"The Discipline of Organizing" for Kids

"THE DISCIPLINE OF ORGANIZING" FOR KIDS

ROBERT J GLUSHKO

CONTENTS

Part II. PART 2: USING CATEGORIES TO ORGANIZE

Part III. PART 3: PATTERNS FOR ORGANIZING SYSTEMS

Part IV. PART 4: ORGANIZING TIME

Part V. PART 5: CONCEPTS AND METHODS FOR MASTER ORGANIZERS

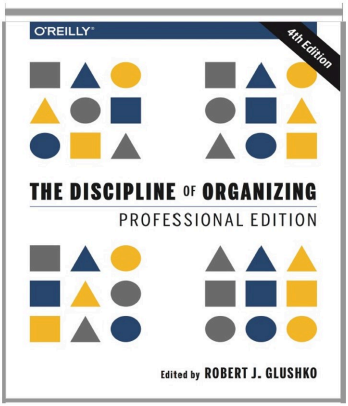
INTRODUCTION TO ORGANIZING FOR "KIDS"

Organizing is a useful and important activity in our daily lives. Our family life is organized, and so are our schools, sports teams, businesses, neighborhoods, cities, countries, everything.

There are many books about how to organize things. Most of the books that are written for kids are full of very specific suggestions about how to solve typical organizing problems. These books teach kids how to arrange their stuff in their bedrooms, their backpack, and school locker. They also suggest how to manage their assignments in a time planner and notebook. These are useful skills, but there's a better way to learn about organizing.

KIDS, PARENTS AND

TEACHERS! Read this part carefully!



This book is based on an award-winning college/ professional book called "The Discipline of Organizing" (you can download a copy for free). That book defines organizing as a skill that combines concepts and methods from many fields, especially library science and computer science, with some help from psychology, philosophy, economics, law, and other areas of study. This new approach teaches more general concepts and methods that can be used to solve for **ANY** organizing problem.

This book, "The Discipline of Organizing for Kids," is aimed at children in late elementary or early middle school because at this age kids face many organizing challenges. In lower elementary school grades, children usually have a single teacher who organizes almost every aspect of school. But when they get older, many children start spending lots of time with personal computers, mobile phones, and other technologies

that compete for their attention. These things disrupt the organization provided by the teacher.

In middle school another big change happens. Students now have different teachers for each subject. This requires students to organize their time, their school work and supplies, and their study habits with much less help from their teachers. That's why they need the organizing skills that this book will teach them.

Managing time is a challenging skill to learn, and it is more difficult for kids now than it was for people who are now adults because today's kids have grown up with digital clocks, digital watches, and digital time displays. Kids can learn to tell the time, but digital time lacks the context of hours and days that must be understood for a kid to learn to manage time. Digital time is always **NOW**, which makes it hard to be sensitive to duration and the passage of time. At least one of the digital clocks in your home or school should be replaced with one that has moving hour and minute hands!

It wasn't easy to adapt a book aimed at adults so that kids could read and understand it. Drafts of this book were successfully used in a Zoom-based course in which 5th and 6th grade students were first given a preview of the important concepts in chapters they were assigned to read. Most of the students said the concepts and vocabulary were understandable. But guidance and discussion with parents and teachers helped a lot.

How this book is organized

This book is organized in five parts. Each part contains several short chapters that introduce some important ideas about organizing. Most chapters also have some questions or activities to help you understand these new ideas.

- PART 1 is "Organized and Organizing." It explains what it means to be organized, and introduces three questions that you must answer whenever you create an "organizing system" — **WHAT** are you organizing, **WHY** are you organizing, and **HOW** are you organizing. One of the chapters uses an organizing problem that every kid faces every year — sorting the stuff collected on Halloween.
- PART 2 is "Using Categories to Organize." A category is a group of things that are treated as equal for some purposes. The chapters in this part explain different ways of creating categories — called "category structure" — that determine how you decide if something belongs in a category. Think how the category structure differs in these three categories: (1) things that are red; (2) things that are birds; (3) the 50 United States.
- PART 3 is "Patterns for Organizing Systems." Here you'll see how the organizing systems for different types of things — physical objects, animals, people, libraries, documents on the web — follow predictable patterns

that you can use to analyze and interact with them.

- PART 4 is "Organizing Time." Organizing time is an essential skill and activity, but it is a bit tricky compared with other kinds of organizing. That's because there are two very different ways of thinking about time. Time is a thing being organized when you say things like "I don't have enough time to do that" or "We have lots of time so we don't have to hurry." Most of this part of the book is about how to organize your time effectively. But time is also a principle we use to organize other things, like when you arrange people by their ages to put them on sports teams.
- PART 5 is "Concepts and Methods for Master Organizers." The chapters here discuss some challenging and interesting topics about organizing that will make you a master organizer. One of these topics is called "The Santa Question." Saying *"I saw Santa at the mall"* blurs the distinction between individual things (like a specific Santa at a particular mall) and a category of things that we treat as equivalent (the "mall Santa" category). It turns out that we do this all the time, but to be a master organizer you need to understand when it matters and when it doesn't.

KIDS! Read this part carefully!

This book will teach you how to notice and analyze the organization that is designed into everything you experience. It will teach you how to design an organizing system for anything that **YOU** need to manage and interact with. This book will start you on the path to becoming a master organizer with skills that will help you now and for the rest of your life. Instead of feeling bad because you aren't organized at home or at school, you will feel good about being organized. You will be able to find things when you need them, you will be on time for activities and events, and be more in control of your life.

Maybe you're thinking — this book can't be for me because I am **NOT** a "kid." Then ask yourself "in what age category of children do I belong?" The law defines a "child" as any person below the age of 18; an "infant" is less than a year old; a "teenager" has an age in the range of 13-17 or so. For some people the "kid" category doesn't have clear boundaries based on an age test, but for most people this category fits near the middle of the 1-17 age range. So "kid" seems like the best choice if we're defining it using an age test.

Because this book is on your computer, we can ask you questions that will help you think and learn. Here's the first one. After you answer a question, select "Check" to see if you

got it right:

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=4#h5p-21

PART I
PART 1: ORGANIZED AND ORGANIZING

When your room or closet or school locker is messy or disorganized, your parents or teacher might notice and talk about it… and maybe you do too. But when things are organized, we usually don't notice it or think about how and why its "**ORGANIZING SYSTEM**" works. In this book you will learn how to analyze any organizing system, and those new skills will also enable you to design the organizing system for any collection of things you need to interact with. Those analysis and design skills will also enable you to organize your time and events in an effective schedule.

Here's an example of a essential organizing system that you rarely notice or think about – the "Neighborhood Organizing System."

Every school day you travel from your home to your school. You might walk, ride a

bike, or get driven in a car. Along the way you see signs, traffic lights, crosswalks, sidewalks, lane markings for cars and bikes. These were all designed to create an organizing system for your neighborhood. Without this organizing system you would have a hard time finding places. It also wouldn't be safe if pedestrians, bikes, and vehicles weren't organized to travel on different routes.

TOP ROW: Sidewalk, Stop Sign, Stoplight, Speed Limit Sign

BOTTOM ROW: One Way Sign, Bike Lane, Crosswalk, No Parking Sign

As you learn more about organizing, you'll see that there are usually many ways to organize the same things. There can also be many ways to analyze an organizing system. For example, we can analyze the different parts of the neighborhood organizing system according to whether they are organizing motor vehicles or pedestrians. Here is a little quiz to start your practice at becoming a master organizer.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=22#h5p-8

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=22#h5p-12

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=22#h5p-34

Here are more examples of things that can be organized in very different ways:

- You could arrange your clothes closet by type (separating jeans, shirts, and sweaters), by purpose (school, sports, parties), by season, or by color.
- Fast food, cafeteria buffets, and sit-down restaurants organize their menus and eating areas differently
- Animals are organized differently in zoos, wild animal parks, and natural history museums
- The students in a school district can be organized by school, by grade, or by homeroom teacher. For some purposes the students in a particular classroom are organized are lined up according to the alphabetical order of their last names

Sometimes the **features** or **properties** that organize the collection are easy to see. You sort your clothes according to

the part of your body they go on. You sorted your Lego bricks by their colors, sizes, and shapes when you first started playing with them. But at other times the **organizing principles** use features that you can't directly see. Books are usually sorted by their subject matter, and you can't tell someone's name by looking at them.

This book has many activities and questions that will help you understand what it means to be organized and how to organize anything. We will study many different organizing systems — libraries, supermarkets, zoos, sports teams, schools, calendars, schedules, and many others. This isn't because you are going to organize a library, supermarket, or zoo anytime soon, but learning a little about how they are organized will make going to them more efficient and more interesting for you. And comparing and contrasting different organizing systems is the best way to learn the concepts and design methods that make up the discipline of organizing.

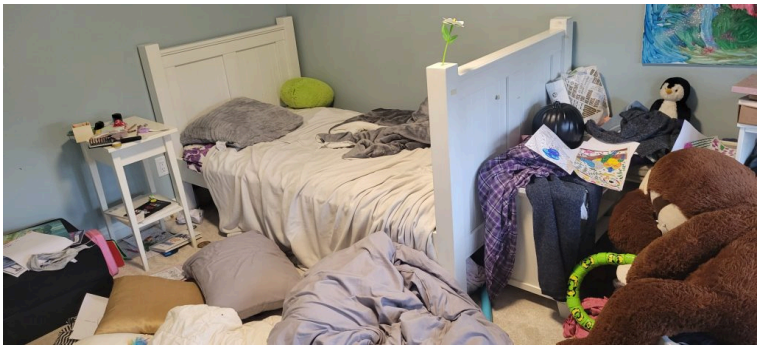
Organizing takes time to do well, but it usually saves a lot more time in the long run because you can interact with organized things more easily and efficiently than if they are not organized. This book will also teach you to organize your time better, giving you more time to have fun, hang out, or just enjoy the passing of time.

Mastering the discipline of organizing will help you to be successful in school, your job, as a member of your family, and in everything else you do during your lifetime. This book will get you started on the path to that important goal.

1.

THE MEANING OF "ORGANIZED"

YOUR PARENT SAYS: ***Your room is a mess! Clean it up now! I don't want to see any of your clothes, toys, or books on the floor!***



If you're like most kids, at least once you've had your parent get very mad at you because your room was a mess. And if you're like most kids, you gathered up all the clothes, toys, and books

that were on the floor and pushed them under the bed. No one could see any of the mess!

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=5#h5p-2

YOUR PARENT SAYS: ***I want you to put things away where they belong, not hide them under the bed. I just bought you a storage rack with bins you should use.***

So you took everything from under the bed and threw it into the bins of the new storage rack. It was still all mixed together because it seemed like a lot of work to separate the clothes from the toys and books.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=5#h5p-3

YOUR PARENT SAYS: *I want you to organize your clothes, toys, and books so that you can easily find them when you want to use them, and then easily put them away when you're finished with them.*

Let's compare the definitions of "messy" and "organized." Some words that are similar in meaning to "messy" are "cluttered," "jumbled," "untidy," "sloppy," "disordered," and "disorganized" (notice that the prefixes "un-" and "dis-" both mean "not-"). Some words that are similar in meaning to "organized" are "orderly," "arranged," "grouped," "sorted," "categorized," "classified," "systematic," and "structured."

So now it is easy to understand why your parent didn't like your first two attempts to get rid of the mess in your room.

Putting everything under the bed or piled into bins doesn't organize it.

> Organizing is the process of designing an **ARRANGEMENT OR STRUCTURE** that enables effective **INTERACTIONS** with the **RESOURCES** you have organized

An organizing system might use shelves, containers, drawers, bins, boxes, cabinets, cages, or calendars to arrange the resources it organizes but that's the *result* of organizing, not the process. A lot of people don't succeed at organizing their things because they start by getting containers and boxes before they design the organizing system that might use them.

Likewise, many people are not good at organizing time because they start by getting calendars and planners that have "boxes of time" in them instead of first thinking about the events and activities for which they need to design a schedule.

In the next chapter we'll start to explain the process of organizing in more detail.

2.

THE MEANING OF "ORGANIZING" - THREE QUESTIONS TO ANSWER

Everything can be organized! Libraries organize books, schools organize students, stores organize their goods for sale, zoos organize animals, closets organize clothing and shoes, museums organize paintings and other kinds of art, and calendars organize events.



The organizing systems in libraries, zoos, and supermarkets seem very different. How could studying how books are organized in a library help us understand how animals are organized in a zoo or goods in a supermarket?

We discover the secret of organizing when we analyze the definition of organizing from the previous lesson.

Organizing is the process of designing an **ARRANGEMENT OR STRUCTURE** that enables effective **INTERACTIONS** with the **RESOURCES** you have organized

This definition of **ORGANIZING** doesn't mention books, people, shoes, animals, or time. Instead, it treats all of them as **resources.** A resource is "anything of value that is used in some activity that has a goal." This definition means that a resource can be a physical thing, a non-physical thing, information about things, people, or anything you want to organize so that you interact with it for some purpose. Time is also a resource we organize; people say things like "I don't have enough time to do that" or "We have lots of time so we don't have to hurry." Just as you organize your books or clothes in a closet, you organize time by putting the events you want to do in a calendar or schedule.

This definition also doesn't mention any specific ways in which resources are used, because **different resources are organized for different uses**. In libraries, you check out books and later return them. In museums and zoos you can view and study the things in its collection, but you can't check them out. We interact with calendars and clocks to schedule events and things we need to do, or to remind ourselves when

we are supposed to do them. Just as the definition of organizing uses the general term **resources**, it uses the general term **interaction** rather than mentioning specific purposes like "checking out" and "returning" books.

Finally, this definition allows for any **arrangement or structure** that enables the interactions because **different resources need to be organized in different ways**. Simple arrangements use a single property like color to create groups or categories that are easy to understand. Think back to how you organized your first small set of Lego blocks. Other resource collections require a very complex arrangement that uses many properties to define a category system with many levels. A familiar example is the organizing system that arranges animals into broad categories like birds, fish, and mammals, and then further organizes these into smaller categories (like robins, pigeons, and eagles for birds), repeating this sub-division until the species level. The schedules for professional sports are also very complex and use many properties to make sure that all the teams play the same number of games, to arrange home and away games, to enable playoffs, and to preserve traditional "big games"with rival teams that fans especially like.

So the secret to becoming a master organizer is learning how to see what organizing systems have in common instead of focusing on how they differ. Using general words like "resource" and "interaction" makes it easier to take the broader view. All organizing systems — whether

they are organizing books, people, animals, time, or anything else — can be understood as designs that answer three interconnected questions:

- **WHAT is being organized?**
  - *in other words*: What are the **resources**?
- **WHY is it being organized?**
  - *in other words*: How will the resources be used?
  - What **interactions** need to be enabled?
- **HOW is it being organized?**
  - *in other words*: What **properties or features of the resources** are used to enable the interactions?
  - What are the **organizing principles** that are designed into the arrangement and structure of the resources?

These questions are interconnected because answering any of of them implies or constrains part of the answers to the other questions. You'll see this when we analyze some organizing systems and answer these three questions for each one. This practice will help you develop your power as a master organizer!

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=54#h5p-13

3.

ACTIVITY - THE THREE QUESTIONS WHEN DESIGNING AN ORGANIZING SYSTEM

We ended the last chapter with the ideas that all organizing systems can be understood as designs that answer three interconnected questions:

- **WHAT is being organized?**
- **WHY is it being organized?**
- **HOW is it being organized?**

Let's start developing our skills that make you a master organizer by answering these questions for a collection of resources that every kid organizes after "Trick or Treating" on Halloween.

Imagine that these are some of the items you collected as a "Trick-or-Treater" on Halloween

After you answer each question, you should read the text that comes up to learn some lessons about organizing.

WHAT is being organized?

An interactive H5P element has been excluded from this version of the text. You

can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=366#h5p-14

LESSON: "The items I collected" is the best answer because it it is balanced. It focuses on just the items that you collected, but it also includes the things that are not candy. Balancing the boundary between the things that are being organized and what things don't belong in your organizing system is called defining the **SCOPE**. If the scope is too broad, there will be too many categories and your system will be very hard to use. If the scope is too narrow, it will be hard to create useful categories because the things are too similar to each other.

An example to help you understand this idea of balancing scope is your clothes closet. If you hang your pants, shirts, and other things that go on hangers in your closet without any organization, you would be treating every item

as the same kind of thing, “things that go in the closet” — that’s a very broad scope . But if you separated pants from shirts, and then sorted them by activity (sports, school, party, and so on), and then by color, each category would have a very narrow scope and it would be hard to use that organization.

WHY is it being organized?

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=366#h5p-15

Kids who organize their Trick-or-Treat Halloween collection do so for several reasons.

The most important reason is to see what they collected — this is the "**to make an inventory**" reason. And since kids differ in what things they like the best and least, another reason for arranging the items into categories and counting up the items of each type is **"to make it easy to trade with other kids**" with different preferences. Another reason for organizing might be to identify the items that need to be eaten first, because some items like the soft drink last longer than others. This reason is "**to make an eating plan."**

HOW is it being organized?

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=366#h5p-16

The simplest organizing principle that is often the starting point of every organizing system is "**putting like things together**." This means that you create groups or piles of the same type of item — Snickers with Snickers, Skittles with Skittles, Mounds with Mounds, and so on. Very young kids who can't read the labels can **use item size or wrapper color** as organizing principles that create piles of what they perceive as the same thing.

The more you know about the items in the collection, the more you can arrange these initial piles into larger groups of piles that are related in some way. These larger groups are usually based on **conventional candy or food categories**. So you'd create categories for hard candy, chewy candy, candy bars, chocolate bars, salty stuff like chips. and so on.

Within these broader categories, you might create sub-categories for **"eat now" and "save for later"** based on how much you like the items or how long they would last — because some candy "goes bad" after a while.

An organized collection of Halloween items with chips, chewy, and chocolate categories

You might not have come up with exactly the same answers to the **WHY** and **HOW** questions and that's OK. The most important thing is that the organizing principles you proposed (the **HOW**) enable you to accomplish your organizing goals (the **WHY**).

You should notice that the answers here don't mention containers or bags or other storage things. These are necessary to put things away after you've designed the organizing system for your Halloween stash, but they are **NOT** part of its design.

Here's why: Suppose after you arranged the items into

categories, you put the items in each category into paper bags and wrote the name of the category on the bag. But then you decided that it would easier to find things if you used see-through plastic bags. This changes the storage of the items, but it **DOES NOT CHANGE** how they are organized.

Using these lessons to organize anything!

Trick or treating is a lot of fun, so you probably liked thinking and learning about organizing using that as an example. But remember, the secret to becoming a master organizer is to apply the same **WHAT**, **WHY** and **HOW** questions and methods when you organize anything!

LESSON 1: You started organizing your Trick-or-Treat collection by making an inventory. This is always important to do when you have to organize some set of resources. That's because studying the things you need to organize makes you notice the features or properties that distinguish them — color, size, shape, purpose,

whatever — and then you can use these properties to organize the collection.

LESSON 2:The purpose of sorting candy into categories based on how fast you need to eat it is a specific version of a broader idea that can used for other organizing projects. We can ask the **WHY** question in a more general way to mean “how long should I keep this thing?” Sometimes the answer is “no more” because the thing is old, worn out, or otherwise not useful to you any more. So “keeping” or “not keeping” categories almost always emerge when you start an organizing project. Why organize things you will never use again?

LESSON 3: Making an inventory and thinking

about “keeping” or “not keeping” are also important things to do when you need to organize time. You organize time by creating a **SCHEDULE** in which you arrange the events or activities you will do in the order that you will do them. Your inventory of time is a diary of all the things you did or wanted to do during a couple of weeks. You analyze the diary to find the patterns of activities to schedule in the future. You should create “keeping” and “not keeping” categories because you never have enough time to do everything.

LESSON 4: Designing an organizing system for any collection of resources often requires some amount of repetition or “trial and error” to determine the most useful organizing principles. You try a property, consider if it creates categories that make sense, and if it doesn’t, you try another one. Using the color of the candy wrapper might make sense for a very young kid,

but wouldn't be very useful for anyone who can read the labels. When you are organizing the clothes in your closet, you might first try to sort things by color, but after doing that you would probably change your mind and sort instead by whether clothes were for school, sports, or dress-up occasions.

LESSON 5: **ORGANIZING CAN BE FUN**! You feel happy after you've organized your Trick-or-Treat collection because you know what you have and can easily find things you are looking for. After you have practiced your new organizing skills for a while, you will have that same happy feeling knowing that you are a master organizer!

4.

ACTIVITY - WHAT IS A LIBRARY?

In the previous chapter you analyzed the organizing system that kids design when they sort their Halloween candy. Let's build on that practice to analyze the organizing system that has the familiar name of **LIBRARY**.

Suppose your teacher tells you that your class is going to the library this afternoon. You will probably think of a specific physical place in your school. But there are many other types of libraries:

- your town has one or more public libraries
- the local university might have libraries for different academic departments
- government agencies often have libraries
- a company can have a library for its designers, engineers, and other workers
- if you have some bookcases or shelves in your home, you could think of them as your home or personal library.

So for this activity, try not to think of a specific library. Instead

ask yourself "What is it that makes us call something a library?"

Remember that all organizing systems can be analyzed as designs that answer three interconnected questions:

- **WHAT is being organized?**
  - *in other words*: What are the **resources**?
- **WHY is it being organized?**
  - *in other words*: How will the resources be used?
  - What **interactions** need to be enabled?
- **HOW is it being organized?**
  - *in other words*: What **properties or features of the resources** are used to enable the interactions?
  - What are the **organizing principles** that are designed into the arrangement and structure of the resources?)

WHAT is being organized in a LIBRARY?

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=432#h5p-5

WHY is it being organized?

Libraries bring together the resources needed by a particular group or community of people who need information to do something, to learn something, or to be entertained in some way. You can borrow resources from a library, but you must return them after a while. This interaction is called **"circulation"** because the resources

follow a circular path when they are borrowed and then returned.

HOW is it being organized?

Information resources are organized by what they are about — their subject matter or topic. Universities can have millions of books in their libraries, and tens of thousands of people who use them. This large scale is why universities might have an engineering library, a business library, a law library, a chemistry library, an art library, a music library, and so on. Public libraries sometimes use a similar organizing principle to have different sections for resources used by small kids, older students, and adults.

Physical properties — the way things look — like the color of a book's cover or its size are **NOT**

used as organizing principles in libraries, but some people organize their small home book collections by their color because it creates an interesting visual display. Some libraries separate their collections by physical format of the resources where that could affect how they are used — so a music library might have CDs, vinyl albums, and printed music in different places.

You might not have come up with exactly the same answers to the **WHAT**, **WHY**, and **HOW** questions. But you got some valuable practice in thinking about what a **LIBRARY** is while trying not to think of any specific one.

Now we can test your understanding of what makes something a library.

A bookmobile is a truck that contains books. It drives around, often to remote places, to make books available where there are no libraries. People borrow books and return them when the bookmobile comes

back to their location.

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=432#h5p-6

Some cities have collections of tools like power saws, drills, lawn mowers, and so on that people can borrow. People return the tool when they are finished using it.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=432#h5p-7

Some cities have collections of seeds for flowers and vegetables. People can take seeds from these collections to plant in

their home gardens. These are often called "Seed Libraries." Does it seem OK to do that?

Go back to the answer to the **WHAT** question. Seeds are resources that have value. Now go back to the answer to the **WHY** question for libraries. The interaction that makes something a library is the circulation of resources. So-called "seed libraries" let people "check out" seeds, but the borrowers plant them so the borrowed seeds don't get returned.

We could argue that a "seed library" isn't a library!

It doesn't lend its seeds – it gives them away and they don't get returned. If real libraries operated that way, and borrowed books were never returned, the library would disappear.

But we could also argue that a "seed library" IS a library. People are encouraged to collect some seeds from the best-looking flowers and tastiest vegetables they grew with the "checked out" seeds and then return these "seed children" to the seed library. The exact seeds that were checked out aren't returned, but the "seed children" that are returned replace the ones that were checked out. This "seed children" then circulate, so a "seed library" is a library**.** It all depends on how you define "the same thing," which is the subject of another chapter.

What did you learn from this lesson? Bookmobiles and libraries that lend tools and seeds don't look like your school or public library, but they belong to the library category because they follow the pattern of collecting and organizing useful resources and letting people borrow them. Most libraries lend books, but any organizing system that circulates useful resources can be called a library.

You also learned a more important lesson that you can apply whenever you analyze or design an organizing system. This lesson is to focus on the **WHAT**, **WHY**, and **HOW** design questions and not get distracted or confused by the physical setting or technology in which the organizing system is built.

Most libraries are in buildings, but being in a building isn't what makes them libraries.

This is the same idea that you learned in the lesson about organizing your messy room — you don't start with containers and boxes. You first design an organizing system for your things and after that you use the containers and boxes to put things away according to your design.

THIS SECRET TO BECOMING A MASTER ORGANIZER IS CALLED "THINKING LIKE AN ARCHITECT." It is the subject of the next chapter.

5.

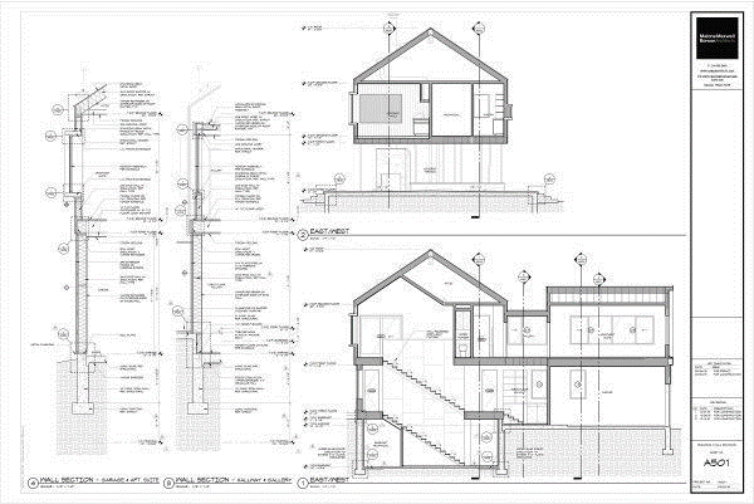
THINKING LIKE AN ARCHITECT

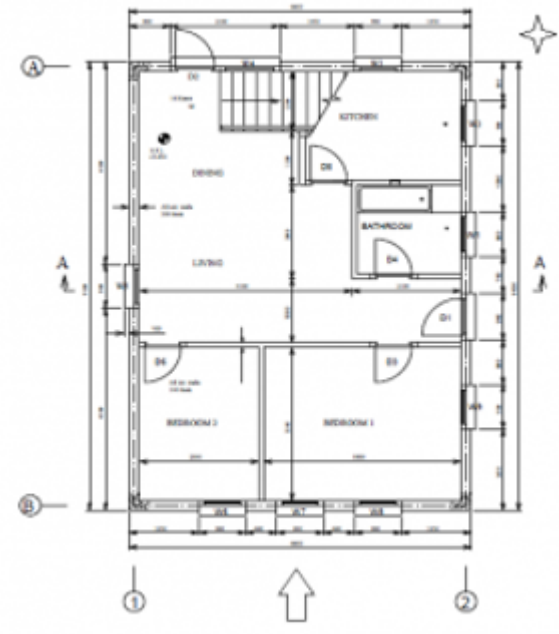
What does an architect do?

An architect is someone who **DESIGNS** buildings. They develop the **DESIGN** for how the different parts and systems of the building combine and interact. In the place you live there are systems for heating, lighting, cooking, plumbing, and other functions. An architect made them all fit together.

The architect doesn't do the construction of the building. They create plans and drawings to help construction workers do that.

There's a name for drawings like these that architects make. Do you know it?





Thinking Like An Architect When

You Are Organizing

A master organizer always thinks like an architect when organizing some collection of resources. You might have a closet, dresser, bookcase, and boxes in your room, and you might organize your clothes, books, toys, games, and other stuff using them. But master organizers always think first about **WHY** and **HOW** they are organizing – the reasons for organizing things, and the principles or rules they are using to organize them – not about the physical locations and or containers where the resources end up. The physical locations and containers are the **WHERE** of organizing, but **WHY** and **HOW** are much more important.

You have seen this way of organizing — what master organizers call **ARCHITECTURAL THINKING** – in some of the examples of organizing systems:

- When we organized your **HALLOWEEN CANDY**, we asked: suppose after you arranged the items into categories, you put the items in each category into paper bags and wrote the name of the category on the bag. But then you decided that it would easier to find things if you used see-through plastic bags. This changes the storage of the items, but it **DOES NOT CHANGE** how they are organized, because the design (the **ARCHITECTURE**) of the organizing system isn't changed.

- When we analyzed the organizing system for a **LIBRARY**, we decided that a **BOOKMOBILE** was a kind of library. It doesn't look like most libraries that are in buildings because it drives around, but the building isn't what makes a **BOOKMOBILE** a library. A **BOOKMOBILE** is a library because its **ARCHITECTURE** answers the **WHAT**, **WHY**, and **HOW** questions the way libraries do!

ANSWER: The drawings that architects create are called **BLUEPRINTS.** In the next lesson you will create a blueprint for an organizing system that you design

6.

ACTIVITY - THINKING LIKE AN ARCHITECT

Wouldn't it be neat if you had a personal robot whose job was to put away your clothes, books, toys, games, and other things?

Let's start by analyzing how you organize the things you wear on your feet (your "footwear"). If your footwear are not organized now, and instead they are in a messy pile in your closet or under your bed, then you should design an organizing system that would organize them. You should select some

organizing principles that use properties or characteristics of the organized things.

For example, you might organize your "footwear" into three categories for "shoes," "sneakers," and "boots," and you could further organize them in pairs for your left and right feet.

If you are thinking like an **ARCHITECT**, what matters are the categories and organizing principles you have selected.

Now comes the fun part. You don't have to put your footwear away. You get to give your robot instructions for putting them into some physical arrangement, just as an architect gives a blueprint to construction workers. These instructions might be like these:

ROBOT :

1. Put the paired boots on the floor at the back of the closet
2. Arrange the paired shoes in a row in front of the boot row
3. Arrange the paired sneakers in a row in front of the shoe row

If your robot is very smart and has good color perception, you could instruct it to arrange the footwear within each row by color, with light colors on one end of the row and dark colors on the other end. The best part of thinking like an architect when you organize is that you can be creative, and not worry at first about how to do the work of putting things in order.

ACTIVITY: Now, do the same kind of analysis and design for your books. Design some categories and choose some organizing principles for arranging the books in each category. Next, create the instructions for your personal robot so that it can put the books away on a shelf or in a bookcase. It might help your robot put the books away if you made a drawing — a BLUEPRINT — with labels and instructions on the drawing.

7.

HOW MANY THINGS IS THAT? (HOW "THINGS WITH PARTS" CAN MAKE THE WHAT QUESTION TRICKY)

How many things is a jigsaw puzzle?

The dictionary defines a jigsaw puzzle as "**a picture** printed on cardboard or wood and cut into various **pieces of different shapes** that have to be fitted together."

- A "picture" is **one** thing
- "Pieces of different shapes" are **many things**

So this is a harder question to answer that it seemed at first.

A master organizer understands that things composed of parts or pieces raise questions about their "thingness" that affects how we organize them. When you are putting a puzzle together, you think of it a collection of pieces, and you study each piece to determine how to put them together. But when you put away the puzzle box on a shelf or in a bookcase, you think of it as just one thing.

Expert organizers call this question of "thingness" the question of "granularity." That's a big word but when you think about a sandy beach, is it one thing, or made up of millions of grains of sand? Can you can see "grain" as the root word inside of granularity?

Sometimes you need to think of something as one thing and

as many things at the same time! Like a lot of kids, you probably play with Legos. You started with a small box with fewer than a hundred pieces. You then moved on to Lego sets for building a particular design — like the alligator in the picture. When you were finished playing with the Legos, you would put all the pieces back into the boxes and put the boxes away. This means you were thinking of each Lego set as one thing.

But after you had played with Legos for a few years, you began to think of them differently. You began to use the color, shape, and size of Lego pieces as organizing principles so you could build new things, not just the boxed set things. So while you still had some boxed Lego sets, you now had many hundreds of Lego pieces you organized into much smaller categories. You probably had storage boxes like these:

Why does this question of thingness or granularity matter? It matters because sometimes two people will not answer the question the same way. If a parent wants a kid to organize his Legos, they might buy a bookcase and tell the kid to store the boxes there. But if the kid is an expert who wants to organize the pieces into many categories, the bookcase isn't going to help at all.

This question is very important when we think about organizing time, because "pieces of time" come in very different sizes. You will see this in an upcoming chapter.

8.

ACTIVITY - HOW MANY THINGS IS THAT?

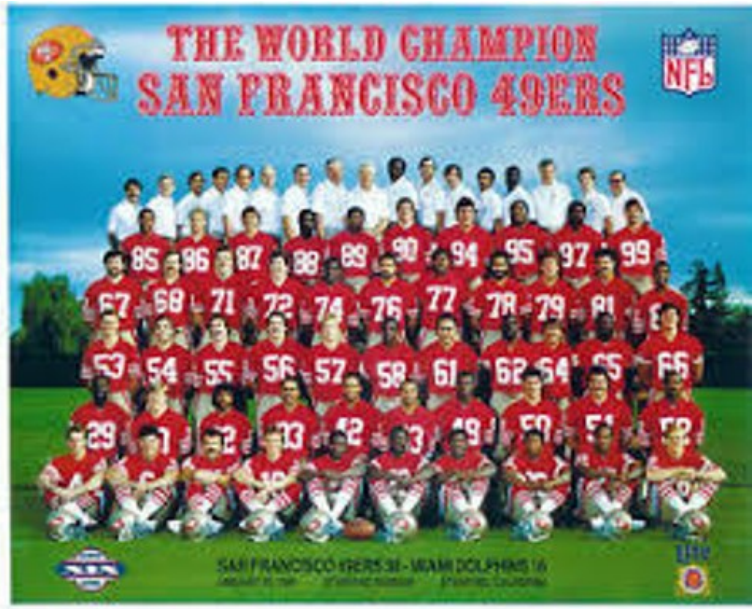
In the previous chapter we discussed the question of "thingness" when resources contain pieces or parts like puzzles or Legos. Let's build on that practice to analyze the "thingness" for some other familiar things.

Think about your bicycle. It came from the store in a big box. Someone had to assemble it from its parts — the frame, handlebar, wheels, tires, inner tubes, chain, pedals, brakes, cables, and so on. It was a lot of work to put the bike together, but then the collection of separate pieces had become one thing.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=408#h5p-24

Now lets think about the "thingness" of a professional sports team like the San Francisco 49ers in football or the New York Yankees in baseball. Teams are sometimes treated as one thing, but are also treated as a collection of many things.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=408#h5p-25



Why does every player on a sports team wear a name or number on their uniform? Because we often think of a team as a collection of individual players. We often talk about groups of players that are smaller than the entire team. We can think of a team as veterans and rookies, starters and reserves, offense and defense. We can also group them by positional roles — or as linemen, receivers, guards, forwards, and so on.

Now that you've had some practice thinking about the "thingness" of physical or tangible things, let's discuss the thingness question for 'information things." it is a more difficult question to answer because while information resources often contain parts, the boundaries between the parts are less obvious.

An interactive H5P element has been

excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=408#h5p-31

When you get a school assignment to read a book, it can seem like a very big task, which can make it hard to get started on it. But if you think of the book as a collection of short parts, you can turn one hard reading task into a set of easier ones.

9.

ORGANIZING TIME AND ORGANIZING WITH TIME

Organizing time is an essential skill and activity, but it is a bit tricky compared with other kinds of organizing. That's because there are two very different ways of thinking about time.

1. Time is a **RESOURCE** when you say things like "I don't have enough time to do that" or "We have lots of time so we don't have to hurry."
2. Time is an **ORGANIZING PRINCIPLE** when you arrange people by their ages to put them on sports teams, or when you list the presidents in order starting with George Washington. People, events, or other resources usually have one or more "time stamps" of some kind as properties — a birthday, the day they happened, the day they were acquired.

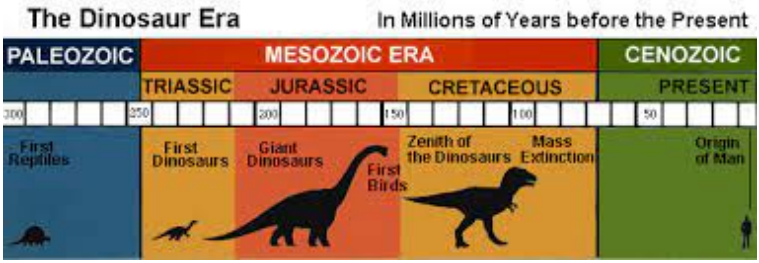
1. Time is a resource that we organize so that we can play,

work, study, or do any other activity

WHAT are we organizing when we organize TIME?

Earlier in this book you learned to ask the **WHAT** question. To answer it completely you also learned to ask "**HOW MANY THINGS IS THAT?**" about resources that have parts like puzzles or bicycles. That question comes up when we think about time.

We sometimes think of time as one continuous thing that stretches from the past to the future, with the present or "now" in between the past and future. This is why we can talk about a **TIMELINE**. Historical timeliness use "time markers" to show when events happened, and are almost always drawn with older times on the left.



When we talk about time we use lots of words that mark some part of continuous time. We can refer to past times by saying "five minutes ago," "yesterday," "last week," or "a long time ago." We can refer to future times by saying "in five minutes," "tomorrow," "next week," or "someday."

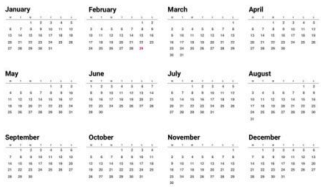
Today we live in a world of digital clocks, watches, and time displays that tell us the time, but they use numbers instead of moving hour and minute hands. This change in technology changed how people think and talk about time, because digital time is always **NOW.** Digital displays make it hard to perceive how long something takes, and require us to be precise when we might not want to be. We used to say "about half-past ten" but now we have to say "10:31."

When we talk about the time of events that are in the future, we often have to break time into parts. First we have to decide about the sizes of "pieces of time." Then we organize future events by assigning them to one or more pieces.

"Pieces of time"

Pieces of time come in very different sizes. A calendar divides a year of time into months, weeks, and days. A clock or watch divides time into hours, minutes, and seconds. Sometimes

we use longer units like lifetimes, centuries, or even millions or billions of years when we talk about history, geology, or dinosaur periods like the Jurassic. Scientists and engineers often use smaller units like milliseconds or nanoseconds when they study or design events that are vert short.



Pieces of time come in very different sizes

When you plan you day to organize your time to do chores, homework, or play a game, you need to choose pieces of time that are big enough to contain each thing you are going to do. When someone else is planning the events, like your teacher or sports team, they will decide how much time they need and what size pieces of time to use for them.

WHY are we organizing TIME?

As an individual you organize your time resources when you decide how much time you want to spend to play, work, study, be with your family, or sleep.

These individual or personal organizing systems for time have to fit into other time organizing systems that are defined by other people or groups like "school day" or "sports practice schedule."

And the most fundamental purpose of organizing time is so that we can know what time it is. That is essential if we are to be on time for events.

HOW are we organizing TIME?

The entire world uses "standard" time and time zones so that clocks can be set correctly and events can be synchronized.

As an individual you organize time by creating a **SCHEDUL**E in which you arrange the events or activities you will do in the order that you will do them. For events or activities that are **PERSONAL**, you can choose the time to do them. Other events and activities are **DIRECTED** because the time they have to be done is decided by someone else (like the sequence of classes you take in school). When you make a schedule, you need to consider the importance, any deadlines, and some other properties of an event — we'll talk more about these properties in an upcoming chapter.

It is easy to think that the key to organizing your time is to use a planner or calendar where you write down the things you must do or want to do at their scheduled times. But as you have learned with the Halloween and library examples, you need to think like an architect and design an organizing system first, and then figure out how to put things in particular places. The same idea applies when you organize your time. You need to be a "time architect" who analyzes and organizes things to do, and then afterwards records this organization in something like a planner or calendar. Getting a planner or calendar doesn't make you organized. Organizing time is "arranging things to do into time units where they fit." So a filled-out planner or calendar are the results of organizing, not the organizing activity.

2. Time is a property or feature of resources that we can use to organize them

The most common use of time as an organizing principle is **CHRONOLOGICAL** ordering of events according to when they took place. Because we most often think of time as starting in the past and moving into the future, a list of historical events in chronological order typically lists them from the oldest to the most recent.

Every resource has many "time stamps" associated with it that are used to organize them. Here are some of them:

- When it was created (example: "The Declaration of Independence was announced on July 4, 1776")
- When it achieved or acquired some important status (example: "Abraham Lincoln was elected President in 1860 ")
- When it was acquired (example: "This text message was received at 2pm on June 6, 2022")
- When it was last used (example: "I haven't worn those shoes for a long time because they don't fit me anymore")

Here's how these time stamps could be used to organize:

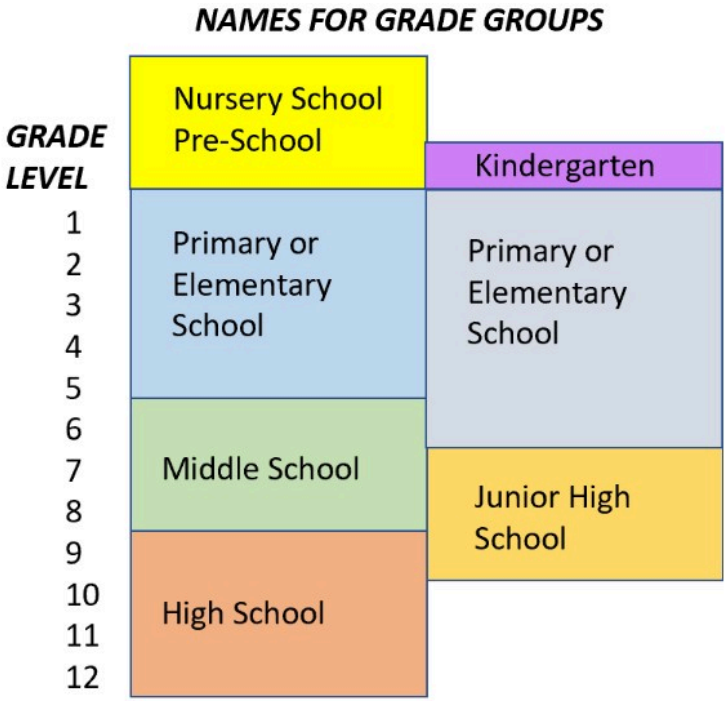
- Important events in the history of the United States
- A list of US Presidents in the order they served
- A message inbox sorted by the time a message was received
- Arranging my possessions to when I last used them (so I can get rid of them to make room for new ones)

10.

HOW MANY THINGS IS SCHOOL? ORGANIZING AT DIFFERENT TIME SCALES

School is a very big part of your life. To do well at school, you need to be organized. But getting organized for school can be hard because school work and activities take place at many different time scales that need to fit together. This is the "how many things is this?" question we discussed already, and there are many competing ways to answer it.

Many schools organize using time scales of one year or longer; you might say "I'm in fifth grade" or "I'm in middle school." Big changes happen at this time scale. When you move up from elementary school grades, you often change the school you attend, and instead of having one teacher for most subjects, you might have a different teacher for each subject.



Everyone also thinks of a school year as being divided into parts smaller than a calendar year. Many schools divide the year into two semesters with a long vacation break in the summer and shorter vacation breaks in the winter and spring. Many subjects are taught in semester-long courses, so the mix of subjects or courses you take might differ a lot between semesters.

A TYPICAL SCHOOL YEAR

SCHOOL DAYS VACATION HOLIDAYS WEEKENDS & SUMMER
TEACHERS WORK, STUDENTS OFF / TEACHERS WORK, STUDENTS OFF / TEACHERS WORK, STUDENTS OFF

During a semester or a course, you will have a mix of readings, assignments, projects, and tests that carve up the time into smaller pieces. You might have weekly assignments or tests, but a longer project might have many parts where you do one part a week.

The next smaller time scale is the school day. Many school or after-school activities take place on particular days of the week. You might study Art on Tuesdays, and your soccer practices might be on Monday and Wednesday afternoons.

Finally, the smallest time scale divides the school day into periods that are usually 45 minutes to an hour long. You might have three or four morning periods for different subjects. These are followed by lunch periods, with a few

more subject-based periods in the afternoon.

A TYPICAL SCHOOL WEEK:
DAYS DIVIDED INTO PERIODS OR BLOCKS

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:30-9:30	Reading	Reading	Reading	Reading	Reading
9:30-10:30	Writing	Math	Math	Math	Writing
10:30-11:00	Recess	Recess	Recess	Recess	Recess
11:00-11:30	Language	Social Studies	Social Studies	Social Studies	Language
11:30-12:00	Health	Computer Lab	Computer Lab	Computer Lab	Health
12:00-1:00	Lunch	Lunch	Lunch	Lunch	Lunch
1:00-2:00	Science	Science	Science	Science	Science
2:00-2:30	Life Skills	Art	Music	Art	Life Skills

Activity — The Time Scales for Organizing School

- Make a list of the subjects you are studying this term (or this year, if your year isn't divided)
- Are you doing any projects or activities that will take longer than a week to do?
- Are there events scheduled weeks or months in the future (a school play, music performance, sports tournament)
- Does your daily schedule depend on what day it is? Do you have different subjects or activities on different days of the week?
- What is your daily schedule (divided into subjects or time periods)

PART II
PART 2: USING CATEGORIES TO ORGANIZE

In previous lessons we talked about "categories" without defining them exactly because that concept is familiar to you. But to become a master organizer you need to be more precise in how you think about categories.

A "Category" is a set or group of resources in which the members are treated the same — EQUIVALENT — for some purposes. "Equivalent" doesn't mean that all the members are exactly the same, only that their differences aren't important for some purpose. For example, all the books in the category "sports books" are about sports, but of course they are different books.

Categories are defined in different ways depending on the type of resources you are organizing and the reasons for organizing them.

For example, the "kid" category that we talked about on the first page of this book can be defined in at least three different ways.

1) The simplest way to define the "kid" category is

by using an age test. "Kid" and "child" are pretty close in their meanings. Governments usually have legal definitions of the "child" category as a person who is younger than some specified age, usually 18. So we could use the test "***is the person younger than 18?***" to decide if someone was a kid.

2) But this single age test doesn't capture the idea that very young children are not called kids. A "newborn" is less than a few months old, a "toddler" is between 1 and 3 years old, and a "baby" could be either a newborn or a toddler. An older child between 13 and 17 is often called a "teenager." These other categories suggest that we need to use two age tests to define the "kid" category:

1. ***Is the person older than 3?***
2. ***Is the person younger than 13?***

3) A third way to define "kid" doesn't use age tests at all. Someone might scold a child by saying "stop acting like a kid" because they are being immature or not responsible. When they say that, they are defining "kid" using some idea of how similar the child is to some ideal child who is always mature and responsible. Many of the most familiar categories are defined using principles of similarity like this.

This example of the "kid" category motivates two powerful concepts that master organizers use to analyze and design a

system of categories. These are **CATEGORY STRUCTURE** and **CATEGORY CONTEXT**.

CATEGORY STRUCTURE

We organize resources when we put them into categories. But in addition to thinking about the types of resources that we put into categories, it is useful to think about the principles or rules that we use when we define a category. We just showed how the "kid" category could be defined using one or more age tests or using similarity.

The way in which a category is defined is called the "**category structure**" and In the following chapters we will compare different kinds of category structures:

- Categories defined by a list of their members
- Categories defined by single properties
- Categories defined by more than one property
- Categories defined by similarity
- Categories defined by shared goals or activities

Category structure determines:

- how you tell whether something belongs in the category
- how similar the category members are to each other

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=412#h5p-10

CATEGORY CONTEXT

We can distinguish three contexts or situations in which categories are created:

- The **INDIVIDUAL** or **PERSONAL** context, when one person organizes possessions, activities, or interactions for their own purposes. This is the situation when you organize your own books, toys, clothes, or things you want to do.
- In the **SOCIAL** or **CULTURAL** context, where groups of people interact together over time to create categories in their language and culture ("kid" is a cultural category).
- In the **INSTITUTIONAL** context, where a company or government or other formally organized group

defines categories in business practices, laws, regulations, or standards. For example, "child" is an institutional category when a government specifies an age test. Other examples are when school systems organize their students into schools, grades, or class categories.

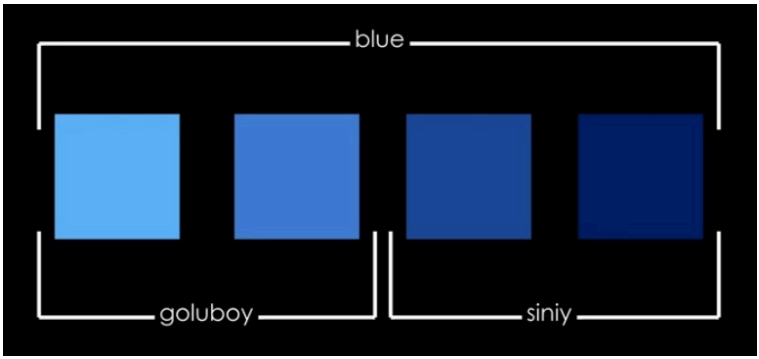
SOCIAL and **CULTURAL** categories are often the starting point for categories in the other contexts

- These types of categories emerge whenever people interact in groups and there are thousands of them in every language
    - For example, every culture and language has a concept of "friend" as someone you enjoy doing things with
    - As an individual, you have different categories of friends. You have family friends, school friends, sports friends. All of these categories are based on the cultural category of friend
- **INSTITUTIONAL** categories are often created to make cultural categories precise or standardized. This enables them to be used in business, science, or to control behavior.

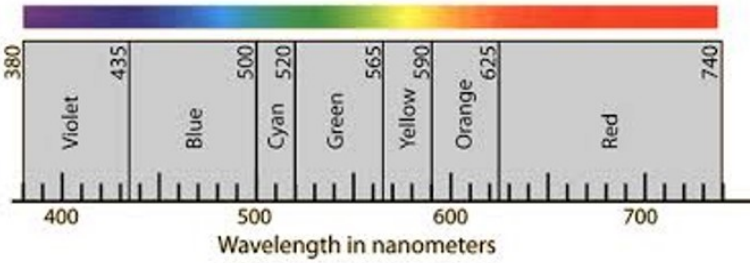
COMPARING CULTURAL AND INSTITUTIONAL CATEGORIES

FOR COLOR

Every language has concepts and words for different colors. Cultures often associate concepts with colors – red is a "warm" color and blue is "cold" for most people. But languages differ in how they "carve" colors from the visible spectrum. For example, the Russian language has two words that distinguish light blue colors ("goluboy") from dark blue colors ("siniy"), but English only has "blue."



Scientists define color boundaries using the wavelength of visible light.



The printing, painting, and the graphic design industries have developed color standards to make sure that a color looks as it was intended. For example, in the Pantone system, every color has a unique identifier. This enables a company or product to specify a "brand color" no matter where it appears or how it was produced. For example, the familiar yellow color used by McDonald's is the Pantone color PMS 123 C.

Here are some other Pantone colors:

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://berkeley.pressbooks.pub/organizing4kids/?p=412#h5p-20

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=412#h5p-17

11.

CATEGORIES DEFINED BY LISTING THEIR MEMBERS

Many familiar and useful categories are defined in a simple way, just by listing the members of the category. A sports team or a school homeroom class is defined this way — there's a list of the people on the team or in the class. A pro basketball player could be on any of the 30 NBA teams, and you could be in any of the homeroom classes for your grade.

MAP OF THE UNITED STATES AND CANADA SHOWING STATES AND PROVINCES

Let's consider the category of "United States." There are 50 states in this category. An alphabetical listing of the United States starts with Alabama and Alaska and ends with Wisconsin and Wyoming. The state of California

(abbreviation CA) is the tall and skinny state on the left side of the map where the United States reaches the Pacific Ocean.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=293#h5p-26

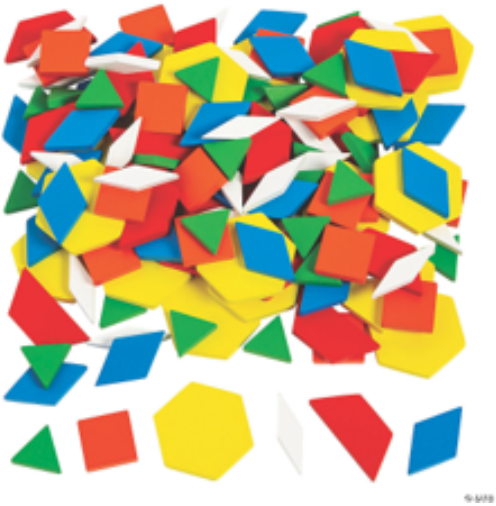
Let's make sure you understand why "United States" is a list category. We can define the category of "state" using property tests like "is it a geographical territory contained within a country?" and "does the territory have its own government?" So we can test whether California is a **state**, *but there is no test that determines whether it is one of the* ***United States***.

Now you should understand why "cleaning up your room" by hiding everything under the bed doesn't organize your room very much. You created a category of "things under the bed" — a list category. The things under the bed don't have any

properties in common. There is no test for whether something should be under the bed or not.

12.

CATEGORIES DEFINED BY SINGLE PROPERTIES



You can create a simple category system by organizing resources using the values of just one property.
Physical or visible properties like color, size, and shape are usually the easiest ones to use. Because these properties are easy to understand, even small children can use them to arrange resources into categories. With these simple wooden blocks any single property works well as an organizing principle.

SHAPE

COLOR

SIZE

But you have to be careful when you define categories this way. Here's an example — a "things that are orange in color" category:

All four of these resources share the color property but differ a lot in other properties. Using just the color property puts things together in a way that isn't very sensible. You can see that the four resources do not agree on any of these other

properties when you scan down the columns.

	Orange Color?	Alive?	People Food?	Can Swim?
	Yes	Yes	No	No
	Yes	No	No	No
	Yes	Yes	No	Yes
	Yes	No	Yes	No

Think back to the example of organizing your closet. Suppose you use only a single property "is this thing an item of clothing?" If it is, you put it in the closet. But there are other properties on which clothes differ a lot:

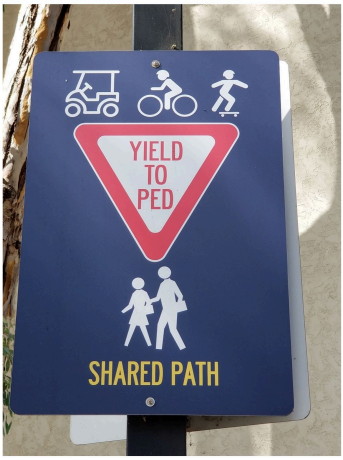
- What part of the body does it go on? (this sorts clothes into shirts, pants, hats, socks, ...)
- When do I where it (for school, for sports, for parties, for dress-up occasions...)

So if you don't use additional property tests, you treat all your clothing the same way, and your closet isn't very organized.

13.

ACTIVITY - LIST AND SINGLE-PROPERTY CATEGORIES (PART 1)

You might have seen a sign like this one in a park or other public space. Its purpose is to make it safe for people to walk there by requiring some other people and vehicles to get out of their way. The sign shows a powered cart, a person on a bicycle, and a person on a skateboard.



What does this sign mean? How do you decide if something or someone needs to yield to pedestrians? It depends on how you understand the category of **YIELD TO PED**. It looks like a list of things, which means that only powered carts, bicycles, and skateboards must yield. That makes it a list category like

"the 50 United States."

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=252#h5p-18

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=252#h5p-19

14.

ACTIVITY - LIST AND SINGLE-PROPERTY CATEGORIES (PART 2)

The most obvious property shared by carts, bicycles, skateboards, and scooters is that they have wheels. Let's change the list category definition in the **YIELD TO PED** sign into a category definition that uses "**HAS WHEELS**" as a test.

Here's a sign that does that. It has the same goal as the **YIELD TO PED** sign, but it has a specific property test. People must **DISMOUNT AND WALK** if they are on **WHEELED DEVICES**. Because there is a property test, you are supposed to interpret the bicycle, scooter, and skateboard as examples, not as a complete list of the things that need to **YIELD**.

Does this category defined by the single property test of having wheels make sense to protect pedestrians? Let's check that with other examples.

These two vehicles have wheels; do they need to yield to pedestrians?

Oops! These vehicles have wheels but no one would expect a small child on a tricycle or a person in a wheelchair to yield to pedestrians.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=283#h5p-22

This example might seem a little silly to you, but it shows an important point about how categories are defined that is extremely important when it comes to laws and instructions. Let's first review the two laws whose purpose is to protect

pedestrians that were "built into" the two signs you analyzed.

1. **"Powered carts, bicycles, and skateboards must yield to pedestrians."**

   This law defines the "things that must yield" category as a list. If you're riding a scooter and don't yield, that's OK where this law applies because scooters are not in the list.

2. **"All wheeled devices, SUCH AS powered carts, bicycles, and skateboards, must yield to pedestrians**."

   "**SUCH AS**" in the law indicates that having wheels is a property test and the three vehicles are included as examples. If you're riding a scooter and don't yield where this law applies, you are breaking the law. Because the second law is defined using a property test, not every member of the category needs to be mentioned.

You should now understand why people who write laws have to think hard about the CATEGORY STRUCTURE they use when they define categories. If they don't, the law might not mean what they think it does and people will not behave as the lawmakers expected.

This kind of problem can easily happen in your school. Here are two instructions that your art teacher might give you. Can you see how they differ in category structure?

1. **"Make sure you take home your scissors, ruler, and paints for your art project this weekend because you will need those supplies."**

   This instruction lists three things to take home for an art project and suggests that those are all the supplies you need.

2. **"Make sure you take home all the supplies you need for your art project this weekend."**

   This instruction doesn't list anything but makes you think more about the supplies you need. It might make you remember to bring home the art paper.

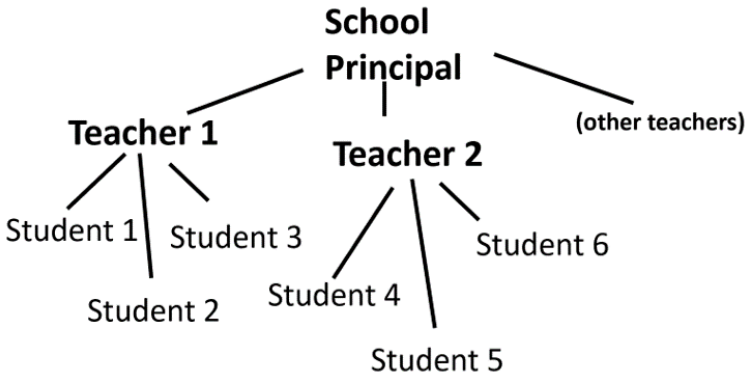
15.

UNDERSTANDING "HIERARCHY" IN ORGANIZING

"Hierarchy" is a word that often comes up when talking about how things are organized. There are two ways to define it.

1. HIERARCHY = POWER STRUCTURE

"Hierarchy" can mean "power structure" or "control structure" and usually involves specific people or things – there is someone or something at the top of the hierarchy, which controls a set of people or things at the levels below. The members of each level have less power than the ones above it. For example, in your school there is an organizational hierarchy like this:



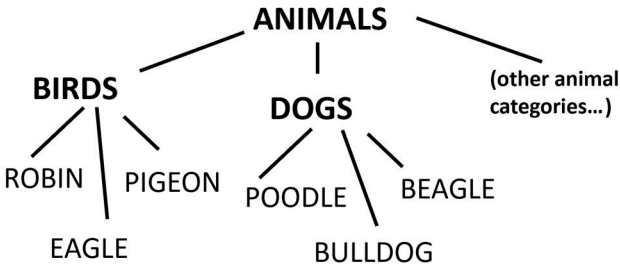
An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=143#h5p-27

2. HIERARCHY = "IS-A" RELATIONSHIPS

Another kind of hierarchy is useful for more kinds of organizing because it is based on "meaning" or "is-a" relationships between types of things or concepts that are organized in categories. You create a hierarchy when you organize things like books, clothes, or toys by creating more

specific categories for each kind of thing. For example, if you sort your books into categories for science, sports, history, and comics you are creating a hierarchy.

This type of hierarchical organization is used by biologists and botanists when they organize species of plants and animals. In that context the category hierarchy is often called a **taxonomy.** Here is a small part of an ANIMALS hierarchy:



A Bird *IS-A* Animal A Dog *IS-A* Animal
A Robin *IS-A* Bird A Poodle *IS-A* Dog

The large and broad category at the top of the hierarchy like ANIMALS is sub-divided into smaller and more specific categories using property tests.
For example, the sub-category of BIRDS is identified by property tests like:

- Does the animal have wings with feathers?
- Does it have a beak?

The sub-category of DOG is identified by property tests like:

- Is this a domesticated four-legged meat-eating animal?
- Does it have fur?
- Does it make barking or whiny sounds?"

These sub-categories can be sub-divided again with more specific property tests; each member of a sub-category is also a member of all the categories above it in the hierarchy. This kind of hierarchy is organizing TYPES of things, not specific things like the power hierarchy does.

The hierarchical organization of a grocery store helps you find specific things because you can use categories like "produce" and "dairy" to focus where you look in the store. If you are looking for lettuce you know it will be in the produce section, not the dairy section.

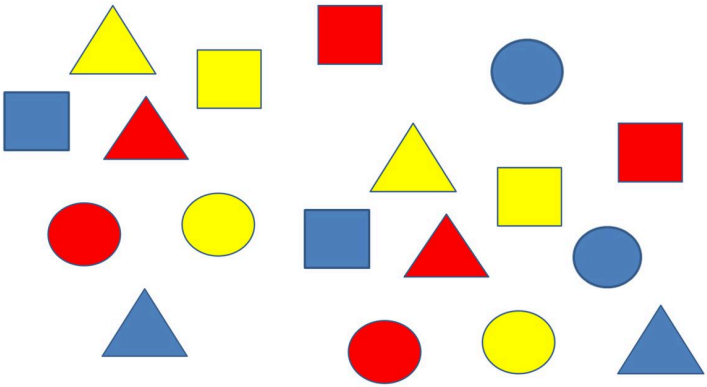
16.

CATEGORIES DEFINED BY MORE THAN ONE PROPERTY

In the previous lesson you learned that in a **"IS-A"** hierarchy or **"TAXONOMY"** a broad category at the top is sub-divided into narrower categories by property tests. We used the example of dividing the ANIMALS category into BIRDS, DOGS, and so on. In this lesson you'll learn a very important idea — **THE ORDER OF THE PROPERTY TESTS CREATES THE HIERARCHY**.

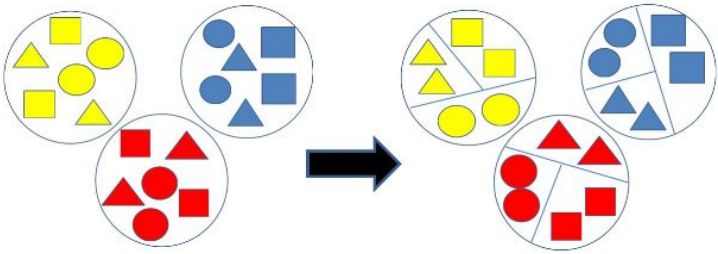
Here are some figures to organize. What properties could

we use to organize them?

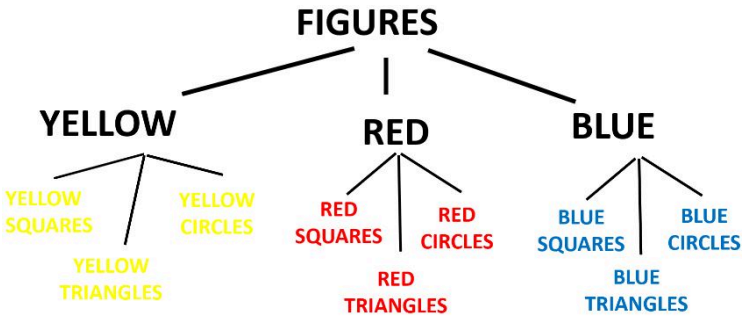


It is easy to see that SHAPE and COLOR are useful organizing properties

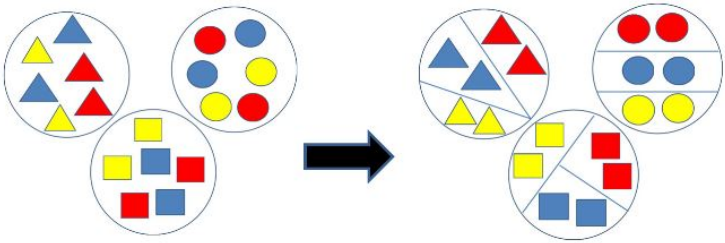
IMPORTANT IDEA: the order in which we use these properties makes a big difference! Let's group the figures by color first, and then by shape.



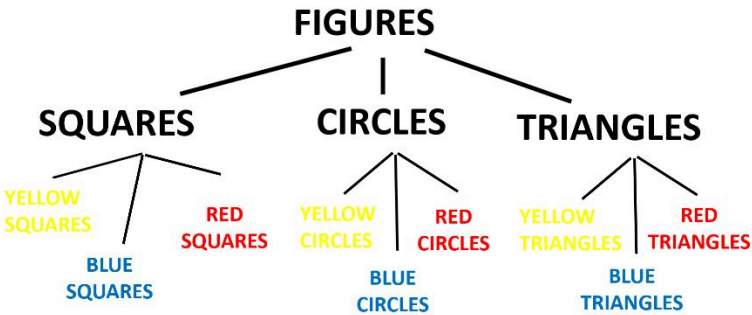
This order of the property tests creates this hierarchy:



Now let's do the tests in the other order. Group by shape first, and then by color:



This order of the property tests creates a different hierarchy:



17.

ACTIVITY - HOW PROPERTY ORDER DETERMINES A HIERARCHY

Let's assume you have eight shirts in your closet. Four are T-shirts and four are button-down or "dress" shirts. They come in four colors: blue, red, white, and black.

So it makes sense to use these two properties of "shirt type" and "shirt color" to organize the shirts in your closet. But the order in which you apply these property tests determines what

shirts go together. Let's organize them first by type and then by color:

ACTIVITY: Translate this visual depiction of the organizing system for the shirts into a hierarchy diagram like those for the colored shapes in the previous chapter. SHIRTS goes at the top ... now draw a diagram with the other two levels

Now let's organize the shirts first by type and then by color:

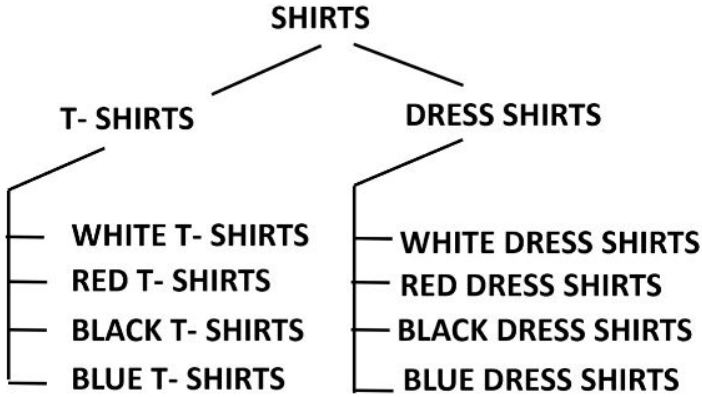
ACTIVITY: Translate this visual depiction of the organizing system for the shirts into a hierarchy diagram like those for the colored shapes in the previous chapter. As before, SHIRTS goes at the top ... now draw a diagram with the other two levels

Your hierarchies should look like the diagrams in the next chapter.

18.

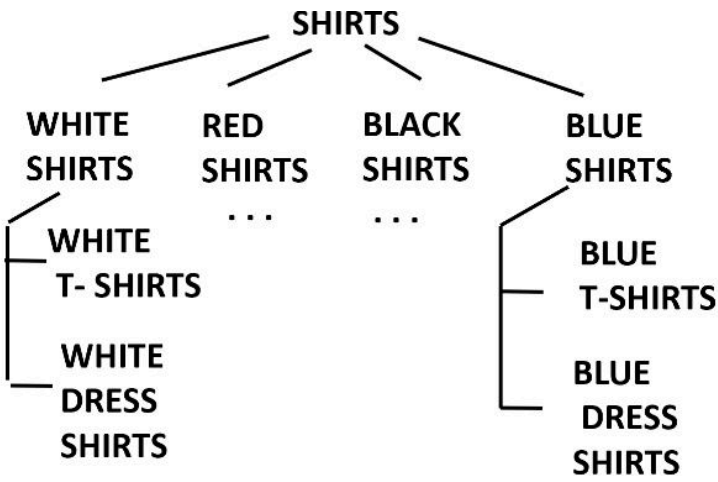
ANSWERS FOR "HOW PROPERTY ORDER DETERMINES A HIERARCHY"

SHIRT HIERARCHY: TYPE THEN COLOR



SHIRT HIERARCHY: COLOR

THEN TYPE



How Organization Affects How You Find a Shirt

You've now mastered this important idea that the order of property tests determines a hierarchy. But before you turn to the next chapter, think about how these different organizing hierarchies affect how you find a particular shirt. Suppose you want to wear a black T-shirt. If you sorted your shirts by color first and then by type, you would find the T-shirt in the "black" section of your closet. But if you sorted by type and then by color, you would find the shirt in the T-shirt section. The two experiences feel very different.

But this was a very simple example. Think about a department store, where there are more properties of shirts that could be used to organize them. Shirts will be from different companies, be made of different fabrics, be designed for different activities, or for men, women, or kids, and come in different sizes. The order in which these properties are used to organize the store is an extremely important decision. Most stores would have separate sections for shirts for men, women, and kids. They would then sort by shirt type or by short company, and finally by color and size.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=386#h5p-33

19.

CATEGORIES DEFINED BY SIMILARITY

So far we've studied three types of category structures:

- A **LIST** category is just a list of its members. There is no property test that decides if something goes in the category.
- **SINGLE-PROPERTY** categories define their members using a property test. We have to be careful in the choice of the property; if the members differ a lot on other properties, the category won't make much sense.
- **MULTIPLE-PROPERTY** categories define their members using two or more property tests. The order of the tests is important because that determines the hierarchy or taxonomy in which broader categories contain the members of their sub-categories.

In this lesson we'll study another type of category structure — defining categories based on **SIMILARITY**. These categories define membership by considering multiple properties, but the properties are used in a looser way. Sometimes things go in the

same category because they have many but not all of the same properties — they are similar but not exactly the same.

This idea is easier to explain with an example.

We all know the "bird" category, and we can reliably distinguish birds from dogs using property tests. But being precise about whether an animal is a bird is a little tricky. The "bird" category cannot be defined using "yes or no" property tests the way that the shapes and shirts were in the previous lessons.

Birds:

- All have feathers, wings, beaks, and two feet
- But some birds fly or swim and some don't, so flying and swimming can't be used as property tests
- The shape of bird beaks, wings, and feet varies a great deal, so shape can't be used as a property test

So birds resemble each other, but there is a lot variation within the category. This means that membership in the bird category is based on **SIMILARITY or TYPICALITY**.

- The properties that most birds share make them resemble each other, but some properties are shared more than others

- Birds that share the most characteristics properties are "better" category members
- This makes some birds more typical of the bird category than others

SIX TYPES OF BIRDS

TOP ROW: Penguin, Pigeon, Swan
BOTTOM ROW: Frigate Bird, Flamingo, Pelican

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=326#h5p-23

Many of the categories we use a lot are based on similarity rather than on property tests; try to define “friend” or “game” using property tests and you will be stumped! So when you have to organize a collection of things, use property tests to create a hierarchy if you can.

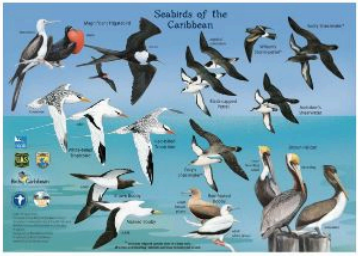
20.

ACTIVITY - CATEGORIES DEFINED BY SIMILARITY

We understand categories based on similarity using the properties that are shared by category members. But this means that when a category has lots of members, our understanding of the category will be biased by which members we are most familiar with.

Let's return to the category of birds we used in the last chapter. You did a quiz about typical birds, and the best answer given the set of birds there was that a pigeon is a very typical bird. But that judgment depends on the birds that you are comparing.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=512#h5p-35



This activity shows that typical birds in each of these environments will be very different from each other! And that means that people who live near bodies of water, in deserts, or in the mountains think of birds differently.

21.

CATEGORIES DEFINED BY SHARED ACTIVITIES OR GOALS

A final type of category structure creates categories for resources that are used together or that have a shared purpose. These are often called activity-based categories. This task-oriented approach to organizing is sometimes called a **TASKONOMY** to contrast it with a **TAXONOMY**, which groups things according to their shared properties.

For example, if you do a lot of art projects, it would be very efficient to keep your supplies together:

You can see that many of the resources that have been organized in this "art project box" have some similar visual properties. The paper resources are flat, which enables them to be stacked, the pencils and markers are thin and "pointy," and because the scissors have sharp ends they are arranged with the sharp ends put out of the way. But while these common properties are used to arrange these different types of resources in the art project box, the reason they go together is because they are used for the same kinds of activities.

An interactive H5P element has been excluded from this version of the text. You

can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=328#h5p-32

22.

ACTIVITY - CATEGORIES DEFINED BY ACTIVITIES OR GOALS

An interactive H5P element has been

excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=669#h5p-28

An interactive H5P element has been excluded from this version of the text. You can view it online here:

https://berkeley.pressbooks.pub/organizing4kids/?p=669#h5p-38

PART III
PART 3: PATTERNS FOR ORGANIZING SYSTEMS

We have said that the secret to becoming a master organizer is learning how to see what organizing systems have in common instead of focusing on how they differ. A key part of what you need to learn is that organizing systems follow patterns that you can reuse when you need to design or analyze an organizing system.

Because organizing principles use properties or features of resources to organize them or to create categories, when we group organizing systems according to the types of resources they contain it is easy to see the patterns in the organizing principles and category structure.

Then, when you need to create an organizing system, having these patterns is like having an expert organizer to help you – you'll save time and your organizing system is going to be better!

First, we divide all organizing systems into three large groups using very big differences among types of resources:

- Organizing physical resources
- Organizing digital resources
- Organizing time resources

Time is a little tricky because it can be a resource, like when we organize a calendar or schedule by breaking time into pieces for events or activities, but can also be an organizing principle, like when we organize the kids in your classroom by their ages. So we'll start with the easier resource types in this part of the book and come back to organizing time later.

Patterns in organizing physical resources

- Organizing tangible objects
- Organizing plants and animals
- Organizing people
- Organizing places

Patterns in organizing digital resources

- Organizing resource descriptions
- Organizing the web
- Organizing personal digital resources

23.

ORGANIZING TANGIBLE OBJECTS

Organizing peppers by color at the supermarket demonstrates how quickly and automatically we perceive that property.

Tangible objects are physical resources that you can touch and see. They are the most common type of resources that we

interact with and organize. Tangible objects are often organized according to physical properties like size, color, or shape because the human visual system quickly and automatically pays a lot of attention to those properties.

This photo of the peppers arranged by color in the supermarket demonstrates this principle of using a property that "jumps out" at you. Because people shopping for peppers are usually selecting them by their color, this is the most effective way for them to be organized.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=33#h5p-29

When you were a baby, you learned about tangible objects and their properties by holding them, dropping them, throwing them, and putting them in your mouth. When you began to play with toys, you probably had a set of plastic or wooden blocks. They differed in shape, size, and color. This taught you about these properties so you could use them when you organized other types of things.

"Inset" puzzles use simple shapes with knob handles to help young children develop organizing and motor skills.

You probably played with "inset" puzzles where you developed organizing and motor skills by putting plastic or wooden shapes into the matching hole in a board.

When you got a little older you played with "jigsaw" puzzles where the pieces fit together, which required that you consider shape, size, and color at the same time. You also learned to

sort your clothes, which added the properties of texture and material to your set of organizing principles.

Organizing books by their color

However, not every tangible resource is best organized using physical and perceptual properties. What if books were organized by the color and size?

An interactive H5P element has been excluded from this version of the text. You can view it online here: https://berkeley.pressbooks.pub/organizing4kids/?p=33#h5p-30

Activity-Based Organization

Another very useful organizing principle for tangible objects is to group things that are used together in activities or tasks. This task-oriented approach to organizing is sometimes called a **taskonomy** to contrast it with a **taxonomy**, which groups things according to their shared properties.

For example, if you do a lot of art projects, it would be very efficient to store all of your supplies in a desk designed for that purpose. Similarly, many people organize all their household tools in the garage using a tool workbench that keeps all the tools visible, making them easy to find and easy to put away.

Art desks and tool workbenches are examples of task-oriented organizing systems.

If you like cooking (or helping someone else cook) you are familiar with another kind of activity-based organization. If you are following a recipe, things go better and faster if you start by collecting all the ingredients and all the cooking resources you need and putting them in the order that you will use them.

Organizing in the Kitchen to make Cheese Puffs

This idea has a fancy French name that you pronounce as "**MEEZE ON PLASS**," which means "Putting Into Place," but you don't have to be French to do it! You can apply this method to any project that has many steps, each of which requires some new resources to be added to what you've already used.

Here's a fun idea: Before you go to bed, pick out the clothes you will wear the next day and arrange them in the order you put them on. This

will save you time getting dressed the next day, but imagine how your parents will react if you say you are practicing "**MEEZE ON PLASS**."

24.

ACTIVITY -- ORGANIZING TANGIBLE OBJECTS

Some organizing systems use lots of organizing principles because they contain many different types of resources. A kitchen is a familiar example. Here is a kitchen that is very well organized because Emilie Hardman, the person who uses it the most, works as a librarian. She is very experienced with organizing resources!

Match the organizing principles with the kitchen resources that could be organized using them (some of these are used here in Emilie's kitchen, but you should think about other kitchens too):

ORGANIZING PRINCIPLES

1) Size and shape properties
2) Used together (taskonomic)
3) Alphabetic order
4) Used very often (kept in a visible and easy to access location)
5) Used only by adults (kept hidden in a cabinet or otherwise hard to access)

KITCHEN RESOURCES

A) Spices
B) Dishes, pots and pans, knives
C) Wine and liquor
D) Salt and pepper shakers, cooking oil
E) Coffee maker, coffee grinder, coffee filters, coffee beans

ANSWERS (don't look until you're done): 1B, 2E, 3A, 4D, 5C

25.

ORGANIZING LIBRARIES

You might have a lot of books at home, and it would be easier to use them if they are organized. But you don't need to use one of the standard organizing systems for libraries to do that. However, you might use a school or public library, so it will help you if you know a few things about how they are organized.

The first libraries were created almost three thousand years ago. Because of this long history, many of our modern ideas about organizing evolved from the management of documents, books, and other so-called **BIBLIOGRAPHIC** resources in libraries. In addition, we have learned a lot about organizing from libraries because of their large scale and complexity. You might think that a supermarket is a big organizing system because it has tens of thousands of different items in it. But libraries at big universities have many millions of items in them, so they need a more precise organizing system.

Even though we can now search library catalogs using computers, many of the library's resources are still tangible things that have to be organized on shelves. This requires two

kinds of standards. One standard defines the rules for describing the resources (the descriptions used to be on printed catalog cards, which are now on computers). Other standards contain rules for assigning things to subject categories.

Most libraries are organized using one of two standard systems of subject categories. Public libraries and small school libraries are usually organized with the **Dewey Decimal Classification**. University libraries and those used by research labs use the **Library of Congress Classification**. Both of these organizing systems have interesting histories that help us understand the categories they use.

Dewey Decimal CLASSIFICATION

Started in 1876, the **DDC** is used by more than 200,000 libraries in 135 countries, making it the most widely used library organizing system. The DDC is divided into ten main numbered categories, which together cover the entire world of knowledge. Each main category is then divided into ten divisions, and each division into ten sections. In this way the DDC divides subjects into smaller and smaller categories by adding more decimal places to the category number.

Because the DDC was developed in the late 19th century, many of the categories it started with don't fit well today

because of cultural changes over time. You can see that here that "dogs" and "cats" are organized along with animals used in farming because today's concept of "pet" wasn't commonly used back then.

```
000 Computers, information & general reference
100 Philosophy & psychology
200 Religion
300 Social sciences
400 Language
500 Science
600 Technology
700 Arts & recreation
800 Literature
900 History & geography

600 Technology (Applied sciences)
        630 Agriculture and related technologies
                636 Animal husbandry
                        636.7 Dogs
                        636.8 Cats
```

Another way in which the DDC is biased was caused by where it was developed. Melvil Dewey wanted to develop a system that could organize all knowledge. However, because he created the system while working for Amherst College, which at the time had a primary purpose to train Christian ministers, a system designed to organize the books in the Amherst library has a lot of bias toward Christianity.

```
200 Religion
  210 Natural Theology
  220 Bible
  230 Christian theology
  240 Christian moral and devotional theology
  250 Christian orders and local church
  260 Christian social theology
  270 Christian church history
  280 Christian sects and denominations
  290 Other religions
```

Do you think that a system of categories for organizing books should be "natural" in the sense that it matches the organization of people into world religions? How well does the Dewey Decimal Classification do this?

LIBRARY OF CONGRESS CLASSIFICATION (LCC)

The United States Library of Congress was established in 1800 with a very practical and narrow focus to support the process of governing and making laws. But the library got off to a bad start when the British burned it down (along with the White House) during the "War of 1812." The library was restarted with former President Thomas Jefferson's personal library, which had a much broader scope of books in its collection. So a small scope classification system in the original library needed to be replaced with one that had much broader scope.

Like the **DDC**, the **LCC** shows its bias toward the place where it was created. For example, all of European history goes into category D, but American history is organized in both E and F categories. Likewise, even though Naval Science might seem to be part of Military Science, the LCC gives Naval Science its own category. This was to make sure that the library collected resources that might prevent the library from being burned down in another naval invasion!

Also like the DDC, the LCC is a deep hierarchy, with 21 top level categories, identified by letters instead of numbers like the DDC. Each top-level category is further divided, but in a much less controlled way, first by adding on letters and then by adding decimal numbers that can have decimal places.

```
A -- GENERAL WORKS
B -- PHILOSOPHY. PSYCHOLOGY. RELIGION
C -- AUXILIARY SCIENCES OF HISTORY
D -- HISTORY (GENERAL) AND HISTORY OF EUROPE
E -- HISTORY: AMERICA
F -- HISTORY: AMERICA
G -- GEOGRAPHY. ANTHROPOLOGY. RECREATION
H -- SOCIAL SCIENCES
J -- POLITICAL SCIENCE
K -- LAW
L -- EDUCATION
M -- MUSIC AND BOOKS ON MUSIC
N -- FINE ARTS
P -- LANGUAGE AND LITERATURE
Q -- SCIENCE
R -- MEDICINE
S -- AGRICULTURE
T -- TECHNOLOGY
U -- MILITARY SCIENCE
V -- NAVAL SCIENCE
Z -- BIBLIOGRAPHY. LIBRARY SCIENCE. INFORMATION RESOURCES (GENERAL)
```

Here's a example explaining the subject hierarchy for this specific book:

QE861.4 .S74 *The Complete Idiot's Guide to Dinosaurs*
by Jay Stevenson and George McGhee.

Q Science
QE Geology
QE 760.8-899.2 Paleozoology
Do you see that QE 861.4 fits in the 760.8-899.2 range for books on Paleozoology?

26.

ORGANIZING PLANTS AND ANIMALS

People are living things, but we're going to discuss organizing people in a separate lesson. So for now let's talk about how we organize the non-human living things that we call **PLANTS** and **ANIMALS**.

This is a book about organizing, not about biology, so it won't go into many details of the hierarchy of living things. But here are some interesting facts about the scientific, cultural, and language organization of plants and animals.

Scientists have organized living things in a biological taxonomy based on evolution. They estimate that there about 9 million different life forms on Earth. This **SCIENTIFIC** organizing system is complemented by **CULTURAL** organizing systems that distinguish plants and animals according to how we interact with them. Languages also have many **COLLECTIVE NOUNS** for referring to groups of plants and animals of different types.

There are about 8 million species of animals, about 400,000 species of plants, and about 600,000 species of fungi (a very

strange category that includes mushrooms and yeast that scientists describe as in between plants and animals).

Scientific Organization of Animals

The animal kingdom is divided into two subcategories based on the property test "does the animal have a backbone?" Animals with a backbone are called vertebrates, and that category is subdivided into categories for mammals, birds, reptiles, amphibians, and fishes. **VERTEBRATES** are the animals we see most often, but they are a tiny fraction of all animal species, only about 3%. Animals that don't have a backbone are called **INVERTEBRATES**, and by far the largest subcategory is that for insects. There are more than one million species of insects!

Cultural Organization of Animals

Animals can be categorized according to how people use them:

- As food for people
- As food for other animals
- As sources of power to move things
- As materials for clothing
- As pets or "helpers" (like hunting or guide dogs)
- In social, religious, or ceremonial contexts

Because these categories are based on human decisions rather than on "hard science," individuals or groups can organize the categories differently and they change over time. Some religions and vegetarians disagree with the idea that animals can be used as food. An animal that is categorized as a pet in some cultures can be categorized as food in another. (Did you know that some people like to eat dog meat?)

Collective Nouns for Animals

Some examples of collective nouns for organized groups of animals (note that some collective nouns can be used to represent a group of people or a group of animals):

- Army (of ants)
- Caravan (of camels)
- Colony (of bats or rabbits)
- Den (of bears or wolves)
- Flock (of birds)
- Herd (of buffalo, cattle, deer)
- Pack (of dogs or wolves)
- Pod (of whales)
- Swarm (of insects)
- School (of fish)

Scientific Organization of Plants

The plant kingdom is divided into two subcategories based on the property test "does the plant use roots and stems to take in water and nutrients?" These **VASCULAR** plants are the familiar ones like trees, shrubs, grass, vegetables, and flowers.

NON-VASCULAR plants like mosses and algae are much less common.

Cultural Organization of Plants

Plants can be categorized according to how people use them; some of the categories are the same as those for animals:

- As food for people
- As food for animals
- As materials for clothing
- In social, religious, or ceremonial contexts

Plants have other uses that contrast with some of the uses of animals:

- As medicines or as poisons
- As building material
- As fuels

Some plants fall into more than one category. Tea can be thought of as food, as medicine, or as an important ingredient in social interactions. Plants can also be categorized by where they grow, their growing seasons, and whether they are perennials (they regrow themselves) or annuals (must be replanted every year)

As with the cultural organization of animals, cultural

organization of plants can differ for individuals or groups and they change over time. Bamboo and straw were once very common building materials but you probably don't live in a house constructed from them today.

Collective Nouns for Plants

There are fewer collective nouns for groups of plants than for animals, but these should be familiar:

- Bed (of flowers)
- Bouquet (of flowers)
- Forest (of trees)
- Grove (of trees)
- Orchard (of trees)
- Paddy (of rice plants)

27.

ACTIVITY - ORGANIZING ANIMALS

In the previous chapter you learned that animals can be organized in both scientific and cultural categories. In this chapter you will build on that knowledge to analyze and compare several organizing systems for animals that differ in their scientific and cultural emphasis. You will see how different answers to the **WHAT, WHY,** and **HOW** questions can make big changes to the organizing systems.

You can apply this kind of analysis whenever you organize a collection of any type of resources. It will help you make better organizing decisions and you will better understand those decisions.

Let's start with the familiar organizing system called a ZOO. In a zoo the animals are most often organized by species to enable people to easily find them, or by sets

of species that share a particular habitat like a desert, savanna, or tightly-clustered trees. These organizing principles are well-suited for zoos because the most common answer for WHY is "to educate people about the appearance and natural behavior of animals."

How does a natural history museum differ from a zoo in the answers to the WHAT,

WHY, and HOW questions?

Wild animal parks are much larger in area than zoos and the animals are often in much larger herds or groups. How does this organizing system show the answers to the WHAT, WHY, and HOW questions?

In animal theme parks like Sea World or Disney Animal Kingdom the organization and behavior of the animals is very different than that in zoos or wild animal parks. How does this organizing system show the answers to the WHAT, WHY, and HOW questions?

ANSWERS

- Natural history museums are organized a lot like zoos, with animals typically arranged by species or habitat. But there's one big difference ... the animals are all dead, and some of them might be extinct species. If you change the **WHAT** answer from "animals" to "people" you are designing a cemetery, where people are arranged by family, religion, year of death, cause of death (in military cemeteries), and sometimes by wealth (rich people have big monuments).
- In wild animal parks the animals are allowed to organize themselves to a great extent, which enables them to behave naturally. This means that there might be some bad interactions between animals, with predator animals like lions hunting and eating prey animals like antelopes.

- In animal theme parks the animals are selected and trained so they can entertain people,which means that they are NOT acting naturally like they do in wild animal parks. Over time some of the animals become celebrities with “stage” names, webcams, and stuffed toys that you can buy in the gift shop (the orca in the picture is called “Shamu”). Compared with zoos, museums, and animal parks there is much less of an educational purpose in the organizing system.

28.

ORGANIZING PEOPLE

People are organized in very many ways so they can live together, share knowledge, accomplish more than they could as individuals, and otherwise function effectively in today's complex world. We will analyze how people are organized by their names, but "identifiers" that are assigned to them, and in groups of different sizes. We will also see that there are many collective nouns in the language for referring to organized groups of people.

Organizing People By Their Names

Many names began as descriptions of people based on important properties associated with them. Here are some examples in English:

- Occupations: Baker, Cook, Farmer, Fisher, Mason, Miller, Smith, Taylor, Wright
- Kinship: Johnson, Wilson, Anderson
- Appearance: White, Brown, Black

- Locations/Origin: Blackburn, Bush, Ford, Hill, Woods, Turk

Other languages do this as well. Some common German names are occupations: Bauer (farmer), Beck (baker), and Koch (cook).

Some names have been passed down through families over many generations, so today if your name is Cook you don't have to work in a restaurant kitchen, and if your name is Woods you might live in a city and not in a forest. But your name could be a clue to your family history.

Organizing People Using Assigned Identifiers

An **IDENTIFIER** is a special type of name assigned in a controlled way and governed by rules that define possible values and formats. You aren't born with these; most often, a government or company assigns them to you to distinguish you from other people.

Adults usually have many identifiers. Some examples:

- Driver's license
- Social Security number
- Passport
- Credit card(s)
- Bank accounts

- Employee ID in a company

But even kids can have many identifiers. Some examples:

- Student ID
- Library card
- Player number on sports uniforms

Organizing People in Small Groups

People are organized in many groups; the most obvious one is the family, but there are many other types:

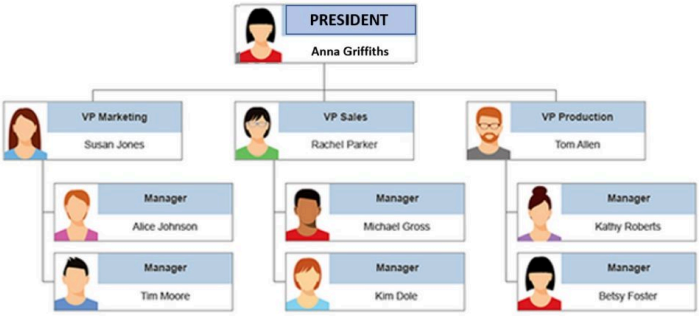
- Family
- Sports teams
- Scouting
- Grade, Homeroom, Classes, and Clubs in School
- Bands and Orchestras
- Church congregations

People are often organized for activities or events of short duration. When you wait in a line in a supermarket, movie theater, or airport you are organized by time of arrival, priority, or some other property test (in a supermarket, if you only have a few items you can use special check-out lines). If your class

goes on a field trip, your teacher might line the students in alphabetical order to make sure that no one misses the bus.

Organizing People in Large Groups

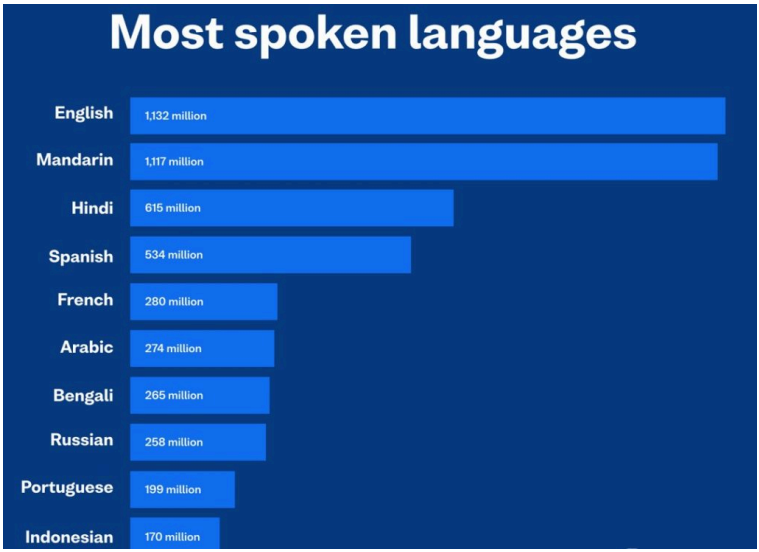
We can also analyze how people are organized in large groups.



- Large companies organize their employees in departments or divisions according to functions, product lines, or geography and use hierarchical organization charts to communicate the "management structure" or "chain of command." These charts help employees do their job better by clearly defining their relationships to other people in the company. (If you don't remember the concept of **HIERARCHY**, take a look back at this chapter).
- This organizational hierarchy is communicated by job titles like "President," "Vice President," "Director," and

so on. In the army there are "Generals," "Colonels", "Captains," and so on.

- We can also analyze how people are organized by their nationality (the country they live in or where they are from), by the language they speak, by their religion, by their occupations, by their political party, and so on. Here's a chart showing the 10 languages that have the most speakers in the world:



Collective Nouns for Small and Large Groups of People

- Alumni
- Army
- Association
- Audience
- Choir
- Chorus

- Class
- Club
- Committee
- Company
- Congregation
- Crew
- Crowd
- Family
- Gang
- Jury
- Orchestra
- Party
- Posse
- Society
- Squad
- Staff
- Team
- Tribe
- Troop
- Union

29.

ACTIVITY - ORGANIZING PEOPLE

Because YOU are a person, you should be able to think of many different ways in which you are organized. You should use the categories in the previous chapter to guide your thinking.

- Does your name suggest any categories to which you belong? Are there other clues to your family history?
- What identifiers have been assigned to you?
- What small groups do you belong to?
    - If you have a big family, your parents might have organized it into sub-groups that have different rules and responsibilities (young kids set the table, older kids do the dishes)
    - There are many groups based on your school situation, but don't forget groups for after-school, weekend, and vacation activities
- What large groups do you belong to?
    - Do you think of yourself by nationality as American, Canadian, Chinese, ...?

    - Do you think of yourself as a Californian, Texan, New Yorker, ...?
    - Do you think of yourself by religion as a Protestant, a Catholic, a Muslim, a Jew, or a ...?
- What ways were you organized recently for activities or events of short duration? If you were organized in a waiting line, was there a property test that determined which line or your place in it?

30.

ORGANIZING PLACES

You know where you live, the location of your school, and the locations of many other places. All of these places are organized using many overlapping organizing systems that use a variety of organizing principles.

In this chapter you'll learn about some of these organizing systems and that will make it easier to find places where you want to go. But more importantly, understanding how places are organized will also help you better understand history, government, and other subjects that often have geography as an important influence.

You probably recognize the building in the photo as the White House, the place where the President of the United States lives. Now let's answer the question "Where is the White House located?" All of these answers are accurate, but their differences show that there are many ways to think

about the concept of "place."

- 1600 Pennsylvania Avenue
- In Washington, D.C.
- In the United States
- On the planet called Earth

The places we live are organized… our neighborhood, our city, our state, our country, our planet. And at an even larger scale, our planet Earth is organized as one of the members of the category we call "planets in our solar system."

These contexts use different organizing systems because they have answered the **WHAT, WHY**, and **HOW** questions

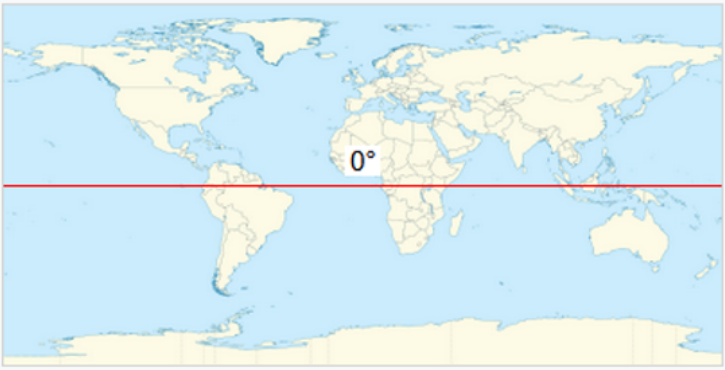
in ways that make sense for the size of the place being organized.

Organizing the Earth

When we talk about our planet Earth, we most often describe it as consisting as seven **continents** (Asia, Europe, Africa, North and South America, Antarctica, and Oceania) whose boundaries are created by natural aspects of geography (oceans, seas, and mountains). This natural organization isn't precise enough to identify places, so the system of **LONGITUDE AND LATITUDE** was invented to enable any place on Earth to be identified using coordinates expressed in degrees. The **Longitude** coordinate measures the distance east or west of the **Prime Meridian** in Greenwich, England, and the **Latitude** coordinate measures the distance north or south of the **Equator**.

The White House is located at 38.90 degrees N latitude and 77.04 degrees W longitude.

Prime Meridian, the 0° of longitude



Equator, the 0° parallel of latitude

Organizing Countries

A country is a nation with its own government and land territory. There are 195 countries in the world today. The continent of Africa has 54 countries, followed by Asia with 48

and Europe with 44. Countries vary a lot in size; Russia is the largest country, with over 6 million square miles of land, which is about 11% of all the land on earth. Canada, China, and the United States are the next largest. The smallest countries are mostly islands, and some have fewer than 100 square miles of land (that's equal to a square 10 miles on each side, so small that you could walk or bike across the whole country in just a few hours).

The size and borders of a country are strongly influenced by **geographical features**, especially mountains, deserts, and bodies of water (oceans, seas, lakes, and rivers) that separate the places that people live from each other. This separation enabled nations to evolve their historical identities with their own language and culture. You can see in the map how rivers (blue lines) and mountains (brown line) shape many of the borders between many of the United States, and how the Great Lakes create the border here between the United States and Canada.

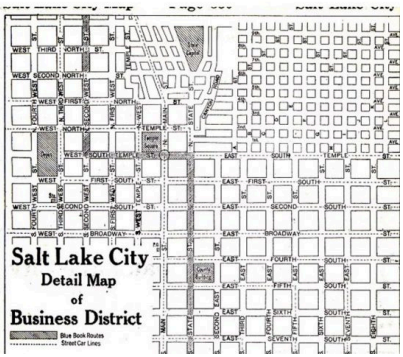
Organizing Cities

Cities contain many different types of organizing systems that together enable the people who live, work, or visit there to do so safely and efficiently. Many cities are divided into parts or "**zoned**" for different purposes. There are housing areas, recreational areas like parks, commercial areas for shopping, offices, factories, and warehouses, and governmental areas where the people who run the city work.

Some cities are very old, like Rome Italy, which was first

settled about 2800 years ago. The map of Rome reveals a very irregular pattern of streets that evolved as the city grew across the river that snakes through the city. Other cities, even some very old ones, were planned very carefully, with streets organized in a very regular pattern. Just as latitude and longitude coordinates make it easy to locate any place on earth, a "**GRID**" city plan imposes a very regular system of streets (like that of Salt Lake City here).

Many big cities are sub-divided into smaller regions for to make government functions more closely tied to people. These smaller regions are typically called **boroughs, districts, wards, or precincts**. But no matter how a city is "officially" organized, over time cities organize themselves into neighborhoods that differ in the typical ages, wealth, and lifestyles of the people who live in them. **Neighborhood** boundaries are not official ones, but because neighborhood names are commonly used by people to identify nice and safe (or not nice and not safe) places to live and go out, after you've lived somewhere for a while you will be familiar with neighborhood names.



Cities like Salt Lake City that were carefully planned often name their streets with numbers or letters to reinforce the idea of a grid with equally spaced city blocks. But just as the names of people can suggest their occupations, ancestry, appearance, or other categories they belong to now or in the past, it is interesting to study the names of streets that are named after people because of what they can tell us.

Street names are like history books that tell us about the cultural and social values of the city over time. Which people were honored by having streets named after them? Were they scientists, artists, military heroes, politicians, or religious leaders? Were they mostly men or mostly women? Were they honored for personal achievements (making an important invention, setting a world record in sports), or were they honored for their entire life's work?

31.

ACTIVITY - ORGANIZING PLACES

In the previous chapter you learned that cities can be organized in many different ways. In this chapter you will apply that lesson to analyze the town or city where you live. You will first analyze it from a "wide angle" point of view to identify parts of the city that have different purposes and to locate any geographical or constructed features that affect how the city is organized. Next, you will "zoom in" to take a close look at the street plan and look for any principles or rules for naming streets.

A "Wide Angle" Analysis Of Your City

1. Use Google Maps or any other map you like and find the map that has your town or city in the center.
2. Is the city organized to create separate places or areas for housing, recreation, shopping, schools, government, or other distinct purposes?
3. Do any of these areas have neighborhood names?
4. Are the boundaries or organization of the city affected by geographical features like mountains, rivers, lakes, or deserts?
5. Are the boundaries or organization of the city affected by constructed features like highways, bridges, or canals?

A "Zoom In" Analysis Of Your City

1. Zoom in on the map to the downtown or center of the city to a zoom level where you can see the names of streets
2. Is the city plan irregular like that of Rome, or more regular like that of Salt Lake City?
3. Are streets organized using letters or numbers? (Avenue A, B, C... 1st, 2nd, 3rd Street)

4. Do some streets have names based on landmarks? (Wall Street, Canal Street, Mission Street)
5. Are some streets named after presidents or other famous people?
6. Are there any other naming patterns for streets? (in Washington DC, many of the streets are named after states — the White House is on Pennsylvania Avenue)

32.

ORGANIZING DIGITAL RESOURCES

Resources that are "**digital**" are stored in an electronic format using "**bits**" that represent either 1 or 0. Any information on the web, on your smartphone or computer, on a DVD or CD, or in any broadcast or download is in a digital format.

Organizing systems for digital resources are often very different than those for tangible resources because of two critical differences between their formats.

- Digital resources can be copied easily, and different copies can be in many places at once, unlike tangible resources that can only be in one place at a time
- Digital resources can move from one place to another extremely quickly

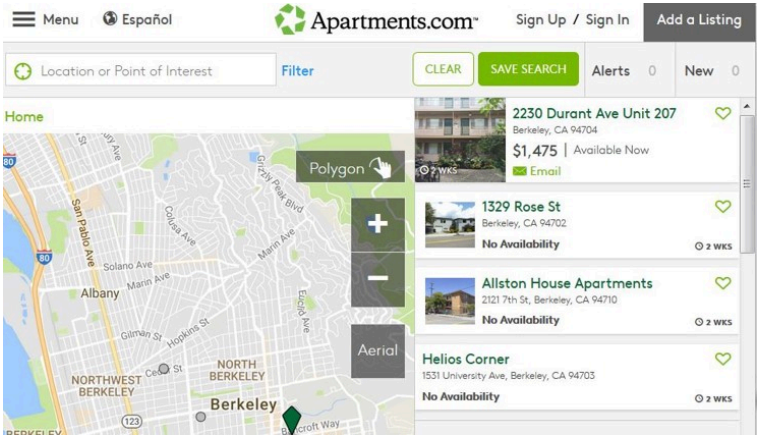
Organizing Resource Descriptions

Taken together, these two differences between digital and

tangible resources enable **DIGITAL DESCRIPTIONS** to be very important in organizing systems because they can serve as substitutes for the resources they describe. Being able to search digital descriptions instead of the tangible resources they describe means that how the tangible resources are organized isn't that important. The most familiar examples of this idea of digital resource descriptions are library catalogs and search engines, where you can search millions of descriptions in a fraction of a second. The library can decide to organize books by subject, by author, by title, by reading level, or any other properties — and the resource description can point to their storage locations.

Our daily lives are greatly enhanced by using digital descriptions. How long would it take to search through all the books in a library or look at every website to find something you wanted?

USING THE APARTMENTS.COM WEBSITE TO FIND AN APARTMENT NEAR BERKELEY CALIFORNIA



It is hard for students to find a place to live in a college town because there are more students than affordable apartments. It would be impossible if they had to visit every apartment instead of searching through descriptions of apartments on a website like Apartments.com.

Organizing the Web

Even with powerful search engines, it can still be overwhelming to find a site that meets your information needs

or entertains you because there are almost 2 billion websites today! But fortunately, you and search engines can take advantage of how the web is organized to make it possible to find what you want.

Every website has an "address" called its **URL (Universal Resource Locator)**. Just as your home address has several parts that identify a specific place within a city and country, a website address also has several parts.

We can explain the parts of a URL using the URL for this book, which is:

https://berkeley.pressbooks.pub/organizing4kids

The "**https://**" part isn't really part of the address because it is used by almost every website; it tells the search engine to search for the website using a secure communications method (this would be like saying "use your phone to call this number" before you tell people your phone number).

The text in between the // and the / is the most important part. There are three pieces here for the book URL

berkeley
pressbooks
pub

"**pressbooks**" is the name of the website. Pressbooks is a company that designed and takes care of the software used to publish books like this one. The "**pub**" that follows it called the "**top-level domain**," which is a complex way of saying

"who put this site on the web." Most websites are created in these **TLD**s:

com (for commercial organizations, usually businesses)

edu (for educational organizations, usually schools and colleges)

org (for organizations that are not commercial businesses)

gov (for government organizations)

Websites in countries other than the United States often use a top-level-domain that indicates the country. So the company you know as Amazon uses **Amazon.com** as its website in the US, but uses **Amazon.ca** in Canada.

"**berkeley**" here in the book URL explains that the book is published as part of the University of California, Berkeley's collection of books that use the Pressbooks publishing system.

Finally, the parts of a URL that follow the / are pointing to a folder where the web pages for the book are organized. This is necessary here because there are other books that differ only in this part of the URL. For example, the college textbook called "The Discipline of Organizing" that was adapted for this book has this URL on the Berkeley Pressbooks system:

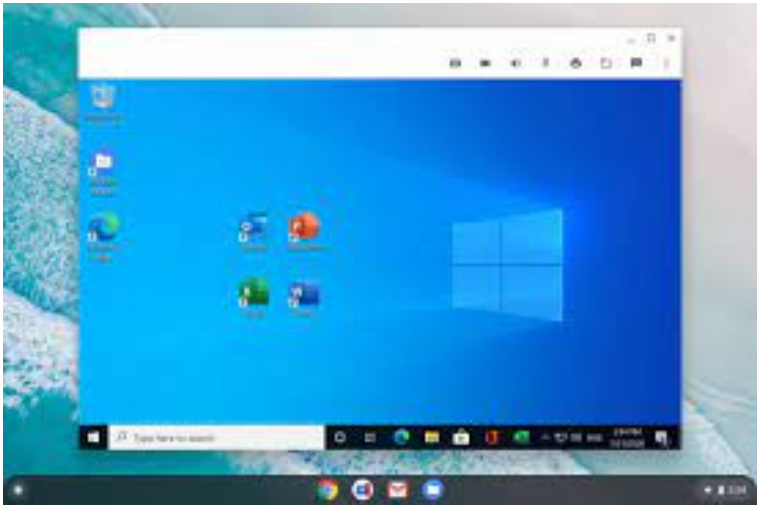
https://berkeley.pressbooks.pub/tdo4

Here's a tip that will help you make better use of

the web when you look for information: websites with "edu" or "gov" are often more reliable sources of information than sites in other top-level-domains.

Organizing Your Personal Digital Resources

Everything stored on a computer is stored in a "package of bits" called a **FILE**. You might know this if you use applications like Microsoft Word, Microsoft OneNote, Google Docs, or Google Forms to create documents and presentations. To use these applications effectively, it helps to know how to organize the files you create.

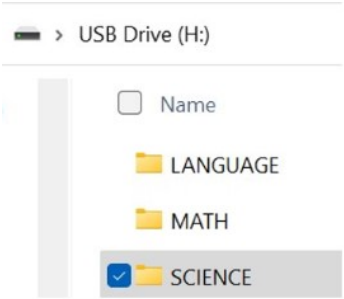


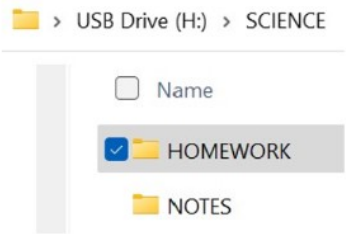
When you first start using a computer, all of your files and applications will appear as icons or symbols on your display, which is called the **DESKTOP**. This works OK if you don't have too many. But after a while your desktop will become messy, and it will be hard to find things.

The solution is to create categories for organizing your files. File categories on computers are often called **FOLDERS or DIRECTORIES**.

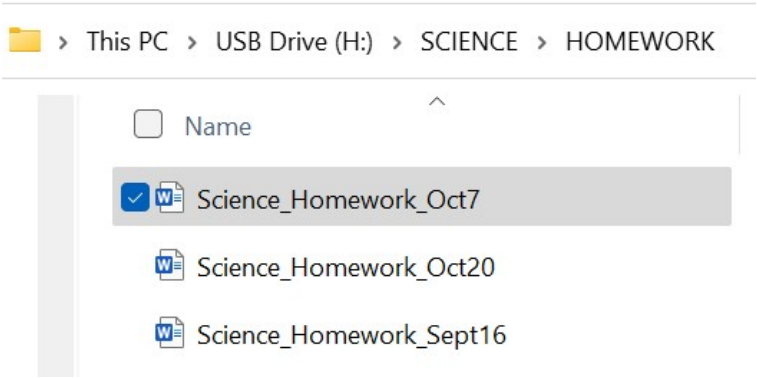
A simple scheme for organizing your files is to categorize them by their media type. This means you would have text documents in one folder, photos in another, and music in another. ***But a better system is to organize your files in categories that match the organization of your school work***. In this system you would create a folder for each subject or course, and inside of those folders you would create more

folders for course notes, homework, book reports, presentations, or other types of content.





It will also help a lot if you give each of your files a name that reminds you of its content. You can do this by "stringing together" a name that is based on the folder organization. For example, the homework you did on October 7 for your science class would be named Science_Homework_Oct7.



33.

ORGANIZING THE ACTIVITIES AND PLACES OF SCHOOL

School is an important activity in your life, but it can be hard to organize all of the different activities and places that are related to school. In this chapter you will use what you've been learning about categories and patterns to organize everything about school better!

There are three different parts of your school life that need to be organized together:

1) The part that is designed and controlled by your school and teachers. The organizing systems here define **WHAT** you have to do, **WHEN** you have to do it, and **WHERE** you have to be when you do it.

- **WHAT** — the subjects or courses that you study, and how one or more teachers is associated with each of them. Each of these subjects has readings, class notes, homework assignments, and a few other types of resources that you use or create.

- **WHEN** — the different time scales of school — from the calendar for the school year to the daily schedule of periods for classes, lunch, recess, and other activities that are shorter in time than a school day.
- **WHERE** — the places where these school activities take place. These places include classrooms, the cafeteria, library, gym, or other areas in the school, or you might be told to do them at home

2) A second part of your school life involves your own "organizing places" in your classroom and school where you organize books, computers, writing and art supplies, and the other resources you use and create.

- These places include your desk, locker, and any storage "cubby" or "bucket" that is assigned to you by a teacher

3) The third part of your school life involves the "organizing places" and resources that are not at your school.

- This includes the places at home where you do school-related work (desk, table, bookcase?)
- It also includes organizing aids like calendars, notebooks, binders, or planners
- Finally, it includes your backpack or whatever container you use to carry school-related things between home and school.

Organizing the WHAT and WHEN of school

When you are in elementary school, the organizing system for school is very simple. You have the same teacher for all or most of the subjects and activities, and you stay in the same classroom most of the day. The plan for each day is the same day to make it easier for you to get through your school day. A good way to show this organizing system is as a simple table with two columns, one for the period(time) and one for the subject or activity:

PERIOD	ACTIVITY
8:30-9:30	Reading
9:30-10:30	Writing
10:30-11:00	Recess
11:00-12:00	Science
12:00-1:00	Lunch
1:00-2:00	Social Studies
2:00-2:30	Art or Music

A good way to organize the resources you use and create in elementary school is with a notebook with dividers or with a

divided folder like the one in the picture. Each of your subjects should have its own divided place to keep everything.

In higher elementary grades or in middle school, it is more common to have more than one teacher, because you might change to different classrooms for each teacher. The number of subjects and activities you do is probably bigger, and it also likely that you don't have the same schedule on every day. This makes the organizing system for school more complicated, as you can see in this table:

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
8:30-9:30	Reading	Reading	Reading	Reading	Reading
9:30-10:30	Writing	Math	Math	Math	Writing
10:30-11:00	Recess	Recess	Recess	Recess	Recess
11:00-11:30	Language	Social Studies	Social Studies	Social Studies	Language
11:30-12:00	Health	Computer Lab	Computer Lab	Computer Lab	Health
12:00-1:00	Lunch	Lunch	Lunch	Lunch	Lunch
1:00-2:00	Science	Science	Science	Science	Science
2:00-2:30	Life Skills	Art	Music	Art	Life Skills

The greater complexity caused by more subjects and more teachers means that your organizing system for the resources you use and create with each subject also needs to be more complex. Instead of separate sections in a notebook or folder, you might need separate notebooks for folders for each subject. A clever idea here to make it easy to find the

notebook or folder you need is to use different colors for each subject.

Organizing the WHERE of school– at school

There are usually three places at school where you organize things.

- You might have a desk in your homeroom
- In some classes that use a lot of supplies or create a lot of things you might have a "cubby" or "bucket" assigned to you.
- You will almost certainly have a locker. This is the most important of these organizing places because it needs to organize school resources, personal supplies, lunch, and anything you need for after school activities. If you're lucky, you locker has shelves that you can use to arrange things. If you're unlucky and it doesn't, you can buy a shelf system like the one in the picture here or stack plastic boxes on top of each other to keep things organized.

Organizing the WHERE of school– at home

You need to be organized at home so you can do your homework and other school assignments. Depending on the size of your home, you might do this work in your bedroom, in the living room, in the dining room, or in the kitchen.

The most important requirement for your organizing system for doing your school work at home is that you can keep the resources you need close to where you will work with them. Ideally you can have a desk with drawers or nearby shelves, but another way is to use storage boxes that you can

keep in a kitchen cabinet or behind the couch in the living room.

The second most important requirement is that you should organize these resources using the same categories as you use for the resources that you keep at school. So if you have separate binders or folders for each subject, divide the desk drawers, shelves, or storage boxes so there is one place for each subject.

Organizing your Backpack

Your backpack has a special job in keeping you organized for school. It enables you to move things from home to school and then from school back home. The most important thing to remember about your backpack is that it is NOT supposed to be a portable locker that contains everything, like the overstuffed backpack in the picture. Keep as many things as you can in your locker. Your backpack won't be too heavy and will be easier to keep organized.

PART IV
PART 4: ORGANIZING TIME

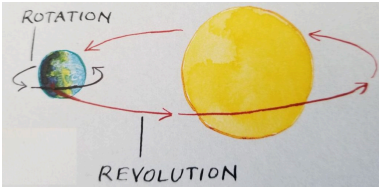
You just read several chapters about the patterns that organizing systems follow for different types of resources. When we organize our time resources, we also need to identify, create, and follow patterns.

It helps to think of three categories of time patterns:

- **NATURAL** time patterns are based on astronomical or land-based events that occur in regular cycles. We don't create natural patterns, but for tens of thousands of years, humans have been trying to discover them. Today, everyone uses the natural time units of day, year, and season to organize their lives. And don't forget "month" (which should be called "moonth") because it is based on the cycle of the moon phases as it orbits the earth. These natural units are now built into calendars, planners, clocks and other "time technology" that helps us organize our time.

The time unit we call **DAY** is based on the rotation of the Earth. This creates the illusion that the Sun is going around it

when it rises and sets every day. The revolution or orbiting of the Earth around the Sun is the natural pattern we call the year.



Date	Event
Aug 18, 2022	First Day of School
Sept 5, 2022	Labor Day
Oct 21, 2022	End of Quarter 1
Nov 11, 2022	Veterans Day School Holiday (No School)
Nov 18–25 2022	Thanksgiving Break (No School)
Dec 19, 2022 – Jan 2, 2023	Winter Break (No School)
Jan 13, 2023	End of Quarter 2 / Semester 1
Jan 16, 2023	Martin Luther King Jr. Day (No School)
Jan 17–20, 2023	Teacher In-Service (Non-student days)
Feb 20, 2023	Presidents' Day (No School)
Mar 24, 2023	End of Quarter 3
April 3 – April 10 2023	Spring Break (No School)
April 24 – May 26, 2023	California State Testing
May 29, 2023	Memorial Day (No School)
June 9, 2023	Last Day of School

- **DIRECTED** time patterns are created by other people or organizations. They are "directed" because you don't create them, but you have to follow them. Your life as a student is very much affected by the directed patterns of the school year that control the schedule of courses you take. You have to attend school on school days, and you don't go to school on vacation days or holidays.The parts of the school day — class periods, recess, lunch — are also directed patterns. Other directed patterns are the schedules for practices, games, and performances for sports, music, and other activities you take part in.

- **PERSONAL** time patterns are the ones you create when YOU organize everything you have to do or want to do. This is called **PLANNING, SCHEDULING, or TIME MANAGEMENT.** Even if you have many directed time patterns to follow, you will have some time to do things that you choose to do.

You might not realize it, but you are following patterns in your personal time. You might be a "morning person" who likes to get up early to read a book before going to school, or a "night person" who likes to stay up late and play video games. You might like to hang out with your friends at the end of each school day before walking or biking home.

Some people like to make plans for events far off in the future . Other people make fewer plans so they can be more spontaneous in deciding how to spend their time. Some people get a new calendar every year and fill it with events, while other people look ahead only a week or day at a time.

NATURAL and DIRECTED patterns influence your **PERSONA**L time patterns.

- You might be a morning person who gets up early when the sun shines into your bedroom, what time is "early" depends on the season. Days are longer in the summer and sunrise comes earlier in the day (if you live in the Northern Hemisphere).
- Your parents might sign you up for after school and weekend activities that they think are good for you. But the result might be that you don't have much time left to do personal things.

Plan for this Part of the Book

The next chapter, "**MANAGING YOUR TIME BETTER**," talks about some common problems people have with managing their time. It then introduces three ideas about how to solve these problems using the concepts and methods for managing things that you have already learned in this book.

- **MAKING AN INVENTORY OF YOUR TIME EVENTS**. Remember the lesson about organizing the items you collected on Halloween? You started by making an inventory to see what types of items and how many of each you had. This is also important when you need to organize time. Your inventory for time is a list of

all the things you have to do (DIRECTED events) or might want to do (PERSONAL events).

- **THINKING LIKE A "TIME ARCHITECT."** A master organizer also thinks like an architect. Remember that an architect designs a building and creates the instructions for the people who construct the building afterwards (the blueprint). An organizing architect creates categories for organizing things that go together, and after that is done, the things are arranged so they can easily be found when they are needed. A "time architect" analyzes the inventory of events carefully so they can be scheduled in sensible ways. The schedule is then recorded in a planner or calendar.
- **CHOOSING THE RIGHT SIZE OF "PIECES OF TIME."** A master organizer also knows that the same resource is sometimes thought of as one thing, and sometimes thought of a collection of parts (remember the examples of puzzles, bicycles, and sports teams?). The same issue comes up when you organize time. If you think of a big task as just one thing to do, it can seem too hard to, and it is easy to underestimate the time to do it. But if you break it into smaller pieces, you can better estimate the total time and can more easily fit these smaller tasks into your schedule.

The last chapter in this part of the book is "**ORGANIZING WITH ASTRONOMY AND ITS NATURAL TIME**

UNITS." It explains how the cycles of the Earth, Moon, and Sun create natural units of time that help us organize our lives.

34.

MANAGING YOUR TIME BETTER

Managing time is an important skill you need to be successful in school and in every aspect of your life. When you are good at organizing your time, you get more things done and enjoy the satisfaction of doing that. But some people don't manage their time well.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=1091#h5p-36

Some problems with time management are similar to problems that can happen with managing things:

- Not having enough time to do all the things you want to do is similar to not having enough space to organize your

possessions

- If you don't arrange your time in systematic ways so you can easily understand and follow your schedule, that's like hiding stuff under the bed. You don't know what is there unless you search through a lot of mess.
- If someone directs you do something at a time when you don't want to do it, that is similar to someone organizing a collection of things in ways that make it hard for you to find and use them.

PREVENTING OR SOLVING PROBLEMS WITH TIME MANAGEMENT

Fortunately, some of the problems with managing time can be solved using the concepts and methods for managing things that you have learned in this book. We list these here and then explain them in detail in the next chapters.

MAKING AN INVENTORY OF YOUR TIME EVENTS

A master organizer always asks the **WHAT** question first because you can't create useful categories if you don't know

what will go in them. The same goes for organizing your time. You can't manage your time effectively if you haven't answered the **WHAT** question — what are the activities or events that you need to plan to do?

Your inventory for time is a list of all the things you have to do (**DIRECTED** events) or might want to do (**PERSONAL** events). After you have created this list, you can analyze the events to design a good schedule for doing them.

THINK LIKE A "TIME ARCHITECT" — ORGANIZE YOUR EVENTS FIRST, THEN SCHEDULE THEM

Remember that an architect designs a building and creates the instructions for the people who construct the building afterwards (the blueprint). You need to think like a "time architect" in a similar way. You should analyze the inventory of events carefully so you can schedule them in sensible ways. Some things have to be done before other things, or have to be done by some deadline. You shouldn't just put things in your calendar or schedule where there is empty space.

CHOOSE THE RIGHT SIZE OF "PIECES OF TIME"

A master organizer also knows to ask "how many things is that?" (remember the examples of puzzles, bicycles, and sports

teams?) when organizing events. Some events are always "one thing" — it doesn't make sense to break the task of brushing your teeth into two parts. But If you break up a big task like writing a book report or learning to play a piece of music into smaller parts, you can more easily fit these smaller tasks into your schedule.

It is also important to choose the right size pieces of time when you design and use your time schedule. Some events in your schedule repeat monthly, so the best way to keep track of them is with a monthly calendar. Other events repeat weekly or daily, and this makes it easier for you to be reminded of them if you recorded them in a weekly or daily planner.

35.

MAKING AND ANALYZING AN INVENTORY OF TIME EVENTS

You can't manage your time effectively if you haven't answered the **WHAT** question of organizing — what are the events or activities that you need to put into a schedule? After you have made an event inventory, you can analyze each item so you can schedule it effectively.

Making an Inventory of Time Events

You create an inventory by keeping track of how you spend your time using a diary to record every task, activity, or event you did that was significant for you or that took up some measurable amount of time. If you think of it as a game you are playing to discover time patterns it will be more fun. It usually takes a few weeks for time patterns to start showing up

in your diary because many things you do (especially at school) follow a weekly or monthly schedule.

- Be sure to include events that you started but didn't finish for any reason
- Don't forget time you spent online
- At the end of each day, if there were other things that you wanted to do but didn't have time to do, add them to a **WANTED TO DO** category at the end of the day's diary (and also write down how much time you think they would have taken).

You can use paper or your computer or anything else to keep track of your diary. What matters is that you record all the significant events you did in a way that shows when and how long they took to do. Here's a sample...

TIME	SUN October 3, 2022	MON October 4, 2022	TUES October 5, 2022	WED October 6, 2022	THURS October 7, 2022	FRI October 8, 2022	SAT October 9, 2022
7:00 AM		Get dressed and breakfast	Get dressed and breakfast	Get dressed and breakfast	Get dressed and breakfast	Get dressed and breakfast	
7:30 AM		Get dressed and breakfast	Get dressed and breakfast	Get dressed and breakfast	Get dressed and breakfast	Get dressed and breakfast	
8:00 AM	Get dressed and breakfast	Walk to school (15 minutes)	Walk to school (15 minutes)	Walk to school (15 minutes)	Walk to school (15 minutes)	Walk to school (15 minutes)	Get dressed and breakfast
8:30 AM	Get dressed and breakfast	In school	In school	In school	In school	In school	Get dressed and breakfast
9:00 AM		In school	In school	In school	In school	In school	Home chores
9:30 AM		In school	In school	In school	In school	In school	Home chores

Analyzing your Directed and Personal Categories

After a few weeks of tracking your time, you should analyze your diary. First, you should sort your events into **DIRECTED** and **PERSONA**L categories. Remember that **DIRECTED** events are those that you do at a time that someone else decides, and **PERSONAL** events are things that you choose to do.

DIRECTED events

- Are there too many directed events in your schedule? One sign of this is if there are many events that you started but didn't finish on time. Many adults face this problem at work, with too many projects assigned to them, so they have to work "overtime" at home at night and on weekends. You might feel the same way, that you are being made to do too many things. This often happens when you start middle school and have more than one teacher, because each teacher directs some of your work and they might not plan together to make the amount of work fair for you. Another cause of too many directed events is that your parents might be signing you up for too many extra lessons or activities.
- Most directed events follow a regular schedule. Can you figure out what the pattern for each kind of event is? Events can repeat at many different time scales: every

day, every week, every month, and every year (like school graduations).

- Are there any schedule conflicts between directed events? If you have sports or music practice after school on days when you have a weekly test the next day, you might feel like you don't have enough time to study.
- Do any of the directed events take longer than you realized? Many time management problems are caused by underestimating how long something takes (doing homework or studying for tests are common examples). Underestimating means that you don't finish an activity or don't do it as well as you needed to.

PERSONAL events

- Many personal events also follow patterns, often because you do them in the "pieces of time" before, after, or in between directed events that follow patterns. For example, you might follow the pattern of hanging out with your school friends or walking home with them every day after school. But you have soccer practice once a week, you might hang out with your soccer friends once a week after practice.
- Did you discover any event patterns that you didn't know you were following?
- Is there a lot of "free time" during your day when you don't usually have any events? Does this "free time"

follow any patterns?

- Did you discover that you prefer a certain size for your pieces of time in which you do personal events or activities? This will be very helpful when you need to schedule yourself to do projects that have many parts that are spread out over weeks or months.
- Are there "house rules" that limit how much time you can spend watching TV, playing video games, or doing other personal events?
- What is in your **WANTED TO DO** category of events? Why couldn't you do them?
    - Because you wanted to do them at a time when you had a conflict with a **DIRECTED** event?
    - Because you did something else that was less important but you did it anyway? Put these events into a **WASTED TIME** category for now.

Analyzing Event Properties

Now that you have some idea of how you spend your time between directed and personal events, you can analyze specific events more closely so that you can create an effective time schedule.

You have learned in earlier chapters that many organizing systems use properties of resources to create categories and otherwise organize them. A similar thing happens when your organize tasks, activities, or other events. These can have

properties that create time patterns, and you can use these patterns to be better organized.

Three of the properties of events are easy to analyze:

REPETITION – does the event happen many times over and over? Many **DIRECTED** events have **REPETITION** as a property

- EXAMPLE: The schedule of classes at school; each class repeats at a particular time on specific days.
- But not all events that are **REPETITIVE** are **DIRECTED**; your birthday and those of your family and friends occur every year.

DURATION – does the event have a fixed time from start to finish? Can you estimate how long it is likely to take? Many events with **REPETITION** have a fixed **DURATION**

- EXAMPLE: Your music lesson is one hour long

DEADLINE – some events are the times when some big project has to be completed; you can choose when to work on it, but you have to start early enough to have enough time to finish

- EXAMPLE: Your big report is due on June 1.

Using Event Properties to Manage Your Time Better

The next chapter explains how to use these event properties to create a schedule that manages your time better!

36.

HOW A TIME ARCHITECT CREATES A SCHEDULE

You organize time by creating a SCHEDULE that puts events, tasks, or activities in the order that you will do them. There are four parts or phases in this process.

1. You act as the "time architect" to design the part of the schedule based on your analysis of the repeating events in your diary.
2. You record the schedule you have designed based on your diary in a planner, notebook, or calendar. You can probably use the same thing you used to record your event diary. Recording your schedule is necessary because you need to be able to remind yourself about the organizing decisions you made. (So make sure it fits in your school backpack).
3. You refer to your "WANTED TO DO BUT DIDN'T" list from your diary or PERSONAL events that didn't repeat and make decisions about adding them to your

schedule.

4. You pay attention to your parents, teachers, and other people who might schedule DIRECTED events for you so that you can put them in your schedule. If the event is a big project that is far in the future, you will need to break in into pieces to ensure that you can finish everything before the deadline.

Designing Your Schedule Using an "Event x Properties" Table

You need to use the "time properties" you learned about in the previous chapter to analyze the events in your diary. Your goal is to find all the patterns in past events that you need to put into your calendar to remind yourself when the events happen in the future. You should record your analysis in an "Event x Properties" table like the one here. You can think of this table as the "brain" behind your time schedule. It contains the knowledge about your events you need to create a schedule that is effective and that you can trust.

In the table, you should mark Directed Events with (D); these have to go into your schedule at the directed time. You mark your personal events with (P); you might already be doing these at particular times, but you might have to change these to make them fit into your schedule if new DIRECTED

events come into your life. You might like to hang out with friends after school, but if you start taking music lessons that are scheduled at that time, you'll have to hang out with your friends at some other times.

EVENT	REPEATS	DURATION	DEADLINE
Get dressed and breakfast for school (P)	Every school day 7 am	1 hour	
Walk to School (P)	Every school day 8 am	15 minutes	
In School (D)	Weekdays 8:30-3:00	6 ½ hours	
Study for Spelling Quiz (P)	Weekly on Sunday pm	15 minutes	Thursday
Study for Math Test (P)	Weekly on Sunday pm	30 minutes	
Homework (P)	Monday-Thursday 8 pm	1 hour	
Soccer Game (D)	Weekly on Saturday afternoon	1 hour	
Soccer Practice (D)	Weekly on Friday 4 pm	1 hour	
Home Chores (P)	Weekly on Saturday morning	2 hours	Saturday
Hang out with friends (P)	Most weekdays 3 pm	1 hour	
Family Dinner (D)	Daily 6pm	1 hour	
Video Games (P)	Most nights 9 pm	30 minutes	
Watch Movie at the		2 hours	

Step-by-Step Instructions for Creating a Schedule using the Table

You will be using the Events x Properties table that you created. In each of the following steps, you will be taking events from the table and recording them in your schedule.

1. Look through the table to find the DIRECTED events. DIRECTED events usually REPEAT on some schedule. If they take the same amount of time when they repeat, you should have recorded this DURATION in the table.

Put each of these items into your schedule at the time it takes place. If the event has a DURATION, make sure the time you scheduled matches the DURATION. If you aren't sure how long the item takes, make your best estimate and then add some extra time (it is better to have extra time that you use for something else if you finish early than to run out of time and not finish an activity). After you have done the event a few times, you can adjust your estimate and create a "free time" slot on your schedule if you overestimated the duration.

2. After you have put all the DIRECTED tasks that REPEAT into your schedule, you can now schedule your PERSONAL ones that REPEAT. When you analyzed your diary, you learned that many of your PERSONAL events take

place in the spaces before, after, or in between events they are related to in some way. For example, your school day is a DIRECTED event, but walking to and from school is a PERSONAL one because you decided when to do that.

3. After you have taken all of the events with a REPEAT property, look at your table to find events that only happened once in your diary but might happen again. For example, if your diary recorded that you saw a movie at the mall, you might expect that events like these will happen again. If the event was a PERSONAL one like the movie, you might want to pick an empty time in your future schedule to save a place to see a movie again.

Next, look at the "WANTED TO DO BUT DIDN'T" lists in your diary. You need to decide if you want to do these. This is the hardest task in organizing your time because you can never do everything. You have to consider the IMPORTANCE and URGENCY of the items to make good organizing decisions. We'll talk about that soon.

4. Your parents, teachers, and other people are always going to schedule DIRECTED events for you that you have to put in your calendar. Sometimes a big project is divided into pieces for you. Your teacher might require you to turn in work on separate tasks that contribute to the final result. For example, if your project is to write a book report, the first task might be to go to the library and choose a book. Then you have to read the book, take notes, and so on. To make a good schedule for these separate tasks, you need to estimate how long each

of them will take, how much time you have until the final deadline, and then put the tasks in your schedule so that you space out the work over the remaining time.

IF A BIG PROJECT ISN'T DIVIDED INTO PIECES FOR YOU, MAKE YOUR OWN SMALL PIECES! When you get a school assignment to read a book or write a report, it can seem like a very big task and be hard to get started on it. But if you think of the assignment as a collection of short parts, each of which won't take very long to read, you can turn one hard task into a set of easier ones.

Using IMPORTANCE and URGENCY to make Scheduling Decisions

The hardest part of organizing your time is making decisions about what to do when you have too many choices. You have to think hard about how the events would affect you. There are two things to consider, IMPORTANCE and URGENCY.

IMPORTANCE – does the task or activity have a result that is important or significant to you? If you can, instead of thinking "Yes" or "No" about importance, give the activity a rating of some sort. A good scale might use values like "extremely important," "somewhat important," "average importance," "not very important ," "not important at all."

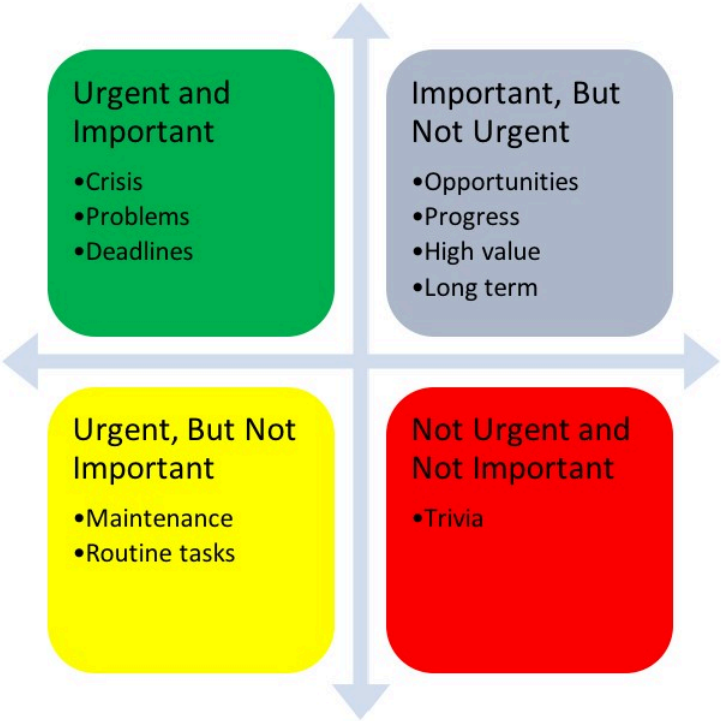
- EXAMPLE: You have a big test coming up and you really want to get a good grade, so studying for the test is an "extremely important" activity

URGENCY – does the task or activity require your immediate attention? Put another way, if something is urgent, then there is a significant negative result or consequence of not doing it right away. As with Importance, instead of just "Yes" or "No" about Urgency, give the activity a rating of some sort. A good scale might use values like extremely urgent," "somewhat urgent, "average urgency," "not very urgent," "not urgent at all."

- EXAMPLE: Your family is going on vacation tomorrow morning but you haven't packed your suitcase. Packing is extremely urgent! Do it before you go to bed tonight.
- EXAMPLE: Your bike gets a flat tire and you need to ride it to school tomorrow, so fixing the flat is extremely urgent.

- *TRICKY THING HERE! Some activities are urgent because you have to do them in response to an unexpected event, like having to fix your flat tire. But some activities are urgent because you waited too long to do it. You should have packed your suitcase earlier.*

After thinking about the IMPORTANCE and URGENCY of things you could do, you can use this "matrix" to make good decisions:



URGENT AND IMPORTANT

If something is both Urgent and Important, you have to do it right away. You should ask yourself if the task or activity is in this category because you waited too long to work on it — maybe a big test is coming up but you haven't studied much, or you have an assignment due soon that you haven't started. In that case, you should make sure that this doesn't happen again by putting "study for big test" and "work on assignment" into your schedule the next time you learn of an upcoming test or assignment.

But sometimes things just happen that you didn't anticipate. If your bike gets a flat tire and you ride your bike to school, fixing it is Urgent and Important. To make sure you have time for this category, you should try to leave some "empty" time in your schedule that you can use to do something fun if nothing bad happens.

If you have the misfortune of having more than one Urgent and Important things come up, you should first do the one that has the closest deadline. If you family is going on vacation tomorrow and you'll be going back to school the following week, first you pack your suitcase, and then you fix the flat on your bike.

The worst strategy if you have more than one Urgent and Important thing to do is to try to do all them at the same time, switching back and forth between them. You waste a lot of time doing that. Imagine trying to study for a science and

history test at the same time... you would be shuffling books and notes on your desk and not getting much focused studying done.

IMPORTANT BUT NOT URGENT

If something is Important but not Urgent, you are in luck because you can put it in your schedule with enough time to get it done so it doesn't become Urgent. These tasks and activities are the ones you should emphasize in your schedule because good things happen when you finish them and you can work on them without getting stressed out. Doing the assigned reading for a class, reviewing and studying, and getting regular exercise are examples of this category. Organizing the books on your bookshelf is a worthy goal so it is important, but it isn't urgent at all so maybe you should postpone it until school lets out for the summer.

A trick that master organizers use when scheduling tasks that are Important but not Urgent is to do them in the order of how much time they take. You start with the one that takes the least amount of time, and then do the one with second shortest completion time, and so on. That's the quickest way to have the satisfying feeling of crossing out a task on your schedule or otherwise marking it as done.

URGENT BUT NOT IMPORTANT

Tasks and activities that are Urgent but not Important often

are suggested by other people. If a friend calls and invites you do come to a meeting or movie (that you don't like) right then or in the near future, it is OK to say that you don't want to do it. Your smartphone might constantly be pinging away or putting icons on the screen to tell that you that a message has arrived. You don't need to check them right away just because they seem urgent. Most of them are not important.

NOT URGENT AND NOT IMPORTANT

If something is not Urgent and not Important, then you shouldn't do it. Your analysis is telling you that you don't see any value in doing it, so don't put it in your schedule. Don't waste hours watching TV or surfing the web. You would be better off leaving parts of your time as "free time" that you can use if unexpected ideas or opportunities come up.

37.

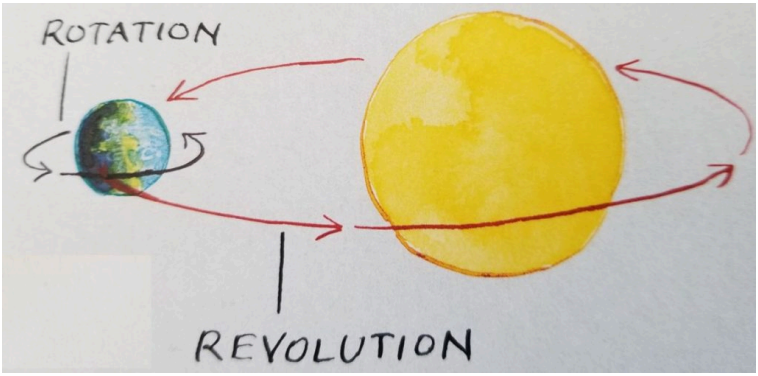
ORGANIZING WITH ASTRONOMY AND ITS NATURAL TIME UNITS

- If you were living 10,000 years ago, what astronomical and land-based events would you notice and pay attention to?
- How would making sense of these events enable you to organize your life with "natural" time units?
- What evidence do we have today of these ancient efforts of organizing?

Sunrise, Sunset, Sunrise = ONE DAY

We observe that the sun rises in the east, moves across the sky, and then sets in the west. After about the same amount of time passes, it rises again. It seems there is a regular cycle for the sun to be moving around the earth. We call this cycle a DAY.

But the perception that the sun moves around the earth is an illusion caused by the earth rotating on its axis once a day. Instead of the sun revolving around the earth, the earth revolves around the sun. The path the earth takes around the sun is called its ORBIT.

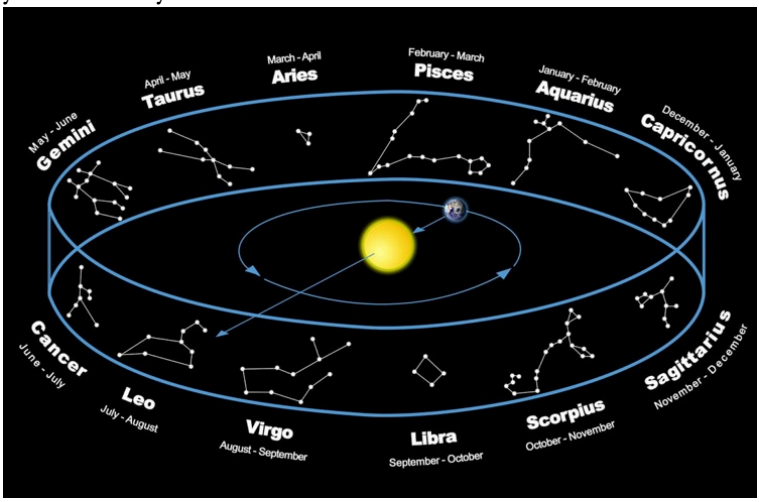


The Sun's Cycle Through the Stars = ONE YEAR

As the earth revolves around the sun, the sun seems to move against the background of stars This is another illusion, and because every 365 days the sun returns to the same place in the star background, this creates another natural of time that we call a YEAR. The stars that are "behind the sun" as it seems to move are organized into twelve constellations that we call the ZODIAC.

When someone asks you "what is your sign?" they are saying "where was the sun located against the star background on

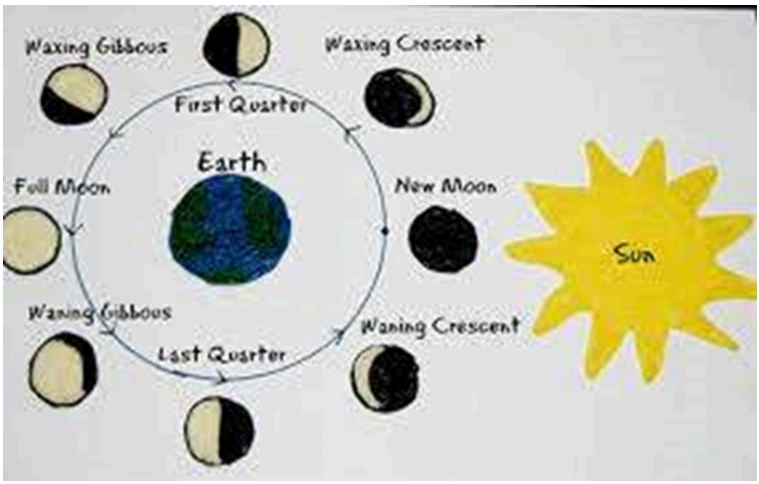
your birthday?”



The Moon’s Cycle = ONE MONTH

Like the sun, the moon rises and sets on a regular cycle, but each day it moves “backwards” a little and rises earlier and sets later each day. These observations make people believe that the moon moves around the earth.

Because the moon REVOLVES around the EARTH, we can only see the part of the moon that the SUN is shining on. So as the moon moves backwards it also changes its shape from a narrow crescent to a full circle and then back again to a narrow crescent. This cycle of the phases takes about 29 days. We call this cycle a MONTH (“moon-th”).


Waxing Gibbous
First Quarter
Waxing Crescent
Earth
Full Moon
New Moon
Sun
Waning Gibbous
Last Quarter
Waning Crescent

38.

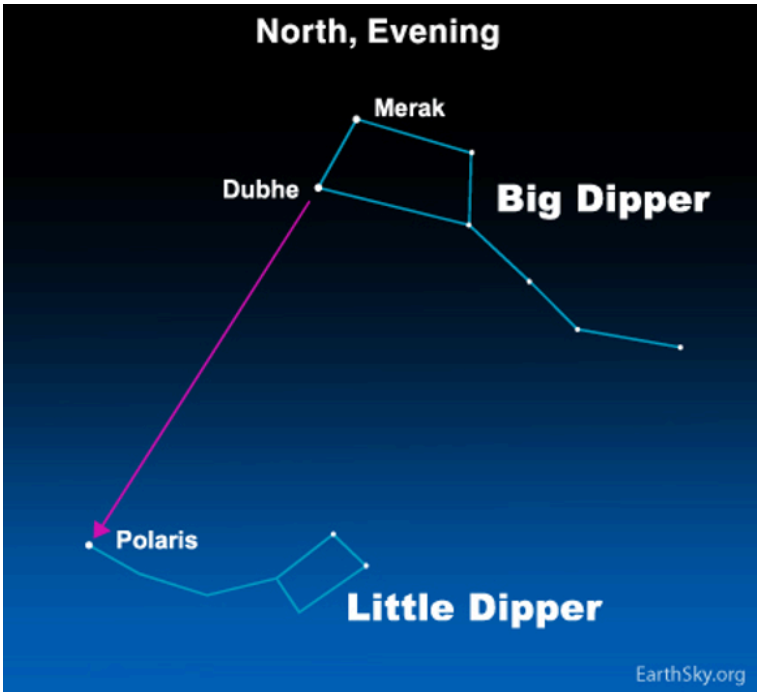
ACTIVITY - ORGANIZING WITH ASTRONOMY

For thousands of years people have organized their lives by observing the sun, moon, and stars. Today we have clocks, calendars, GPS navigation systems in cars and smart phones, and many other technologies that make it unnecessary for us to pay careful attention to astronomical events. But now that you have read a lot of this book, you are paying more attention to how things are organized. It might be fun and interesting to do some activities that will teach you some aspects of organizing with astronomy.

The North Star

In the Northern Hemisphere we are fortunate that the Earth rotates on its axis while "pointing" at a star that doesn't move. We can use this "North star" or "Pole star" called Polaris to find our direction and measure our latitude (how far north of the equator we are; if you don't remember what that means, go back to the chapter on "Organizing Places). Polaris isn't

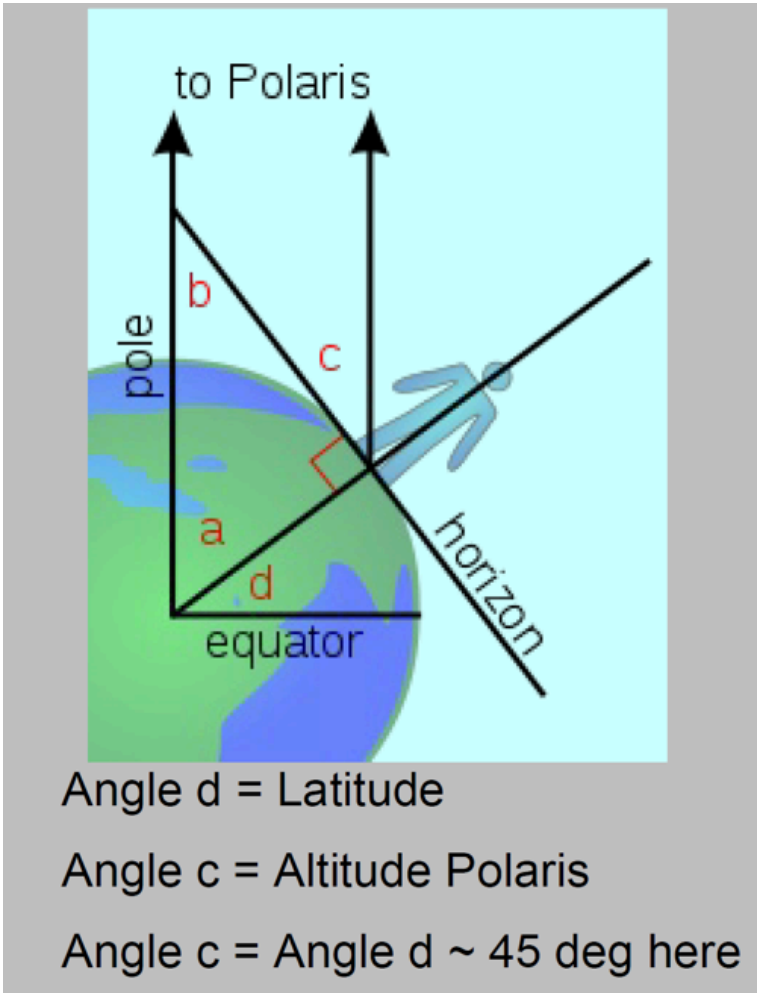
the brightest star but it is easy to find using the Big Dipper constellation because the two stars at the front of the dipper point to Polaris, which is the "end of the handle" of the Little Dipper constellation.



Here is a diagram showing how the Big Dipper "pointer stars" help you find Polaris. This diagram shows the stars as they appear at the end of April, when the Big Dipper is at its high point in the sky in the early evening, a good time for kids to look at stars. You can use a website called EarthSky to figure out where the Big Dipper will be at other times of the year.

A very useful fact about Polaris is that its height above the horizon is your latitude. Here's how that works:

- If you were at the North Pole, Polaris would be directly overhead
- If you were at the Equator, Polaris would be on the horizon
- So if you can see Polaris, your latitude is the angle between Polaris and the horizon



Most of the continental United States is between 25 and 45 degrees of latitude, which means you will find Polaris about halfway between the horizon and directly overhead, or a bit closer to the horizon if you live in a Southern state.

TRACKING THE RISING OR SETTING SUN

When you are looking at Polaris, you are facing "due north" and then you can figure out east (to your right) and west (to your left). You know that the Sun rises in the east and sets in the west, but using Polaris to find directions is much more accurate because the Sun's rising and setting points move a great deal during the year. The Sun rises directly east and sets directly west only on the first day of Spring and the first day of Fall — what we call the EQUINOXES (can you see "equal night" in that word?). But the rising and setting points move a lot because of the tilt of the Earth on its axis. This causes the length of the day to change on a year-long cycle and this affects many things... which is why we have the idea of SEASONS. In the Northern hemisphere, summer days are long and warm, and winter days are short and cold.

You have probably never noticed how much the rising and setting point of the Sun change throughout the year. So here's a fun activity to find out.

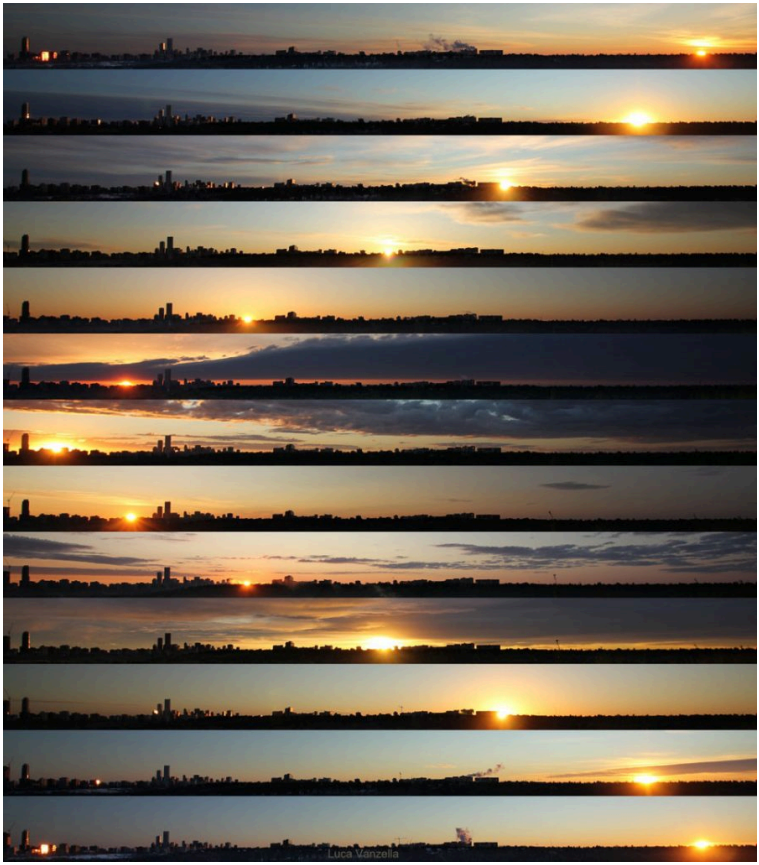
1. Find a place where you have an unobstructed view of sunrise or sunset. (The best place would be where you look out a window or glass door, so you won't be affected by the temperature).
2. Using an ERASEABLE marker (you don't want your parents to get mad), mark an X over the sunrise or sunset

point and write the date (example: 12/01/22).

3. Do this for at least two weeks. The longer you keep track of the sunrise or sunrise points, the bigger the change you'll see in them.

The amount of this change depends on your latitude; the further north of the equator you are, the more change you'll measure.

Here is an amazing photo by Luca Vanzella (used with his permission) that shows the annual change in the sunrise point where he lives in Northern Canada.


Luca Vanzella

PART V

PART 5: CONCEPTS AND METHODS FOR MASTER ORGANIZERS

If you've gotten this far in this book, you have learned many ideas and skills that will enable you organize anything. These skills apply to organizing tangible things like clothes and books, to organizing living things like plants, animals, and people, and to digital things like the documents on your computer and web pages. These skills even apply to organizing your time.

In this final part of the book, you'll learn some additional skills that will take you even further along the path to becoming a master organizer. Here is what you will learn in these final chapters:

- How the three questions you answer to organize any collection of resources — WHAT, WHY, and HOW — are interconnected. This means that how you answer

any one of them affects the answers to the other ones. This results in tradeoffs that change the costs and benefits for different users of the organizing system.

- How the question "Have you ever seen Santa?" illustrates the important decision you make to think of something as a specific or unique thing, or as one of many interchangeable things in a broader category. You make this decision all the time without thinking much about it. Do you say "I am in the school band" or "I am the first trombone in the school band?"

- Why the SCOPE of an organizing system, the number of different types of resources it contains, is more important than the SCOPE, the total number of resources being organized. You can make a hard organizing problem easier if you change the answer to the "Santa" question and treat many slightly different things as equivalent. This makes the SCOPE of the collection smaller. Do you treat all of your socks as interchangeable and just toss all of them in your sock drawer, or you you carefully sort them by color or purpose?

- How the Santa question about how broad a category is sometimes answered "by nature." For some types of things it just seems more natural to choose one category size over another. That's why you say "I am taking the dog for a walk" and not "I am taking the animal for a walk" even though a dog is an animal.

- How this idea of natural categories can be applied to the organization of places. You will see this in maps, where some borders between states or countries are naturally created by rivers, lakes, or mountains. But at other times place borders are distorted from these natural boundaries.

- How our visual system automatically organizes what we see to make things simpler. Our mind has a bias that makes us see organized patterns. This makes it easier for us to move around and interact with things, but it also enables camouflage and illusions.

39.

CONNECTING WHAT, WHY, AND HOW WHEN DESIGNING AN ORGANIZING SYSTEM

As you saw in previous lessons, you design or analyze an organizing system by answering three interconnected questions about WHAT, WHY and HOW. In this lesson we will dig a little deeper to teach you some more skills for answering these questions.

Answering the WHAT question – Defining the SCOPE of the Organizing System

You should always start with the "WHAT are you organizing" question. You might be given some collection of resources to organize, or you might be told to select some things to

create a collection, but in either case you need to decide if the collection of resources makes sense. You wouldn't create an organizing system that contains your Halloween candy and your school supplies (like notebooks, pens, paper) because there are no reasons for organizing both kinds of resources together.

On the other hand, even though utensils, dishes, and pots and pans are different types of resources, when you organize your kitchen you need to consider them as part of a single organizing system because they are used together when you prepare and eat food. Similarly, it makes sense to create an organizing system for your school work where you have a separate folder or notebook for each subject that contains all of the different things you do. And it then helps to create sections for reading notes, assignments, and other types of school work within each folder or notebook.

Another part of answering the WHAT question is deciding if you are just organizing the resources you start with, or whether you are going to accommodate additional resources if you collect more of them in the future. This sub-question asks you to decide about the lifetime or lifecycle of the organizing system. Your Halloween candy will be gone in a few weeks, but you will have clothes in your closet for years, and you'll be continually adding and getting rid of clothes the whole time. If you were organizing your books in your bedroom, you would probably want to get a bookcase that had some room for new books.

Answering the WHY question – Identifying the Reasons for the Organizing System

Once you've scoped the collection of resources you should answer the WHY question — what are the reasons for organizing them? When the resources you're organizing are tangible or physical things, there are some obvious reasons that always apply – you need to be able to store them efficiently and you need to be able to find them when you need to use them. You might have identified some other reasons when you were answering the WHAT question, but it is better to answer WHY as a separate question. And to do that, we need to break up WHY into a set of sub-questions.

The most important sub-question that helps you identify the WHY of an organizing system is "WHO are its users?" If you are the only user of the system you are designing, you just "ask yourself" about what you need to do with the resources and you can then answer the HOW question in ways that enable you to do those things. But if the system has many users, and especially if you aren't sure who all the users might be, it is much harder to design the organizing system because users might have different preferences and reasons about it.

For example, suppose you have a twin and you share a bedroom. Do you think you would always agree on how to organize your books, toys, or other things in the bedroom?

Maybe you have some favorite books and toys and you want to be always able to see them because they give you good memories. Even if your twin had the same reason in mind, they might have different favorites. But more likely your twin would have other reasons for organizing books and toys, like being able to quickly find any particular one.

Answering the HOW question – Applying the Organizing Principles to the System

By now you can see that WHAT and WHY are interconnected design questions, and now we'll see that HOW is also interconnected.

There are two very different ways of thinking about the HOW question. If we answer the WHAT question first, then WHY, we answer HOW by choosing organizing principles that arrange the resources in ways satisfy the WHY reasons. If you want to be able to quickly find a movie in a collection of DVDs, arranging them with their titles in alphabetical order is an effective principle. If you have a large collection of stuffed animals, organizing them in categories of similar animals like "farm animals," "zoo animals," and "water creatures" is a good organizing principle.

A second way of using the HOW question to design an organizing system goes in the other direction. Some types of

resources have properties or features that almost scream "use these features to organize me." Think about Lego blocks... it is almost impossible not to consider using their color, size, and shape to organize them. Once you listen to the resources in that way, it forces the answers to the WHY question to be "so I can select resources that have these properties."

There is another way in which the properties or features of resources influence how we organize them. Sometimes when you are collecting or selecting the resources you need to organize, you find some information about them that suggests an organizing principle. For example, when a digital photo gets taken, the time and location is attached to it. You don't see this information when you view a photo, but photo apps use it to sort your time and can easily sort them by location.

Most of the time, however, there are many choices about the reasons for organizing resources and which resource properties can be used to organize them. Think about the kids in your classroom... how many different reasons are there for organizing them and how many different ways of describing each kid could be used to do that?

When a group of people need to work together on a project or otherwise work as a team, there may be similar disagreements about the WHY and HOW of the organizing system. Some people want to practice their current skills and some people want to learn new ones. Some people think it is best to do the hard tasks first, while other people like to do easy tasks first to show some progress.

Tradeoffs in Answering the Design Questions

An example will help you better understand how the answers to the three design questions are interconnected. Here are two pictures of the recycling bins that are the first steps in the organizing system for recycling materials of various types. The bin on the left requires people to sort things to be recycled into six categories. The bin on the right uses only one category for recycling. Which organizing system is easier to use? Which system will result in more recycling?

We might say that the WHY answer for the organizing system with six categories is that it wants to maximize the amount of recycling, but to do that it has to use more input categories – the answer to HOW – so people have to think harder making sorting decisions than people who use just one bin for all recycling. But if you consider the people who unpack the Trash and Recycle bins as another category of

users, then you realize that the sorting decisions don't go away, they just get postponed for the recycling workers to do them.

An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=423#h5p-9

40.

RESOURCE ABSTRACTION - THE "SANTA" QUESTION

If you say “I play in the school band” or “I am on the football team” you are treating yourself as one of many equivalent members of those groups. Or put another way, in that situation the differences in instruments a positions aren’t important. But if you say “I play the trombone” or “I play on offense” you are narrowing the categories, and if you say “I’m the first trombone in the band” or “I am the starting quarterback” you are unique — the only member of your category.

In this chapter you will learn about how to decide when you could think of something as unique or as one of many

equivalent members of a big category – or anywhere in between. We'll use an example that every kid can understand.

Have you ever seen Santa?

Many kids visit Santa at the local shopping mall during the Christmas holiday season. Why? Because any kid who believes that Santa brings them Christmas presents wants to tell Santa what presents they want. But there are over 100,000 malls in the United States, and most of the large ones have a Santa to visit during the holiday season. This means that millions of kids can say "I saw Santa at the mall." They didn't see the SAME Santa, but the specific Santa that a particular kid sees doesn't change the fact that the kid can say "***I saw Santa***."

Saying "*I saw Santa*" blurs the distinction between individual things (like a specific Santa at a particular mall) and a category of things that we treat as equivalent (the "mall Santa" category). It turns out that we do this all the time, but to be a master organizer you need to understand when it matters and when it doesn't.

If your bike gets a flat tire, you need a tool like a wrench to take the wheel off so you can fix or replace the inner tube. If someone says "***you can get THAT at the Home Depot,***" when you go to the store there will be a box of wrenches that look more or less the same, and you can buy any one of them and use it to take off the tire. So "THAT" means "any of the

members of the wrench category, all of which are equivalent for the purpose you need."

But if you're going to visit the New York City area, someone might say "***Have you ever seen the Statue of Liberty? You can see THAT when you go to New York.***" In this case "THAT" refers to a specific and unique resource, the Statue of Liberty. If you don't get to see the actual statue, a "tourist version" that you can buy in a gift shop doesn't make up for that. The Statue of Liberty is a unique resource that has no equivalents, or put another way, it is in a category that only has one member.

Answering the "Santa Question" —- Choosing the Level of "Resource Abstraction"

Many "things" like wrenches that are intentionally created or manufactured are more or less identical, so it makes sense

to put them in a broad or abstract category that treats all of them as equivalent — they are the **SAME TYPE OF THING** even though we know that they are not the **SAME THING.** But living things like people and animals are almost never identical (clones and twins are the exceptions that prove the rule) and the decision about how abstractly to think of them is more difficult. This decision depends on the properties or characteristics that we consider when we examine any instance, and the ones we consider depend on the situation we're in.

Santa for Songs

If you say ***"That's my favorite song"*** you are doing for music the same thing as when someone says ***"I saw Santa"*** because you are not being precise about the level of abstraction about the song. Some music and songs have been recorded many times by different performers or with different arrangements of musical instruments.

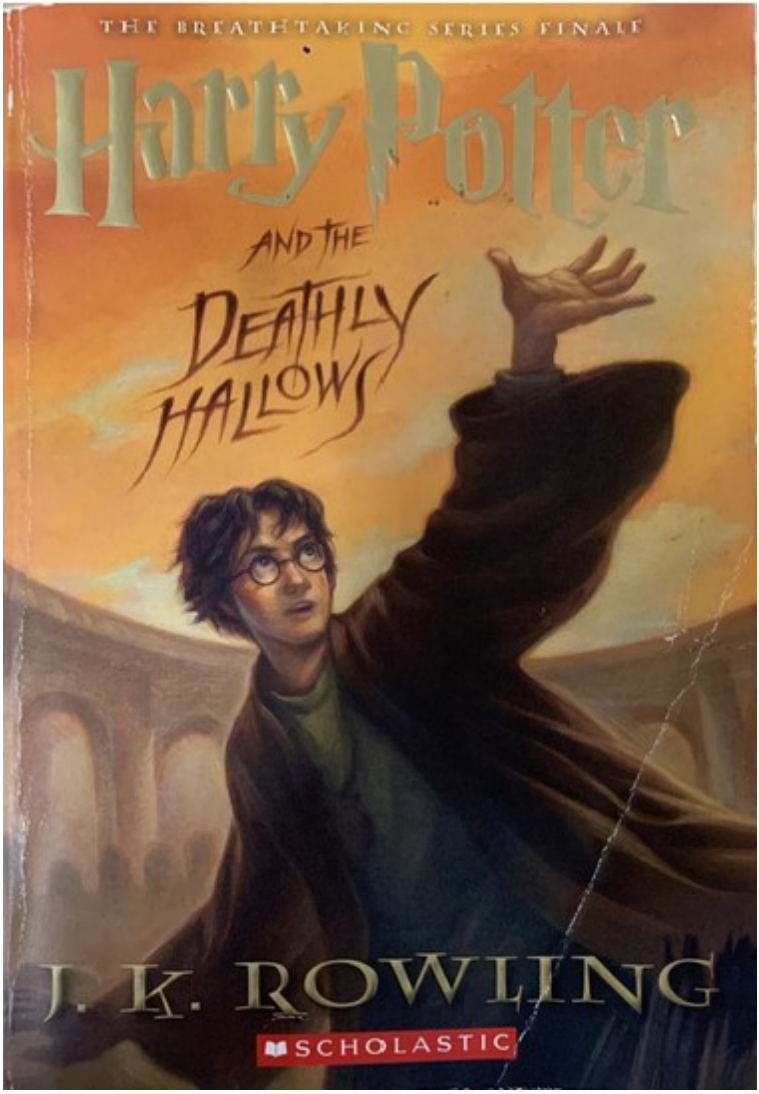
- Are all these different recordings of "the same song" still the same song?
- Is one of the recordings (maybe the original one?) the best example of the song that we should treat as more special or important?

    - Remember the question about what bird is the most typical of the bird category?
- But sometimes a "cover" or later recording of a song is much more popular than the original one. So maybe we should reject the idea that some specific recording or performance is the best or most typical, and treat any song as a large category with many members.

41.

ACTIVITY - LEVEL OF ABSTRACTION

What's your favorite Harry Potter story?



How you answer this question depends on how

abstractly you think of the category of "Harry Potter story." Here are some possible answers:

1. "My grandmother gave me Deathly Hallows as a birthday present and because it is my favorite Harry Potter story, I re-read the book a lot. I keep it on the top of my bookcase"
2. "Our reading teacher suggested to my class that we all read Deathly Hallows over the summer and I really liked it, so it is my favorite Harry Potter story."
3. "My favorite Harry Potter story is Deathly Hallows. I saw it at the movies with my friends."

What's is the level of abstraction of these answers? What properties of "Harry Potter story" are considered or NOT considered by each answer?

Before you look at the explanation below, now that you have been studying the difference between the SAME THING and the SAME TYPE OF THING, think back to the activity where you analyzed different types of libraries. A seed library

isn't exactly like a library that lends books because the seeds that are returned are the children of the seeds that were borrowed. But since the returned seeds are the same type as the ones that were borrowed, a seed library functions like a book library.

The more you practice your organizing skills, the more often you will see these "Santa" or "Harry Potter" questions come up, and you'll have to decide about the level of abstraction of the resources you organize.

Answer #1 is the narrowest way to define the "Harry Potter story" category. The category has only one member, the specific book that you got as a present from your grandmother. Answer #2 treats all of the copies of Deathly Hallows that students read as equivalent; perhaps the students all borrowed the book from the school library, which has many copies of it because is it very popular. Answer #3 is the most abstract definition of "Harry Potter story" because it doesn't consider the format of the story and would consider book and movie versions as members of the same

category.

Does the level of abstraction in how you think about Harry Potter matter? Suppose you have an assignment to write a report about your favorite Harry Potter book? Do you think your teacher would like it if they found out that you didn't read a book but wrote about a movie you watched?

In the next two chapters you will learn some new concepts and skills that will help you decide about the level of abstraction of categories you create.

42.

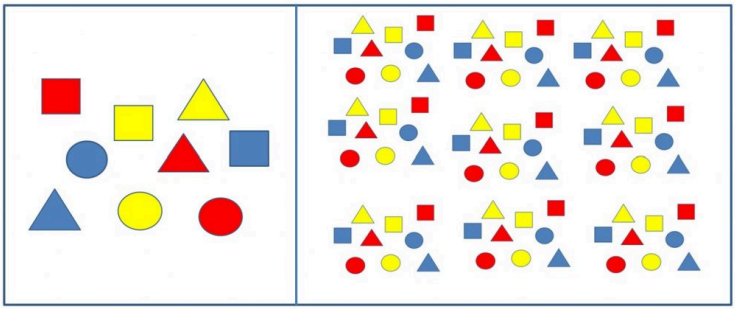
COLLECTION SCOPE AND SCALE

You know from your own experience that some collections of resources are more difficult to organize than others. This chapter introduces two new concepts, SCOPE and SCALE, that explain these difficulties. You can use these concepts to analyze organizing tasks so you can better estimate how much time it will take to do them. *And if you are clever, you can make an organizing task easier using these ideas!*

- SCOPE is the variety of resources you need to organize.
- SCALE is the number of resources you need to organize.

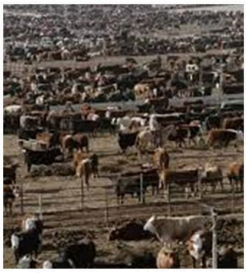
Look at the small collection of nine items in the left box here. You can easily see that

they come in three colors and three shapes, so we would say that the collection has small scope and small scale. The color and shape properties are the obvious choices for organizing them. Now look at the much larger collection of items in the right box. There are nine times as many items in right box than in the left box, but they still only come in the same three colors and three shapes as the items in the small collection. We would say that the second collection has a larger scale, but it has the same small scope as the first collection. Even though the second collection is larger, it isn't harder to organize than the first one. ***What is it that makes an organizing problem hard?***



SMALL SCOPE AND SMALL SCALE ON LEFT. SMALL SCOPE, LARGER SCALE ON RIGHT.

The picture on the left is of the Harris Cattle Ranch in California. It has over 100,000 cattle at any one time, but it has only 400 employees, about one employee for every 250 cattle. On the right is a map of the San Francisco Zoo. It has about 2000 animals of 250 species, and it has about 200 employees, about one employee for every 10 animals. Why is there such a big difference in the ratio of animals to employees at these two places?



SMALL SCOPE AND LARGE SCALE ON LEFT. LARGE SCOPE, SMALLER SCALE ON RIGHT.

You can answer this question about the ratio of animals to employees using the concepts of scope and scale. The Harris Cattle Ranch has a very small scope because it only has one type of animal. The scale is very large, but because all the animals are treated as equivalent (remember the "Santa" question), a single employee can manage the required interactions with a lot of animals. No one is ever going to search for a specific cow in a herd that has 100,000 of them.

In contrast, the zoo has a much smaller scale in terms of the overall number of animals, but because there are so many different species, employees need to specialize. Just think how different penguins, monkeys, and elephants are in their habitats, diets, and medical treatments! Furthermore, some of the animals have been in the zoo for many years and are treated as "celebrity animals" and identified by name. You can buy a stuffed animal version of the celebrity animal in the zoo gift shop to take home.

But you have to remember the fundamental secret of organizing.... that WHY you organize and HOW you organize are interconnected decisions. At the Harris Cattle Ranch, the ratio of cattle to employees can be very big because the WHY is simple — the cattle just need to be fed so they grow, so they can be kept in big feedlots and not organized too much.

Make sure you understand what makes the Harris Cattle Ranch easy to organize. It isn't because cattle are always easy to organize. You can imagine a "farm petting zoo" with just a few cattle there, but they might be treated as individual cows with names and separate areas for interacting with kids. The complexity of the organizing system depends on whether you treat all the cattle as the same type of thing or as individuals.

The big idea of this chapter is that the SCOPE of a collection — how many types of things to be organized — is much more important than the SCALE — the number of things to be organized. You can make a hard organizing problem easier if you change the answer to the "Santa" question and treat many slightly different things as equivalent. This makes the SCOPE of the collection smaller.

In the next chapter you will do some activities that will ensure that you understand these concepts of SCOPE and SCALE.

43.

ACTIVITY - SCOPE AND SCALE

All of these things could be thought of as "containers for liquids." There are several copies of the same type of container, and the collection isn't very big overall. So scope is small and scale isn't too big. Would it be difficult to organize this collection in a useful way?

You probably feel that organizing this collection would be

easy, but why do you feel this way? It comes back to the fundamental secret of organizing.... that WHY you organize and HOW you organize are interconnected decisions. Why would you organize a collection of containers for liquids like these? The best answer would be something like "so it is easy to select an appropriate container for different types of liquids." Given that reason, the most appropriate properties would be something like these:

- *Material that the container is made of*
- *The color of the container*
- *Whether or not the container has handles*

If you organize the containers using these three properties, it will be easy to select the appropriate container. Mission Accomplished!

Now look at this set of "containers for liquids." There are about the same numbers of items in this collection as in the previous

one, but the items are very different from each other, with many distinctive properties that are not shared with other items. This means that scope is very large compared to the first collection. Would this organizing task be difficult?

You probably feel a little overwhelmed by the variety of items here. You could try to organize them using the material, color, and handle properties that you saw in the other collection of "containers for liquids" but many more properties suggest themselves in the second collection to organize the items. What about:

- *Does the container have a brand name on it*
- *Could it be used for measuring*

- *Is it handmade*
- *Does it have a decorative handle*
- *Does it have more than one handle*
- *Does the handle look like an animal*
- AND YOU COULD PROBABLY THINK OF EVEN MORE!

Remember the connection between WHY and HOW in organizing! The more ways in which you want to select one of these items, the more properties you will need to use to organize them, and you'll have a very complex taxonomy to design and use.

But you might also remember the "Santa" question. That question asks you to decide whether to think of something as a unique resource or as a member of a bigger category in which all of the resources are considered to be equivalent. They aren't identical. but we can decide to ignore the properties that would distinguish them. So you could make this organizing problem very easy by putting all of these items in a "containers for liquids" cabinet! You would have to search the cabinet if you were looking for a specific item, but that would be easier than designing and maintaining a very complex organizing system.

ACTIVITY: Find the "cattle ranches" and "zoos" in your house.

When you learned about how SCOPE and SCALE affect the design of an organizing system, we compared a cattle ranch with a zoo. The cattle ranch has small SCOPE and big SCALE because it has many instances of the same type of thing. The zoo has big SCOPE and not so big SCALE because it has lots of different types of things but not many of each type.

1. Analyze the organizing systems in the kitchen. What kinds of things are organized like the cattle ranch (where there are many instances of the same type of thing), and which kinds of things are organized like the zoo (where there are many types of things, but not many of each type)?
2. Do the same thing for your clothes. What are the cattle, and what is the zoo?
3. Could you turn the zoo into a cattle ranch to make it easier to organize by treating things as equivalent even though they

have some different properties?

ANSWERS (don't look until you've done the activities):

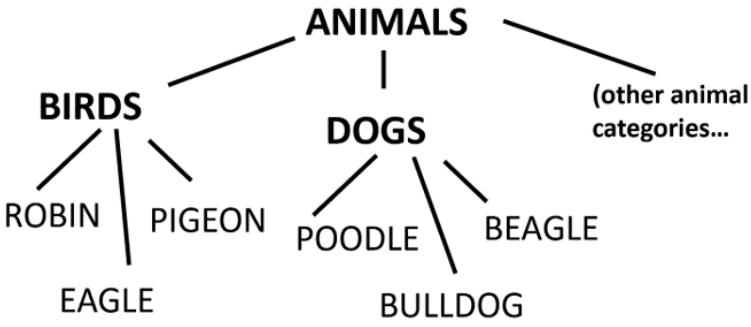
1. The drawer for utensils is like a cattle ranch — there are many forks, knives, and spoons that are treated as equivalent; you can use any one of them. The pantry where you keep spices and condiments is like a zoo — there are lots of different things, and probably only one of each type of thing
2. Most people have a bunch of underwear and t-shirts that they treat as equivalent and are kept in the same drawer or on the same shelf — they are cattle ranches. You just grab one of each in the morning when you get dressed. But the clothes you wear when you dress up for a special event are just that – special. So you manage those clothes like a zoo.
3. Some people sort their socks very carefully, separating them by color, by material (cotton, wool, nylon, etc.), and by activity — they have a zoo for socks. But if you don't want to work so

hard at organizing socks, you can just toss them unsorted in a sock drawer and then search for two that match when you need to wear socks — you turned your sock zoo into a sock cattle ranch.

44.

"NATURAL" CATEGORIES AND "CARVING NATURE AT THE JOINTS"

We have seen that categories can be organized in a hierarchy or taxonomy like this one, with broad and abstract categories being sub-divided over and over to create narrower ones.



In this lesson you will learn another important idea about organizing ... that some organizing systems seem more natural than others in the way in they divide things into categories.

Let's assume you have a pet bulldog like the one in the photo and his name is DUKE. He would show up in the

hierarchy along with other individual bulldogs with a line connecting him to the BULLDOG category.

Here are four different ways you could describe the animal in the photo. Every one of these descriptions is accurate, but they differ in the level of abstraction of the described category.

- This is an ANIMAL
- This is a DOG
- This is a BULLDOG
- This is DUKE

When you read those descriptions, you might have thought that some levels of abstraction seem more natural than others. Imagine that you are going to take Duke for a walk. You would probably say "***I am taking the dog for a walk***" or "***I am taking Duke for a walk***." It sounds a little odd to say "***I***

am taking the animal for a walk" or "***I am taking the bulldog for a walk***."

There's a good reason for this feeling that some abstraction levels of categories are more natural than others. The members of the ANIMAL category differ a great deal. BIRDS and DOGS have almost no properties in common. On the other hand, while there are many types of BIRDS and DOGS, all of the types of BIRDS have a lot in common – they have feathers and beaks, and almost all of them fly. This cluster of properties distinguishes birds from other categories of animals. Likewise, all DOGS have many shared properties that distinguish them as a category.

Put another way, a system of categories seems natural when all of the members of a category have a lot of shared properties with each other, but few or no properties with members of other categories. So you probably think of DUKE as a dog a lot more often than you think of him as a bulldog.

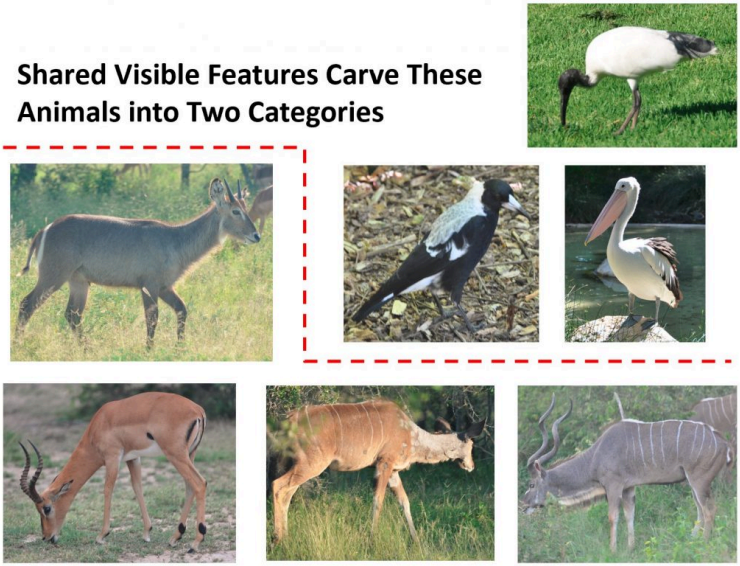
This idea that clusters of properties that go together create category boundaries is a very old one. Over 2000 years ago the philosopher Plato argued that species are distinguished by "carving nature at its joints" – where the differences between things are the largest or most apparent. Let's stop and think about this and see if you can carve up some animal categories.

STOP AND THINK: SORT THESE ANIMALS INTO CATEGORIES BASED ON THEIR SHARED FEATURES

Don't go on to the next lesson until you have finished "category carving." It is up to you to decide how many categories to create.

45.

ACTIVITY FOR "CARVING NATURE AT ITS JOINTS"



The two clusters of features seem to be:

Category 1:

–Feathers

–Toothless beaks

–Claws/feet that grasp

Category 2:

–Graze on grass
–Hoofed feet
–Have horns

"Carving at the joints" doesn't give us names for the categories, but it creates the boundaries between them.

Anytime you create an organizing system for some collection, unless you are the only person who will ever use it, you should ask yourself if you are "carving at the joints." Categories created that way should be easier for other people to understand and use.

46.

APPLYING "CARVING NATURE AT ITS JOINTS" TO PLACES

In the previous two chapters you learned about the philosopher Plato's idea that natural categories could be discovered by "carving nature at its joints" — by finding patterns of shared features. In a chapter on "Organizing Places" you learned how the sizes, borders, and shapes of countries and cities can be influenced by geographical features like mountains, rivers, and deserts. In this chapter we can combine these two ideas and analyze how places are organized to see if they were "carved at the joints" in natural ways.

How Are Time Zones Organized?

A day is 24 hours long, and there are 360 degrees of arc in the longitude system that goes around the world. When time zones were established in 1884, they were based on this natural or strict mathematical approach, so each of the 24 time zones were spaced 15 degrees of longitude apart. On this type of map, called a Mercator projection, longitude lines are parallel.

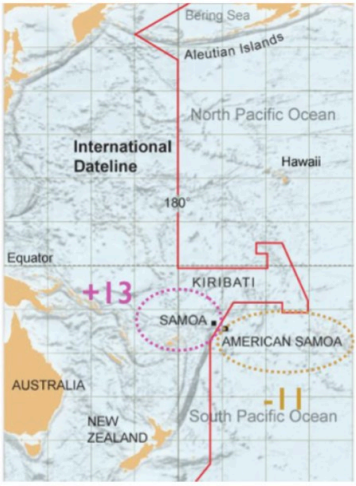
But if you look closely at the time zone map, you see that many of today's time zone borders do not line up with longitude lines. Some of the time zone borders are crazy zig-zags or distorted in other ways. To understand how and why, let's first learn how to analyze the time zone map.

- First, find the time zone where you live. It has a number associated with it For example, if you live in Chicago, the number is "-6."

- That number is the number of hours that your time is ahead of or behind the time in Greenwich, England, which is located on the Prime Meridian of 0 degrees longitude
- The time there is called UTC ("Coordinated Universal Time") or GMT ("Greenwich Mean Time"), and all the clocks and time around the world are regulated by it

China is the big yellow blob on the right side of the time zone map. From the easternmost point in China just north of Tokyo Japan to its westernmost point just north of New Delhi India is almost 4000 miles, much greater than the distance between the east and west coasts of the United States. But there are 4 time zones in that part of the US, and China only has 1 time zone. If China time zones were "carved at the joints" in natural ways, it would have 5 time zones.

The Chinese leaders who decided that China should have just one time zone thought that it would unify the country and give people more shared culture and lifestyle. But it means that people in Western China are in the dark until almost noon in the winter.



The time zones in the western Pacific Ocean are also not "carved at the joints." The craziest example concerns Samoa and American Samoa, two islands that are about 100 miles apart. From the natural perspective of longitude, they would both be in the "UTC -11" zone. But because Samoa does a lot of trade and tourism with New Zealand, in 2011 it changed the time zone line to zig-zag around it so it could be on "UTC +13" time. So now Samoa is one day ahead of American Samoa and is the same day as New Zealand.

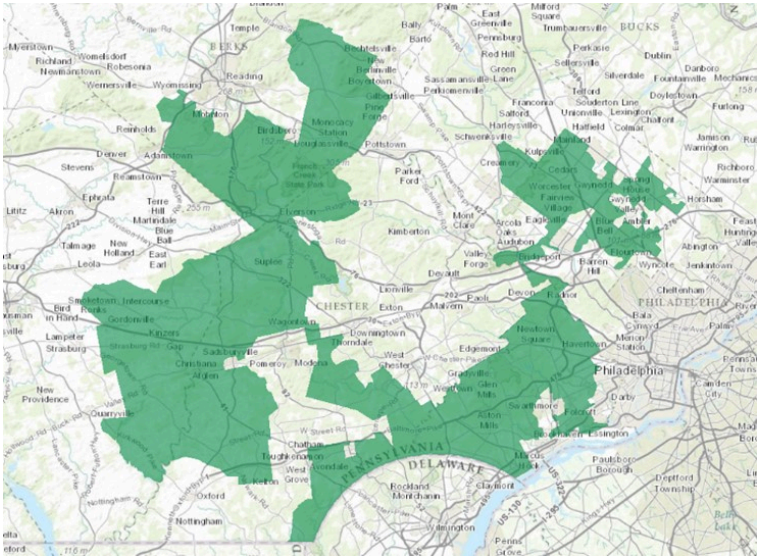
State Borders in the US

The shapes and borders of the states in the US are also interesting to analyze using the "carving nature at the joints" idea. In the map here you can see that some of the borders between these "Middle Atlantic" states are "wiggly" because they are naturally determined by rivers, mountains, or bodies of water like the Chesapeake and Delaware Bays. But other borders are straight lines, most notably the Mason-Dixon line,

named after the two surveyors who specified the border to end disputes between the American colonies just before the Revolutionary War.

Gerrymandering

A very important example of not carving at the joints to create un-natural borders is called Gerrymandering, creating a voting advantage for a political party or group by manipulating the boundaries of voting districts. It was named after a Massachusetts governor named "Gerry" who helped create a district that looked like a salamander. The map here shows the 7th congressional district in Pennsylvania. It has part of five counties and cuts through many cities. This highly-gerrymandered district doesn't look like a salamander; it looks like a dog kicking a rabbit in the back!



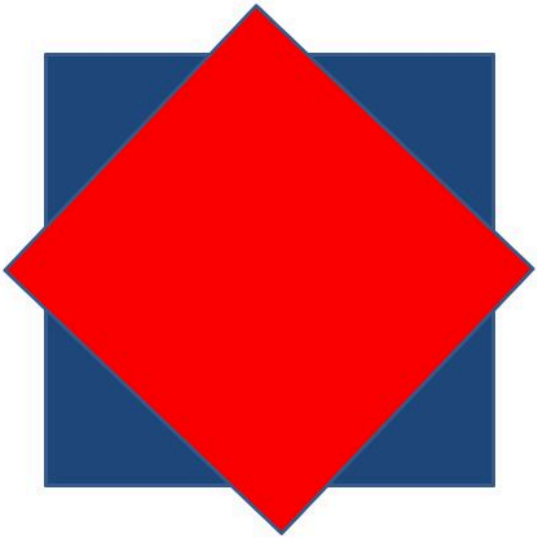
An interactive H5P element has been excluded from this version of the text. You can view it online here:
https://berkeley.pressbooks.pub/organizing4kids/?p=584#h5p-37

47.

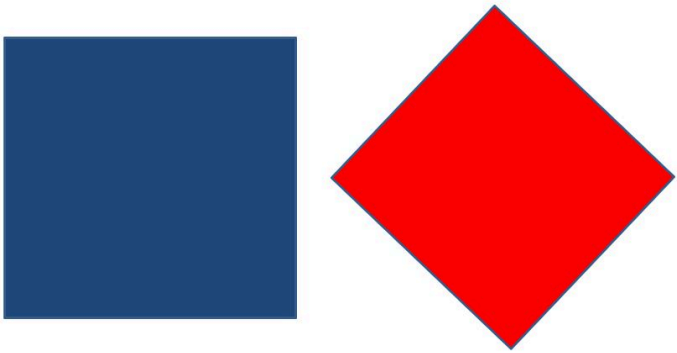
AUTOMATIC ORGANIZING - THE GESTALT PRINCIPLES

Our visual systems "carve" the visible world into objects in an automatic way that we don't think about – – it just happens. Psychologists have studied how these mechanisms work "normally" but also how they can create ambiguity or illusions.

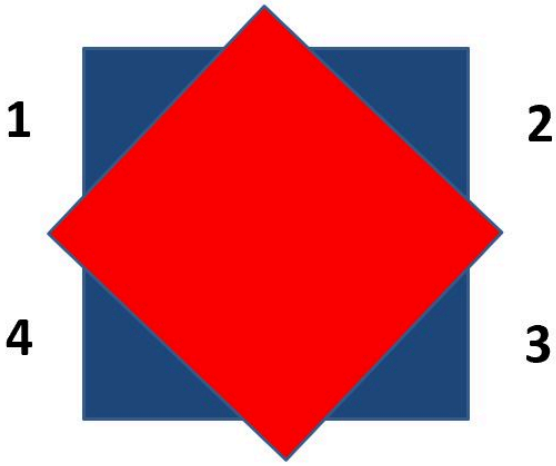
What do you see?



Did you see a red square in front of a blue square?



Or did you see a red square surrounded by four small blue triangles?

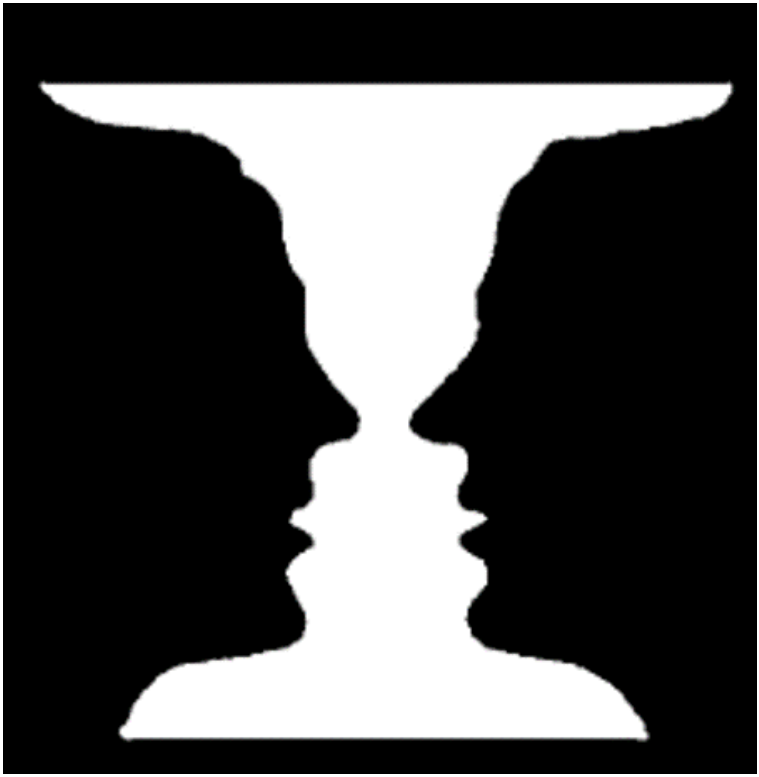


What caused you to see it the way you did? About a hundred years ago, some German scientists who studied how our visual perception works proposed a set of "Gestalt" principles, a word that means that we see things as a "whole" rather than as a set of parts. These principles capture the idea that our minds have a bias toward simple explanations, and it is simpler to see two overlapping squares than to see the small blue squares surrounding the red square. (You can measure "simpler" here by counting the number of words it takes to describe the two interpretations).

FIGURE AND GROUND

The first principle proposed by the perception scientists is that we automatically organize some part(s) of the visual field as in the front – the FIGURE – and other parts as in the back – the GROUND. When the visual information is ambiguous, this can result in two alternating interpretations.

What do you see here?



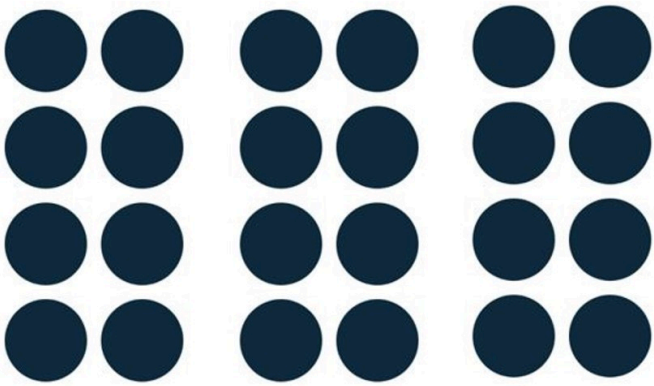
This famous drawing is called the FACE-VASE ILLUSION because people either see two faces or a single vase. The brain can only make sense of the world in one way at any point in time – we see the face or the vase, but not both. Flipping between the face and vase interpretations involves changing which part of the image is "figure" and which is "ground."

What do you see here?

In this picture because there are many black and white regions it hard to see some of them as the FIGURE and some of them as the GROUND. But if you stare at the right side of the picture and try to see a Dalmatian dog (with black spots on its body) sniffing at the ground, it will suddenly pop into your mind. And then you will always see the dog when you see this picture.

PROXIMITY

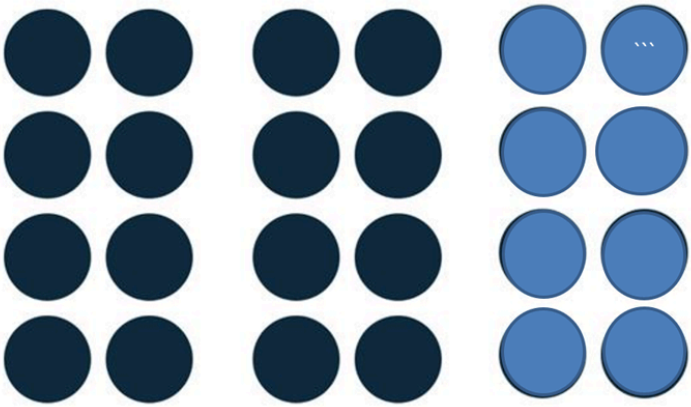
What do you see here?



The Gestalt principle of PROXIMITY says that objects close to each other, especially when they are aligned, are perceived as belonging together. So here the most likely perception is that you see three groups of dark dots, each of which consists of two columns of three dots.

SIMILARITY

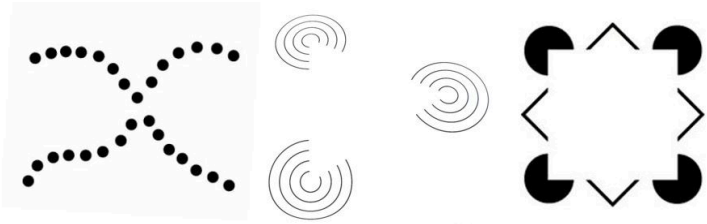
What do you see here?



The Gestalt principle of SIMILARITY says that our visual system sees things that look similar as being in the same group. This means that if we change the color of some of the dots, the similarity principle makes us see them as a group. So now there are two groups of dots, the black ones on the left and the blue ones on the right.

CONTINUITY

What do you see here?



In the pattern on the left, you probably perceive two lines of dots that cross over. In the middle pattern, you probably perceive a border-less white triangle that is on top of three sets of four concentric circles. In the pattern on the right, you probably perceived a border-less white square on top of another white square with black borders, and both of the white squares touch four small black circles.

What's happening here? The CONTINUITY principle says that aligned objects are perceived as belonging together, and are perceived as a continuous whole when that perception is a simpler interpretation – so the SIMPLICITY principle is also influencing what you see.

CLOSURE

What do you see here?

The Gestalt principle of CLOSURE says that things that could be perceived either as open, incomplete, or unusual forms are more naturally perceived as closed, complete, or just

simpler. That's why you see the middle figure – a collection of black and white shapes – as the panda bear that is the symbol for the World Wildlife Fund.

WHY DOES THIS MATTER?

Because the Gestalt principles are a shorthand way to describe "automatic organizing," if we use these principles in visual designs we can cause people to interpret them in predictable ways. Sometimes this will make it easy for people to do something they want to do. For example, if a supermarket uses the principles of PROXIMITY, SIMILARITY, and CONTINUITY to arrange the peppers, it is very easy to select a pepper by its color.

But at other times, Gestalt principles of visual perception can be used to trick people into not seeing things or seeing things in ways that are illusions rather than real. You'll learn how this works in the next lesson.

48.

AUTOMATIC ORGANIZING - CAMOUFLAGE AND ILLUSIONS

CAMOUFLAGE techniques use some combination of colors, texture, lighting and shading, often designed to exploit Gestalt principles of perception, to make things hard to see or to cause them to perceived as something else. Camouflage is very often used by soldiers or hunters so they cannot be seen.

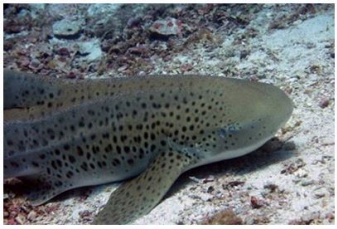
ANIMAL CAMOUFLAGE

Being able to hide from hunters or predators is obviously a good thing for animals, so it isn't surprising that many animals have evolved to be hard to see in their usual habits.

Some animals have the ability to adapt their visual appearance to match their backgrounds. It should be obvious why the insect called a "walking stick" was given that name.

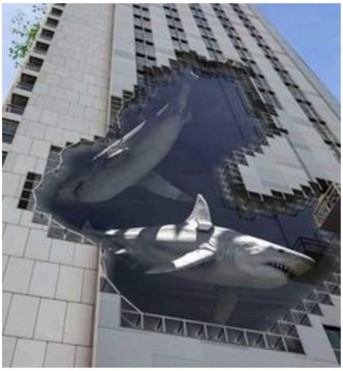
Camouflage is very common in animals that live underwater. Here are a spotted ray, flounder, cuttlefish, and leopard shark that are pretty hard to see against the ocean bottom.



Illusions and "tricks of the eye"

Painters and designers often use Gestalt principles and other techniques to get people to see three dimensions instead of two and to otherwise create "tricks of the eye" (this is the English translation of the French "Trompe l'oeil" – (say "TROM PULL LOO-EE") – what these illusions are more often called). Here are some interesting ones:



These techniques have a long tradition in art or architecture. On the left below is a 15th century painted ceiling by the Italian painter Mantegna that makes you see an open dome in the Mantua Palace even though it is painted on a flat ceiling. On the right is a 1933 painting by Rene Magritte – is it a painting, an open window, or both?

The artist says it is both at the same time: "In front of a window seen from inside a room, I placed a painting representing exactly that portion of the landscape covered by the painting. Thus, the tree in the picture hid the tree behind it, outside the room. For the spectator, it was both inside the

room within the painting and outside in the real landscape."

49.

ACTIVITY - PAREIDOLIA

One of the interesting and funny consequences of "automatic organizing" in human perception is that we have a tendency to see shapes, objects, or face that aren't really there but which appear to be. This tendency to impose meaning on random visual patterns is called PAREIODOLIA. Here are some photos of things in a typical house where many people see faces.

See if you can discover faces like this in your house,

neighborhood, or school. Take a picture or describe the objects that you interpreted as a face.

50.

THIS IS NOT THE END

You've made it to the end of the book, but it is the beginning of the rest of your life as a MASTER ORGANIZER! Just think of how much you've learned:

- You know how to analyze any organizing problem and by answering the WHAT, WHY, and HOW

questions you can design an organizing system for it.

- You know how to "think like an architect" and design the organizing system first, and then you build it.

- You know how to design different kinds of categories that use resource properties in ways that fit best with what you're organizing.

- You know that the organizing systems for different types of things — physical objects, animals, people, libraries, documents on the web — follow predictable patterns that you can use and reuse.

- You know how to apply all these ideas to organizing your time in a schedule so you get things done and be on time.

  - You know about the "Santa Question" in organizing — that you can think of something as being unique, or as being a member of a bigger category.

  - You know about scope and scale — Cattle Ranches vs. Zoos — and can use this contrast to make some organizing problems easier by treating many types of things as one kind of thing (using the "Santa Claus" lesson).

- You learned that you can use the "automatic organizing" of our visual systems to design an organizing system, but you know to be careful because sometimes your eyes can trick you with camouflage and illusions.

When you started reading this book, you might not have had very good organizing skills, so your bedroom might have looked like the messy one in the first chapter:

But now that you are a master organizer, your bedroom might look like this one. The kid whose room was the messy one also read this book!

So making it to the end of the book is just the beginning. Your new organizing skills will help you do better in school, get in less trouble with your parents at home, and have more fun and satisfaction in everything you do. Being a master organizer means you have control of your life and time in ways that you didn't before. Enjoy it!

ACKNOWLEDGEMENTS

This book project began with an unexpected invitation from Kevin Weiss to teach concepts from my Discipline of Organizing book (written for college students and practicing professionals) to 5th and 6th graders in the East Windsor (New Jersey) school district. I was skeptical at first… but it was during the Covid pandemic and we were all stuck at home, so why not?

So I taught a Zoom course with 12 30-minute sessions in the Spring of 2021, which went much better than I had imagined it would. I especially enjoyed trying to think like I was 10-12 years old — what kinds of examples and activities would make sense?

I was toying with the idea of turning my presentation slides into a book and had written a handful of chapters, so I did a webinar "Teaching Children About Organizing" hosted by my longtime friend Scott Abel in December 2021. The response was overwhelmingly positive, so there was no turning back.

I then turned to my granddaughters Lali and Mirabelle, who were perfectly suited as informants because they were slightly older and slightly younger than the target audience. Watching and interviewing Mirabelle as she sorted her Halloween collection became Chapter 3, a cornerstone of the

book. Her "before and after" bedroom is on the book cover. Lali very patiently explained how she used locker, desk, notebook and other organizing resources for school. She also read most of the finished draft to help me ensure that the examples made sense for the target audience.

I also want to thank Heidi Feldman for encouraging me to take on this project and introducing me to Damon Korb, whose "Raising an Organized Child" book helped me develop my "theory of mind" for kids. Adele Goldberg, Tania Lombrozo, and Jenny Saffran — all experts in cognitive and language development — were very helpful as professional and personal supporters while I wrote the book.

I had enough of a book draft completed in early 2022 for a Zoom course for New Jersey, but this time I enlisted the most eager students as my "book buddies" to provide systematic written feedback after each lecture. So let me thank them all here, along with their teachers, Jessica Sanborn and Alexis O'Rane:

- **FROM GRACE N. ROGERS SCHOOL:**
- Leon Velena-Lam
- Aarush Marchareddy
- Cody Lisk
- Henry Goodman
- Antonio Calabrese
- Lucas Goodman
- Aaron Motley

- **FROM PERRY L. DREW SCHOOL:**
- Riya Patwardhan
- Rudra Patel
- John Sullivan Fleming
- Farhan Shiraz
- Srinidhi Mudaliar
- Adrianne Ambogo
- Alyona Pandit

I have also benefited from careful reviews of the book by Orli Griffiths, Ivy Leval-Ruch, and other kids in the target population. I am sure I forgot some of their names but I am grateful for their help.

And last but not least, let me thank Josephine Hostin, student of cognitive science and design at Brown University/RISD, who helped with making the book more "kid-friendly" with better examples and interactive quizzes.

Bob Glushko
February 2023

Robert J Glushko