etc.

http://www.absherco.com/portfolio/education/valley-view-middle-school/

2: ***Precision requires numbers and measurement to answer questions such as: How much? How many? How far? How big? Where, exactly? Begin your investigation by collecting precise data. For example:***

What's the shape of the property? How long is each side? What's the area?

Where are the building(s)? What's their shape and size? How much of the total area do they occupy?

How many people are usually in the various spaces at various times? Males? Females?

How many groups? How big is each group?

3: ***The questions in 1 and 2 are only a start; you'll need to ask and answer many more to get a really accurate picture of immediate reality. To record this information, make drawings, graphs, lists, tables, etc. (If you do this right, it'll take a lot of time. Be patient and thorough.)***

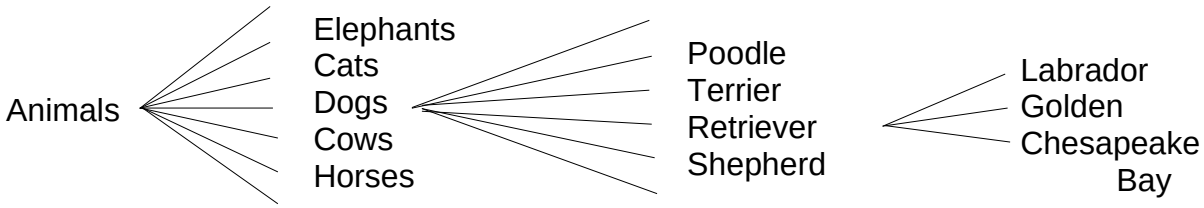
Make your Target Area record easy to find later on. You'll be adding to it, using information from other investigations.

Organizing information: Knowledge trees

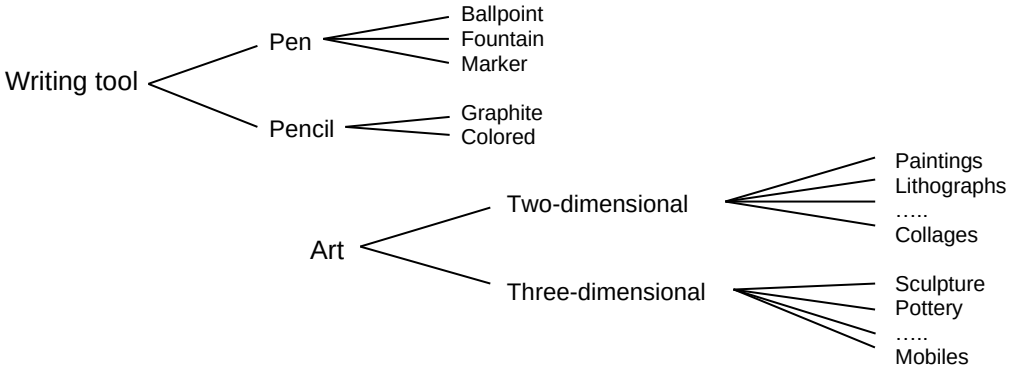
Many of the important things you learned while growing up were given names or labels and became "categories." The category labeled "animal" is used for many kinds of organisms that share the pattern of moving around. To build your knowledge, you've been finding and refining categories since you were an infant.

For example, one of your early ways of categorizing might have put all four-legged animals together under a single heading called "doggie." However, you quickly moved on to a many-part system. Dogs, cats, cows, elephants, horses, and other familiar animals began to be seen as different kinds of things and were given different labels.

Your revised category system then became even more complicated. Instead of talking about dogs, you began to sub-categorize them, calling them poodles, shepherds, terriers, retrievers, and so on. Now that you're older and know even more, you may have elaborated the dog category even further—poodles, for example, may have become "toy," "standard," etc. Like this:



We'll call diagrams like this "knowledge trees." They can be used to organize almost any kind of information. Each word in each tree is a category, and the tree shows important relationships between knowledge categories.



We live in an extremely complicated world. Knowledge trees are essential tools for sorting out and making sense of the complexity that surrounds us.

Investigation: Developing knowledge trees

1: Choose one of the following and devise a knowledge tree to analyze and classify information about it. Work with others, if possible.

- Means of transport
- Means of communication
- Food production/distribution
- Kinds of shelter
- Ways of teaching and learning
- Ways of controlling "bad" behavior

2: Check your work. The category words in each column should have a similar descriptive level, and "explain" the words in the previous column. The words in your final column and the category with which you started should be directly related.

3: If possible, compare your work with that of others, thinking about relative strengths and weaknesses.

Investigation: Organizing knowledge in commerce

Analytical categories are important because they organize information and help us deal with complexity. If a store put its products on shelves in random order, finding something would be almost impossible. Quite naturally, similar products are grouped together.

The same principle applies to information. Random facts are hard to remember, but if they're organized into categories, remembering and using them is much easier.

1: Make a tree for the way products are organized in a typical supermarket.

2: Nothing's perfect. Make a short shopping list and take it to your local supermarket. If you have trouble finding an item, this may indicate a category problem. Describe the problem, and suggest a change.

3: Most stores place certain products in ways that make you notice and buy things you otherwise might not buy. Identify and describe parts of the supermarket's product display arrangement that cause you to slow down and notice or otherwise pay special attention.

Investigation: Organizing Target Area knowledge

You began your Target Area investigation by making a list (instruction repeated below):

1: Begin a list of major features within the Target Area's boundaries. Listing everything is impossible, of course, but you should be able to identify many important categories of things—organisms, structures, materials, resources, tools, etc.

2. Organize the information in your list into a "knowledge tree." You may wish to add additional parts. Note that there is more than one way to do this.

Relationships

You probably already know this without thinking about it: The key to making sense of systems is *finding relationships*. That's why systems exist—their parts are related.

When you hear or read the word "relationships," you may think immediately of "**human** relationships." That isn't what we're talking about. We're concerned here with **logical** and **cause-effect** relationships. For example:

- Sunlight and plant growth are related.
- Lung cancer and smoking are related.
- Wet pavement and skidding are related.
- Economic hard times and political uncertainty are related.
- Tides relate to the moon.
- Weather relates to ocean currents.
- Suburban patterns for neighboring relate to street width.
- Rate of plant growth relates to soil characteristics.
- The welfare of a nation relates to its decisions about what to do with surplus wealth.

For individual humans, for whole societies and civilizations, in every field of study, a search for insight is, more than anything else, a search for possible and probable relationships.

This isn't new for you—you've been finding relationships since you were an infant. You discovered a relationship between crying when you were hungry or uncomfortable, and receiving attention from a parent.

Investigation: A closer look at relationships

1: ***Below are parts of relationship statements. Discuss these with others, then, in your journal, fill in the blanks with what seem to you to be useful hypotheses:***

Teen-age suicide is related to _____.

Claustrophobia can be caused by _____.

_____is related to free time.

Neighborhoods are peaceful when _____.

_____ is affected by color.

Violent behavior is related to _____.

_____ is related to family birth order.

If job stress is high, then _____.

2: ***Do you feel safer in some places than others? Explain how personal feelings of security and comfort (or insecurity and discomfort) might relate to each of these:***

(a) Neighborhood design

(b) Home environment

(c) How classrooms are organized

(d) How schools are organized and operate

Investigation: Geographic relationships

1: ***Identify and list what you believe are the ten or twelve most important cities on earth.***

2: ***Check the geography where each of the cities is located, and identify similarities (patterns) in their locations. List the geographic characteristics probably related to city formation and growth.***

3: ***Find other locations with similar geographic conditions to those where important cities are located. Almost always, a city will be located there, but many of these cities are smaller and less important. Identify possible reasons why.***

Goodfreephotos.com

Investigation: Relationships in public issues

Below is a list of the states in the United States and their 2017 crime rates,[1] expressed as total crimes per 100,000 people. The list is arranged in series, with New Hampshire having the lowest rate.

On a map of the United States, identify the locations of the 10 lowest crime states, and the locations of the 10 highest-crime states. Why do you think the crime rates differ?

New Hampshire	1,580.5	Delaware	2,894.0
Vermont	1,602.5	North Carolina	2,909.0
Maine	1,628.1	Florida	2,920.4
New Jersey	1,784.3	California	2,946.0
Massachusetts	1,795.0	Montana	2,968.7
Idaho	1,861.8	Texas	3,001.5
New York	1,870.9	Utah	3,019.1
Pennsylvania	1,962.7	Mississippi	3,019.6
Rhode Island	1,983.8	Colorado	3,069.7
Connecticut	1,997.9	Hawaii	3,080.1
Virginia	2,001.1	Nevada	3,168.3
Wyoming	2,067.9	Kansas	3,213.9
Wisconsin	2,128.2	Georgia	3,217.4
West Virginia	2,202.7	Oregon	3,268.3
Michigan	2,250.0	Oklahoma	3,332.6
South Dakota	2,309.8	Missouri	3,364.2
Kentucky	2,354.9	Arizona	3,422.9
Iowa	2,418.7	Washington	3,478.1
Minnesota	2,429.8	Alabama	3,481.5
Illinois	2,450.2	Tennessee	3,592.1
North Dakota	2,479.1	Arkansas	3,633.5
Nebraska	2,579.9	South Carolina	3,702.1
Ohio	2,716.6	Louisiana	3,923.8
Maryland	2,722.5	Alaska	4,371.1
Indiana	2,815.9	New Mexico	4,725.2

Note: The causes of crime are complex, and some crimes are never reported, so don't show up in statistics. Crimes totaled in the table are murder, forcible rape, robbery, aggravated assault, burglary, larceny/theft, and motor vehicle theft.

[1] FBI, Uniform Crime Reports, 2017

Investigation: Human needs

1: ***Working with others, prepare a list of what humans need to survive and prosper. Some of these needs will be obvious (food, water…) but others may require some thought.***

2: ***Relationships: Match items on your list with systems that help supply those needs, and identify (a) government and non-government organizations that help supply each need, and (b) for needs supplied by non-government organizations, any relationships between government and each system you've named.***

Investigation: Relationships in the Target Area

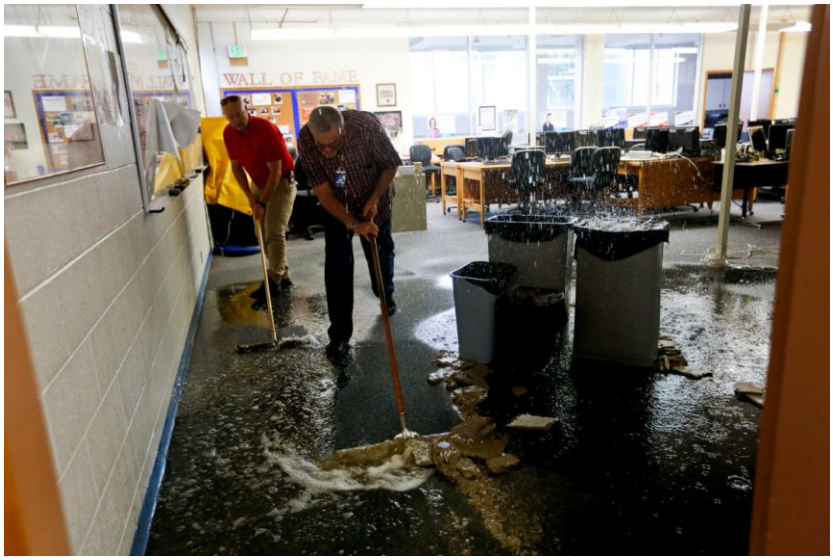
RHRN Project

The information about your Target Area you've collected so far is the beginning point for this investigation. Using that information, think about some possible relationships between parts of the Target Area you've identified (or will identify).

For example, is there a relationship between the orientation of different parts of a building and use of electricity? Between sound levels and locations? Is the level of dust in the air different in different parts of the Target Area? If so, why? Where and why do people congregate? Where is the most maintenance necessary? Why? Is any part of the Target area creating problems or deteriorating excessively? Identify reasons.

1: ***List at least five possible relationships between parts of your Target Area.***

2: ***If you identify problems, suggest possible solutions. If possible, identify those responsible, and do what you can to improve the situation.***



For teacher/mentor:

The rationale for *Civic Systems*, and general procedures recommended for the course are described in the "Overview for Teachers and Mentors." http://www.marionbrady.com/Civics/00Teacher-MentorOverview.pdf.

In terms of page count, this opening unit is, deliberately, short. Too often learners feel overwhelmed by a huge textbook at the beginning of the course. The unspoken reaction is likely to be, "You mean I have to learn all this?"

However, this opening unit, (done with care) is certain to require a significant block of class time, especially for the preliminary target area survey. With active learning, the pace is controlled by the learners, is likely to be slower than expected, and makes advanced lesson planning and scheduling nearly a lost cause. Used effectively, the twelve pages of learner material in this unit could require several weeks of class time.

As noted in in the Overview for Teachers and Mentors, direct contact with representatives of local government at appropriate times will be an important learning asset. Identify experts willing to answer questions, in class, on field trips, or via email by contacting appropriate government offices.

Note that much of this unit is virtually identical to that used in *Introduction to Systems*. We've assumed learners haven't participated in that course, and this course introduces the same sort of social systems analysis.

Optional introduction to active learning

As we said in the "Overview for Teachers and Mentors," deep understanding and exercise of high-level thinking processes require that learners be engaged in active, investigative learning.

The transition from conventional narrative textbook-based learning to active learning may be difficult for some students—particularly the ones who coped with passive learning effectively. We've heard students ask, "Why don't you just tell us what you want us to know?" Learners resist these investigative activities primarily because they are unlike the "read and recall game" they've come to expect to play in school.

Mindy Nathan, principal of an alternative school in Bloomfield, Michigan, wrote to us:

> "...My kids LIKE and PREFER the surface requests of conventional test questions that don't demand thought. It's like a relief to them. Crossing the barrier – the chasm that exists in their preference for ease and rote response, and the deeper, meatier, cognitive processes – is a gigantic challenge...I am dealing with kids at the end of their frustration level, who have never experienced (or haven't recognized?) true joy in learning."

If learners are not likely to be comfortable with the kind of self-directed processes required to do the investigations in this course, we recommend that study begin

with the initial activities included in Part 1 of the *Introduction to Systems* course (available free at https://www.marionbrady.com/IntroductiontoSystems.asp).

Those activities ("Thinking about thinking") point out to students that they constantly engage in "higher order" thought processes, and that doing so isn't more difficult than memory work, just different, and far more useful.

The "Thinking about thinking" activities also introduce leaners to working in small groups—the standard mode for most activities within the course.

For poorly-motivated learners, the emphasis on "here and now" application of that which is being learned has been helpful with other course material we've developed, and we believe it's an essential part of this course.

The "comparing houses" investigation introduces, subtly, a major idea that will be developed more thoroughly later: Habitat (or setting) and human behavior are related in important ways.

Investigation: A first look at systems and civics

We expect that both teachers and learners of civics would expect some aspect of civics to be introduced at the beginning of the course. That's one purpose of this opening activity. However, another purpose is to point out the ubiquity and necessity of the many elements of most local habitats that are either supplied by government, or linked closely in many ways with various levels of government.

Local government, particularly, impacts the lives of citizens in myriad ways, and these impacts are almost entirely beneficial. Raising the consciousness of learners to the relationships between government and their own lives is, we believe, a worthy endeavor.

With typical classes, we suggest beginning by using the simplest of the systems—that associated with the storm drain—and using it as the focus of class discussion, as an exemplar for later activity. Typical questions:

How is the street design related to getting rid of water? (The paved area has to be designed so it slopes to avoid standing water.) What are the other parts of the storm water drain system? What engineering is required to make them work properly? (Slope is required for water to drain, in every part of the system.)

Note that in newer storm water systems, often the water is fed into "retention ponds." The water from roadways contains dirt and pollutants, and the ponds allow sediment to settle out. Some pollutants are reduced by evaporation and biological processes in the pond. The pond also allows the water to be released gradually, limiting erosion and sudden flooding. Some of the water may also sink into the ground at the ponds, helping to recharge the local water table.

The water is eventually carried off by local streams or rivers that provide the natural drainage for the region.

As with a majority of the investigations in *Civic Systems*, we recommend that the rest of the investigation be done as a project by small groups of three to six learners. The investigation is in two parts, separated by the introduction of the concept of system. As with a great deal else, learners almost certainly have a

vague idea of the concept, without understanding it as an analytical tool. The amount of time required for this will vary with the class, but this activity may require several class periods.

Systems: Some general discussion of systems is, of course, necessary before moving to the second part of this investigation. Nearby systems (e.g. the system for managing time within the school, or the systems associated with a team sport) may be used as topics. Identifying the system parts is the obvious first step.

A few generalities may become apparent in this discussion. One has to do with a system's boundaries—sometimes they are hard to define. Parts of the time management system in a typical school, for example, are the decisions and assumptions made about the length of periods and the intervals for movement between periods, but learners are not likely to think about these matters unless they are raised by a teacher. Yet these decisions and assumptions are probably the most important part of the system.

Similar concerns arise in discussion of sports. Are spectators to be included in the system? Sports equipment and facilities? Coaches?

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Most of the items in the photograph are supplied by local government, but two—electrical power and stores—are (usually) not. The pertinent question for both is, "How are these related to government?" Some supplementary questions may be required, e.g.:

- Can the power company put their poles anywhere they please?
- Electricity is dangerous. In the case of private users such as homes and stores, how do we make sure that installation and use are safe?
- Can builders of stores build anything they want anywhere they want to build it?
- How is the safety of people using the stores assured?
- Who decides which systems are to be supplied by government, and which by others (individuals, groups, or corporations)?

Learners may not be aware of property easements for power poles and lines, or of zoning and building codes, but should be able to infer their necessity.

The typical status of corporately-owned utilities such as power companies—monopoly in exchange for close government regulation—is a complex subject. The dividing lines between public, corporate (e.g. power & communications) and private control can be dealt with later.

Each system associated with each item should be described (and, if possible, diagrammed) to the limit of the learners' abilities.

We recommend that each group present their results to the rest of the class.

Investigation: Target area

This is a major activity—a foundation for much that follows. Its relationship to the study of civics may not be immediately apparent, but it opens a window to understanding systems. A group's *Setting* is an important element of system analysis, and is dealt with in depth later in the course, but begins here.

Properly done, even this first target area investigation can have huge educational impact. Kids will be learning active-mode investigation, measurement procedures, the importance of accuracy, and an attitude that whenever possible they should gather firsthand information for themselves, rather than trust secondhand information. We suggest you read the description of one master teacher that had a group of alternative-school learners focus on this task: http://www.marionbrady.com/documents/DrWilliamWebb-Testimonial.pdf

For materials you'll need 50- or 100-foot measuring tapes (or go metric with 10- or 25-meter tapes). Other materials or tools may also be needed—large protractors, 11 x 17 inch (or A2) or larger paper, some kind of level, etc.

Cooperating with a math teacher, if possible, is suggested. The beginning section of https://www.marionbrady.com/IntroSystems/Systems-Math.pdf may be helpful in developing important measurement principles that are sometimes neglected in ordinary math instruction.

You may choose to limit the area to be measured and mapped to something less than the entire school campus, particularly if the area is complex, as Dr. Webb did with his class. Or, alternatively, if the campus is complex, different work groups may be assigned different areas to measure and plot.

Some ingenuity may be needed if the target area space involves corners at angles other than 90 degrees, as in the example cited by Dr. Webb. Let the kids figure it out themselves.

We believe learner autonomy is essential to making this and other investigations effective, so teachers or mentors should refrain from jumping in with answers or opinions as much as possible. One essential message that should be communicated to learners is that mistakes are a necessary part of real learning, and making mistakes is OK, no big deal, no real block to classroom success. Multiple teams working on this will almost certainly end up with different results, at least slightly, and discussion of the differences should be part of the process.

We've counseled patience for the learners. Teachers and mentors must be patient as well. This activity will likely take several days, but they're well spent. The deskwork portion—creating the plan view of the target area and formatting the associated data—could be spread out over some time, with work on this activity interspersed with the investigations that follow.

Investigation: Developing knowledge trees

A possible problem in this and many other *CS* investigations may be the conventional assumption by learners that there's only one right answer. That's rarely the case in this course (and in real life). Even if they start with the same

category, the trees that learners will generate will differ significantly. Evaluating conceptual trees should be based on whether categories at each level of the hierarchy are reasonably parallel, and whether they follow the criteria listed in Step 2 of the investigation.

If the knowledge trees are generated by teams, some way of presenting their work to the whole class for discussion will be helpful. Questions such as, "What are the strong points of this tree?" "Are bigger trees better than smaller ones?" "Is anything important left out?" "How are these two categories in this group different?" "Which tree is most useful?" may be helpful. Check the trees in advance, and ensure that criticism (by you or learners) won't result in hurt feelings. Treat displayed trees as "works in progress, subject to change."

Note that the starting categories for these trees are important parts of the general systems Model that will be introduced later in the Course.

Investigation: Organizing knowledge in commerce

This investigation will help drive home the necessity of rational organization in many areas of life. Of course, the focus may be changed to another kind of store if needed for simple access—a "big box" store, and even the urban corner *bodega* or the local convenience store needs to have its wares grouped into similar categories to be successful.

What does this have to do with civics? Citizens require an understanding of every part of the economy, from the medium of exchange to the government-supplied infrastructure (roads, zoning, etc.) that make commerce possible.

Investigation: Organizing target area knowledge

This should be a fairly simple and quick activity for learners who successfully made the knowledge trees required earlier. This is an intermediate step to the later Target Area investigations.

Investigating Relationships

Knowledge and understanding generally grow not by amassing facts but by linking together aspects of reality not previously thought to be related. Finding relationships, then, is central to learning.

Investigation: A closer look at relationships

As we said earlier, there's usually no single right answer to the puzzles that make up *CS*. That's true with this activity, as well. After work groups have come up with answers, whole-class discussion could compare them to select those answers with the greatest merit (rated by "usefulness").

Investigation: Geographic relationships

Major cities are generally deep-water seaports in places with agreeable climate, conducive to development and industry and creation of a commercial hub. The amount of commerce accessible from the major city is probably the greatest determinant of its size, because commerce drives growth.

This somewhat-optional activity is a chance to introduce some conventional world geography. If course expectations require some emphasis on such topics, learners could prepare detailed reports on various major world cities and their overall characteristics, with appropriate graphics for illustration.

Investigation: Relationships in public issues

Let the work groups struggle with this for a while. Plotting the locations of the low-crime and high-crime states, the obvious first correlation is with location, which suggests a possible relationship to climate. Perhaps people are less likely to commit crimes in cold weather. Alaska, however, is a high-crime state, confusing the issue.

Poverty rates (see Wikipedia's List of U.S. states by poverty rate) match crime rates fairly well, but again Alaska, with low poverty, is an outlier that doesn't fit the pattern. (However, Alaska's state-distributed funds to residents from oil and gas exports reduce poverty, but don't change poverty's culture.) Alaska's high crime rate may be at least partially due to a kind of leftover "wild west" culture in the state. Also, in some locations, the sparse population may make some people feel they're not being observed by those around them, thus are more likely to commit crimes.

Probably the best lesson here is that not all questions have easy-to-find answers.

Investigation: Human needs

A well-known study of human needs was done by Abraham Maslow. See https://www.simplypsychology.org/maslow.html. His pyramid is not explicit about some needs—procreation to keep humankind from dying out; child care and socialization, for example. But the pyramid points out that full humanness requires satisfaction of the full range of needs.

The pyramid also points out another truth: Unless the lower level needs are adequately filled, the higher-level needs are insignificant. Maslow said, famously, "Man lives for bread alone when there is no bread."

One helpful suggestion to learners: Almost everything in their environment fills the need for either survival or satisfaction. (Question for discussion: "Is entertainment a need?")

The need for safety and security leads to much government activity—making ordinances and laws, maintaining law enforcement and courts at multiple levels, local building codes, military forces. etc.

Even for needs (e.g. food) generally supplied by non-government commercial sources, government provides the infrastructure (e.g. monetary system, roads for distribution, safety standards and inspections, etc.) that makes private enterprise function for public benefit.

This investigation deals with very complex aspects of reality. Most learners are affected by three or four levels of government (national, state, county, municipal), and the myriad and overlapping services they provide can be confusing, even

overwhelming. Each level has law enforcement agencies, each provides some physical infrastructure, and each has legislative functions, for example. Deciding which level of government is responsible for a particular type of service is a continuing problem for everyone concerned, particularly officials.

It's best at this point to recognize the complexity, and point out to learners that they simply can't be expected to have more than a superficial grasp of the scope of all levels of government at this point. For this reason, the main civics emphasis of this course will focus on the lowest level of government experienced by learners—municipal (or, perhaps, county, for rural areas), with occasional investigation of higher levels. **Local government is a paradigm for government at any level, and its scope and importance are under-appreciated by most people.**

Investigation: Relationships in the Target Area

One key to maintaining learner interest in a project is making sure all feel they have some reasonable control over the learning process. Autonomy is closely associated with effective learning, and this investigation provides opportunities for kids to choose the direction of their investigation, and potentially take action that could make a significant difference in their environment.

This investigation could, of course, expand to become a life changing series of events:
https://www.marionbrady.com/articles/Orlando_Sentinel_Column/GPricelesslesson.jpg

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Jerome Bruner (1915-2016) Essay, **"The Act of Discovery,"** in his 1962 collection *On Knowing: Essays for the Left Hand*

"Bruner illustrates those attitudes with what is perhaps the most insightful lens on problem-solving ever crafted — the English philosopher Thomas Dewar Weldon's distinction between difficulties, puzzles, and problems. Bruner synthesizes:

"We solve a problem or make a discovery when we impose a puzzle form on a difficulty to convert it into a problem that can be solved in such a way that it gets us where we want to be. That is to say, we recast the difficulty into a form that we know how to work with — then we work it. Much of what we speak of as discovery consists of knowing how to impose a workable kind of form on various kinds of difficulties. A small but crucial part of discovery of the highest order is to invent and develop effective models or "puzzle forms." It is in this area that the truly powerful mind shines."

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