

★ *Visual Explanations* ★

How to Describe
and Clarify with Graphics

with Connie Malamed
@elearningcoach



@doggyprofile

Senior Editor. Formerly: Washington Post, Time, Newsweek and, back in the day, Student Mag. Healthcare nerd. **My dog's name is Harry.**



@learnperson

Obsessed with digital, eLearning and online learning environments. I also enjoy philosophy and modernist to contemporary literature. Open source enthusiast!



Lady Gaga 

@ladygaga



Shift 3: 11pm to 3am

Status

Assess Patient



Step 1: Change in Mental Status

You decide that she is not at her mental status baseline. Her mental status has fluctuated frequently in the last 24 hours. Step 1 is positive.

Step 2: Inattention

Patient has 4 errors. Step 2 is positive.

Step 3: Altered Consciousness

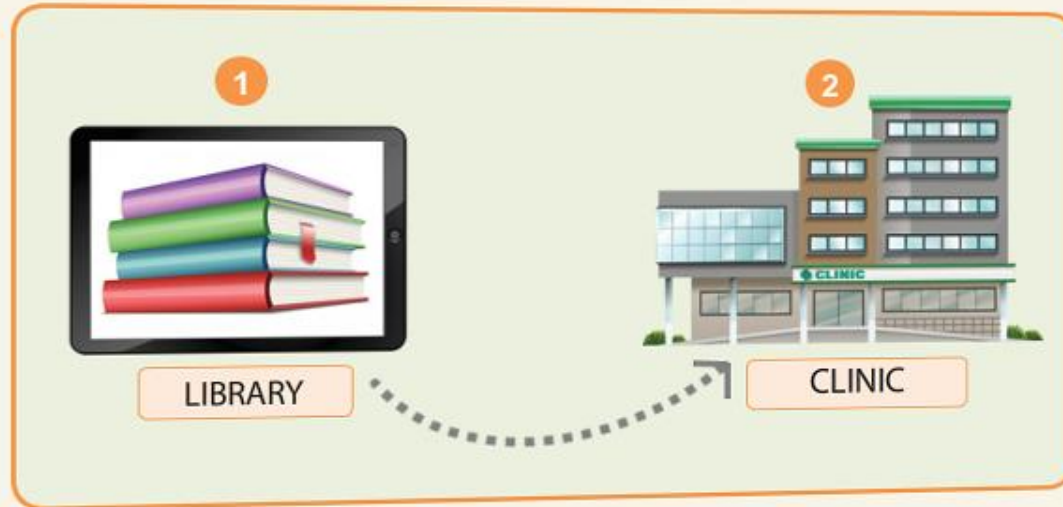
Patient is not SBS of zero (awake and calm), but an SBS of -1. So this is positive.

Conclusion

Positive for delirium. See the [next actions you should take](#).

How to Use This Course

The course has two parts. You will start at the digital library to study this topic. Then you will move on to the clinic to treat patients. There is a quiz at the end. **Now, click the Library button at the bottom to begin.**



Library

Clinic

MALAMED

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DESIGN
SOLUTIONS**

Principles and Creative Inspiration for Learning Professionals

atd
PRESS

WILEY



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8 Learning Design Trends To Watch In 2015

by Connie Malamed (Edit)



These are exciting times in the world of learning. Ubiquitous Internet access, shifts in workplace power structures and wider dissemination of cognitive research are some of the many factors contributing to the following trends to watch in the coming year. This can be a source of inspiration and fuel for creative solutions.

1. Design Thinking

Design Thinking acquires and synthesizes information in order to generate creative, human-centered solutions to all kinds of challenges. It's a perfect model for training and performance support because it stresses empathy for users, a people-centric focus and innovative thinking. Considering that our industry is often slow at adopting new paradigms, this coming year might see Design Thinking increasingly infiltrate the ADDIE and SAM models (see: [Is Design Thinking Missing From ADDIE?](#)).

Why? Because a growing number of learning experience designers have a sense that the

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Master's Program

Check It Out!

224

Tweet

119

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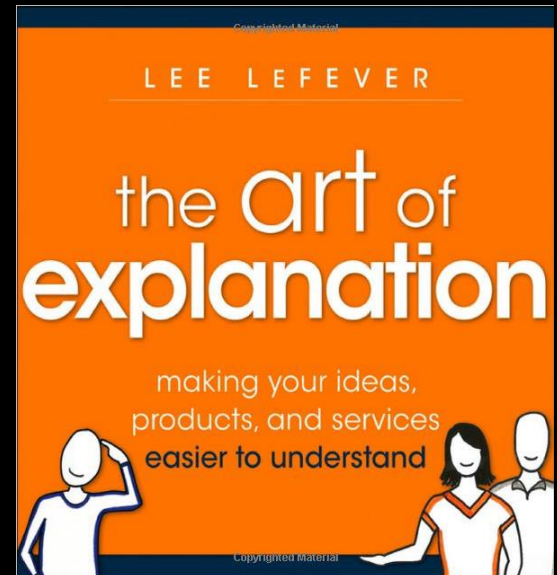
Goodreads

The act or process of making something clear or easy to understand.

Merriam-Webster

Describing facts in a way that
makes them understandable.

Lee Lefever



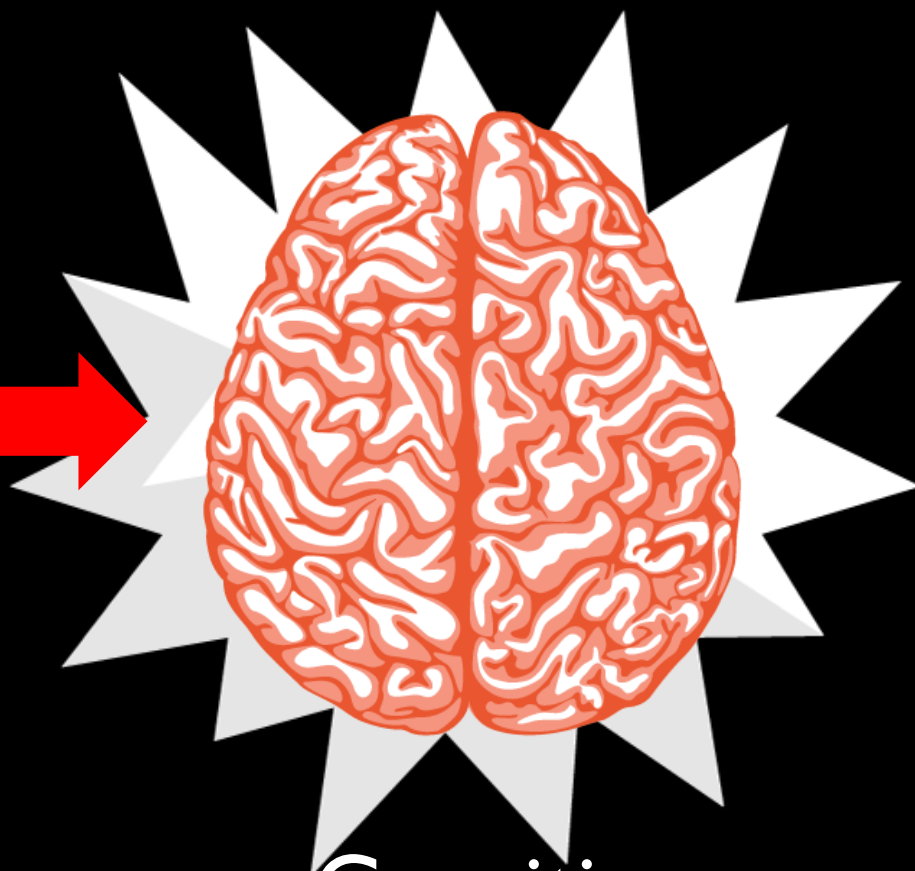


@elearningcoach
Professional Explainer

GOAL



Content



Cognitive
Architecture

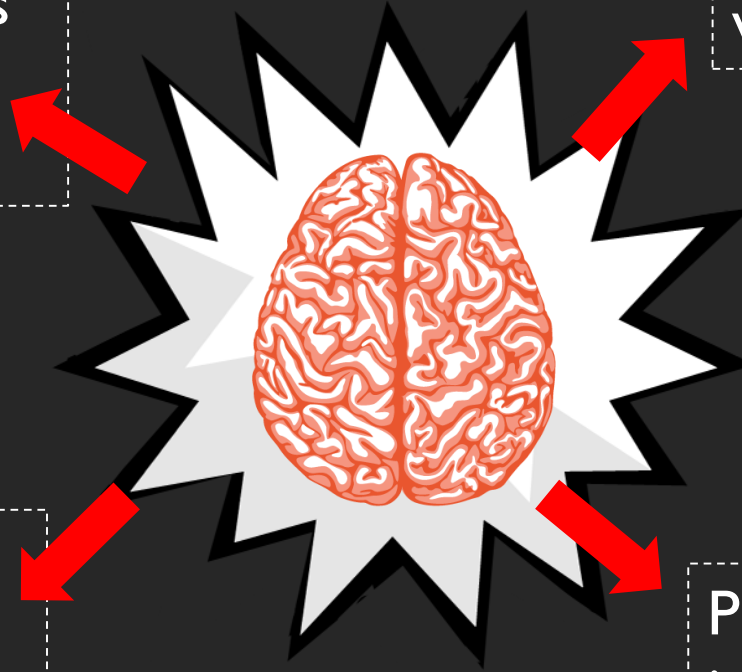
What do we know about our cognitive architecture?

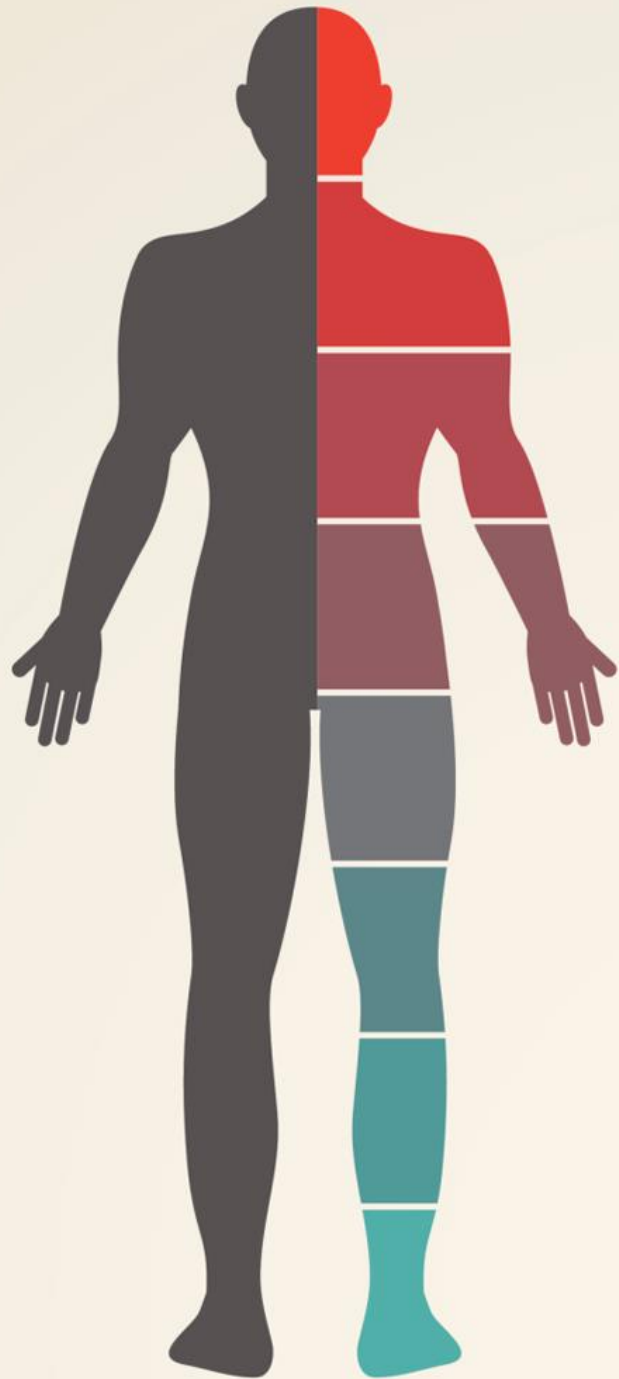
Selective attention filters out what is unimportant

Limited capacity working memory

Infinite long-term memory

Process 3-4 bits of info at once







Styles Over the Years

ration containing enough
child's needs.

Many other meals might
the pictures, except milk
some other wholesome food
part of the food of every
the doctor objects, and this

As to the amounts that
three or four glasses (1½
or its equivalent in moderate
stitute: fruit and vegetable



FIG. 2.—A sensible dinner for a child. The
lamb chop (group 1); baked potato
youngest children) (group 4); bread and
sugar (groups 1, 2, and 5).

or other wholesome fat; and all that
child will eat. One or two ounces
(including the sugar used in cooking)
does not prevent eating the other food.

The foods shown in the pictures are
are the kind liked by most healthy
and neat in every way. This is important
neat and orderly habits.

The following bills of fare, like those
easy to prepare, sufficiently varied, and
good. They are so planned that milk
and a food from each of the other groups
a day.

UNITED STATES DEPARTMENT OF AGRICULTURE



FARMERS' BULLETIN

Has been reviewed
--see reviewed
binders at
end of file

MARCH 4, 1916

717

WASHINGTON, D. C.

Contribution from the States Relations Service, A. C. True, Director.

FOOD FOR YOUNG CHILDREN.¹

By CAROLINE L. HUNT,

Scientific Assistant, Office of Home Economics.

Food for children between three and six years of age should be
chosen with reference to their bodily needs, as described in the

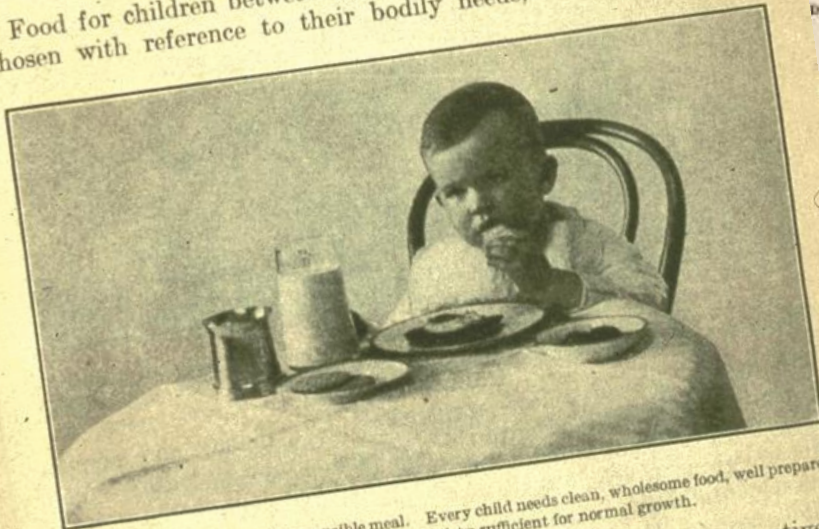


FIG. 1.—A healthy child having a sensible meal. Every child needs clean, wholesome food, well prepared,
and served in quantity and variety sufficient for normal growth.

following pages, and should be carefully prepared and attractively
served as shown in the above picture.

¹ Prepared under the direction of C. F. Langworthy, Chief, Office of Home Economics.

NOTE.—This bulletin is in accordance with the principles of child feeding now generally accepted by
the best authorities, and also embodies the results of work done in the laboratory of the Office of Home
Economics of the States Relations Service, U. S. Department of Agriculture. It is specially adapted to
the use of mothers who wish some simple and short discussion of the subject expressed in housekeepers'
terms.

D FOR YOUNG CHILDREN.

5

ESTED BILLS OF FARE.

BREAKFAST.

- youngest Stewed prunes (pulp and juice only for
the youngest children).
Corn-meal mush and milk.
Toast and butter.
- Grape fruit (juice only for the young-
est children).
Milk toast with grated yolk of hard-
boiled egg.
- Apple (scraped for very little chil-
dren).
Toast.
Hot milk.

ould be given to make up the required
quart.

DINNER.

- Creamed potatoes.
Green peas.
Stewed plums with thin cereal-milk
padding.
- Baked halibut.
Boiled potatoes.
Stewed celery.
Boiled rice with honey or syrup.
- Broiled meat cakes.
Grits.
Creamed carrots.
Bread, butter, and sugar sandwiches.

be given to make up the required
t.

- raham crackers and milk.
aked custard.

- lk toast.
wed peaches.
cake.

- ry-milk soap.
t.
ing island.

*For Health...eat some food
from each group...every day!*



U. S. GOVERNMENT CHART

**IN ADDITION TO THE BASIC 7...
EAT ANY OTHER FOODS YOU WANT**

A Guide to Good Eating

Use Daily:



Milk Group

3 or more glasses milk — Children
smaller glasses for some children under 9
4 or more glasses — Teen-agers
2 or more glasses — Adults
Cheese, ice cream and other milk-
made foods can supply part of the milk

2 or more servings
Meats, fish, poultry, eggs, or
cheese—with dry beans,
peas, nuts as alternates

Meat Group



Vegetables and Fruits

4 or more servings
Include dark green or
yellow vegetables;
citrus fruit or tomatoes

4 or more servings
Enriched or whole grain.
Added milk improves
nutritional values

Breads and Cereals



This is the foundation for a good diet. Use more of these and other foods as needed for growth, for activity, and for desirable weight.

U.S. DEPARTMENT OF AGRICULTURE, UNITED STATES GOVERNMENT, 1956

FOOD FOR FITNESS

A Daily Food Guide



MILK GROUP

Some milk for everyone

- Children under 9 . . . 2 to 3 cups
- Children 9 to 12 . . . 3 or more cups
- Teenagers 4 or more cups
- Adults 2 or more cups

MEAT GROUP

2 or more servings

Beef, veal, pork, lamb,
poultry, fish, eggs

As alternates—
dry beans, dry peas, nuts

VEGETABLE FRUIT GROUP

4 or more servings

Include—

- A citrus fruit or other fruit or vegetable important for vitamin C
- A dark-green or deep-yellow vegetable for vitamin A—at least every other day
- Other vegetables and fruits, including potatoes

BREAD CEREAL GROUP

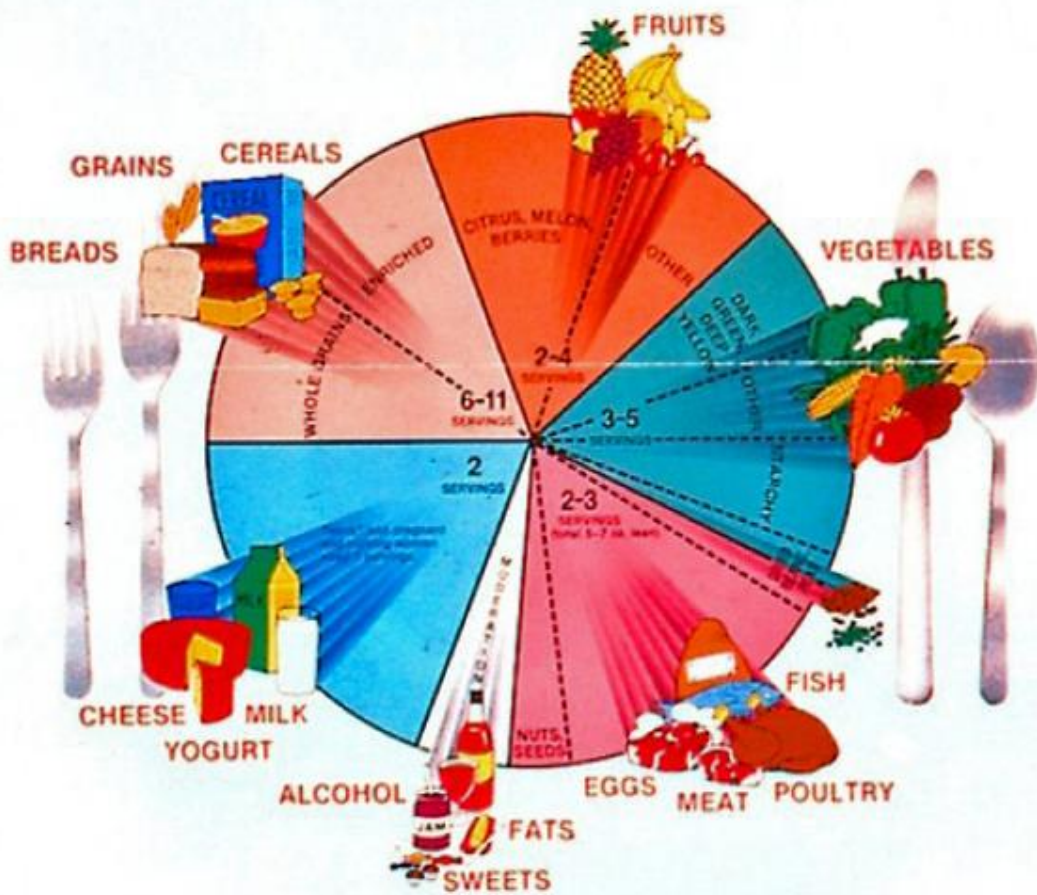
4 or more servings

Whole grain, enriched, or restored

Plus other foods as needed to complete meals and to provide additional food energy and other food values

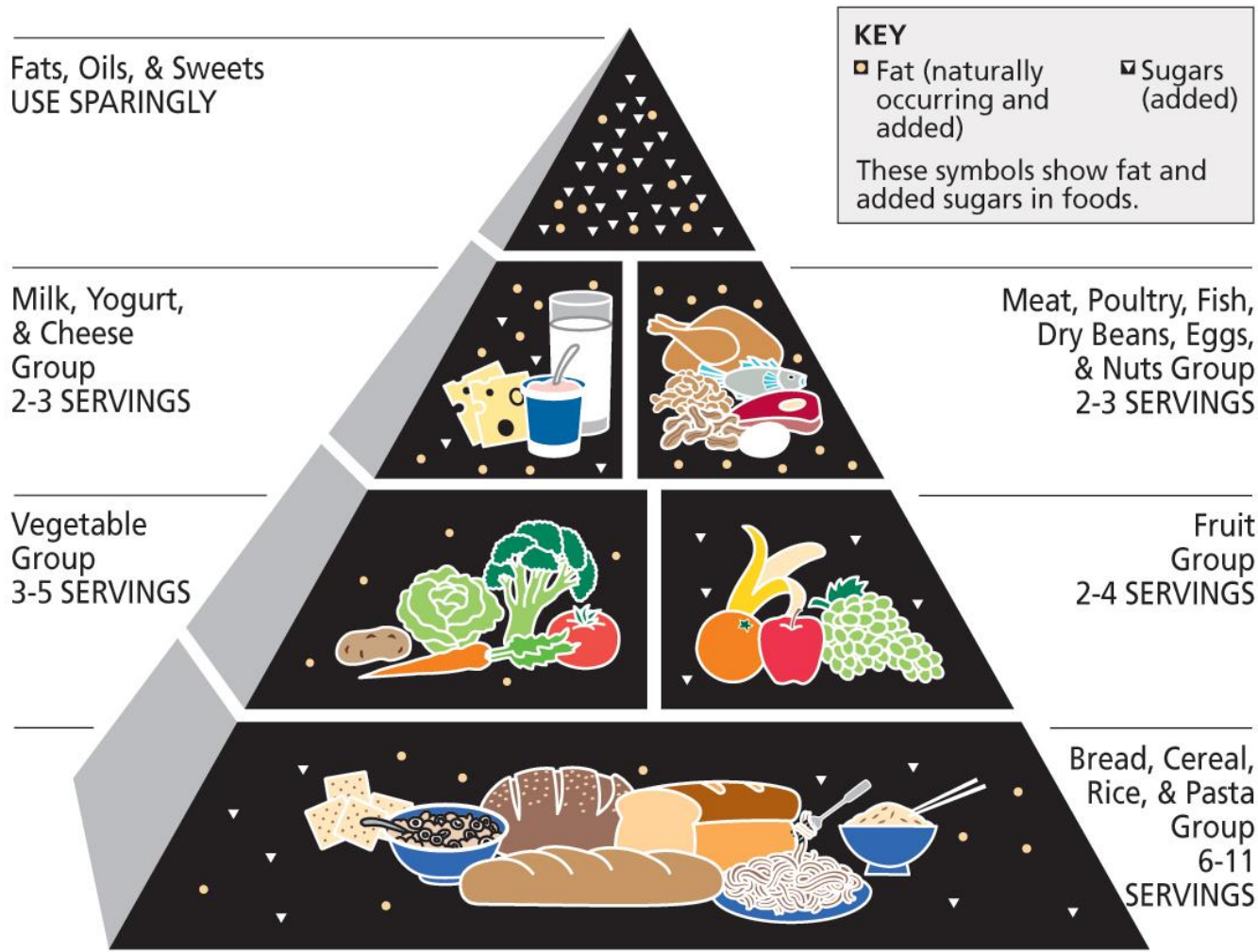
FOOD WHEEL

A Pattern for Daily Food Choices



Food Guide Pyramid

A Guide to Daily Food Choices

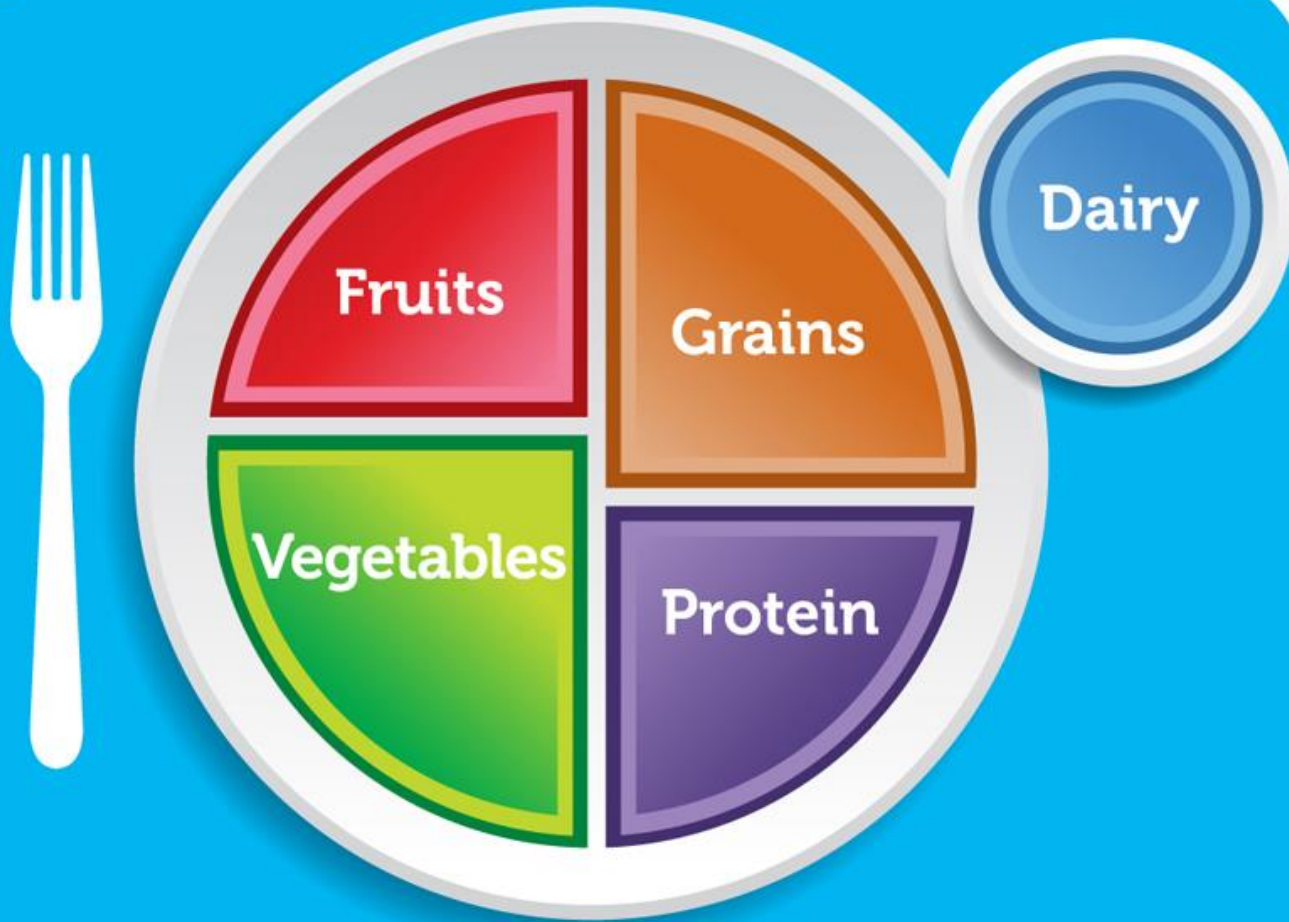


Source: U.S. Department of Agriculture/U.S. Department of Health and Human Services



MyPyramid.gov
STEPS TO A HEALTHIER YOU

2011 My Plate



Choose **MyPlate**.gov

A Process for Visualizing

- 1 Identify content to visualize
- 2 Determine best graphic format
- 3 Sketch the structure
- 4 Create

STORIES

GRAPHS

DIAGRAMS



Explaining with Stories

Benefits of Stories

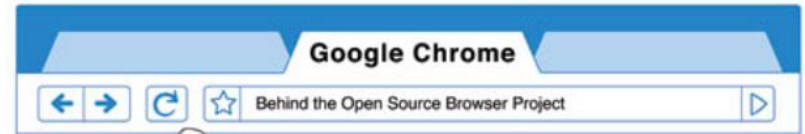
Arouse and satisfy curiosity

Provide a common understanding

Evoke emotions

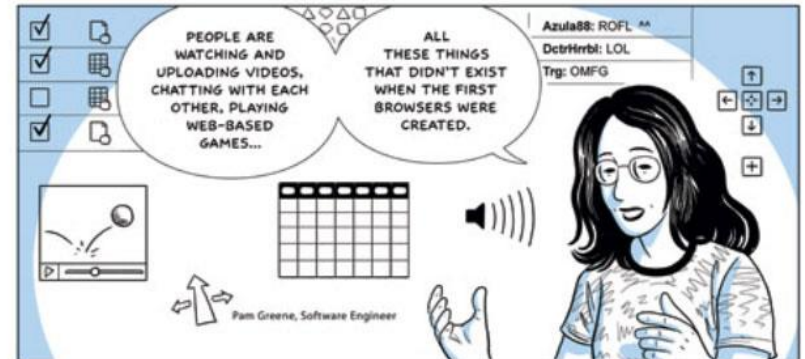


Google Chrome



Brian Rakowski,
Product Manager

TODAY, MOST OF WHAT WE USE THE WEB FOR ON A DAY-TO-DAY BASIS AREN'T JUST WEB PAGES, THEY'RE APPLICATIONS.



Pam Greene, Software Engineer

WOULDN'T IT BE GREAT, THEN, TO START FROM SCRATCH --



-- AND DESIGN SOMETHING BASED ON THE NEEDS OF TODAY'S WEB APPLICATIONS AND TODAY'S USERS?

2008



Story Structure

Set up a
problem

1

2

Resolve the
problem

3

Elaborate on
the problem



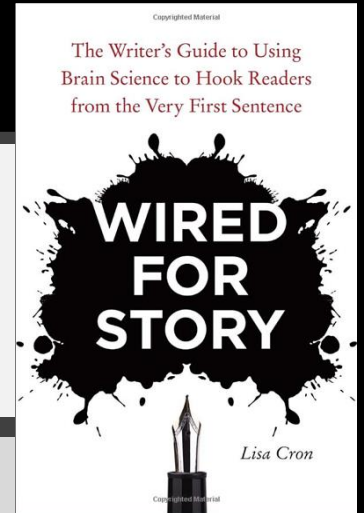
Story Components

What happens = **Plot**

Main person = **Protagonist**

Story question = **Goal**

How the person changes = **Story**



guest

the American Democracy GAME

Level
1

Community
Dog Park

Help Exit



Congratulations on being elected! My name is **Joe Staffer**; I am your *senior staff* person.



A CHALK TALK ON CHALK TALKS

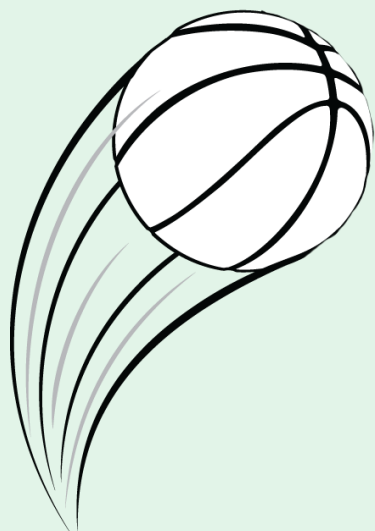
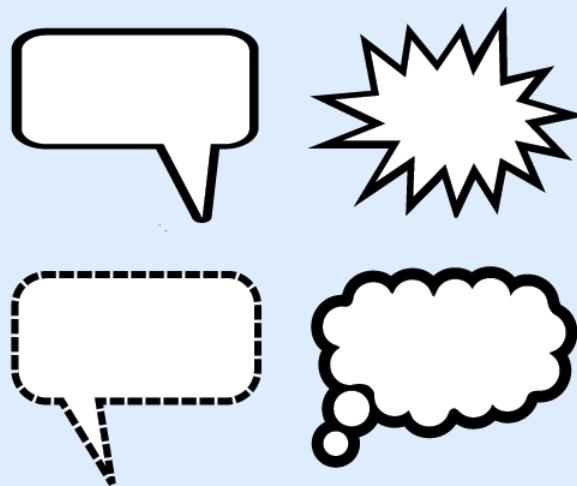


VL of Comic Format

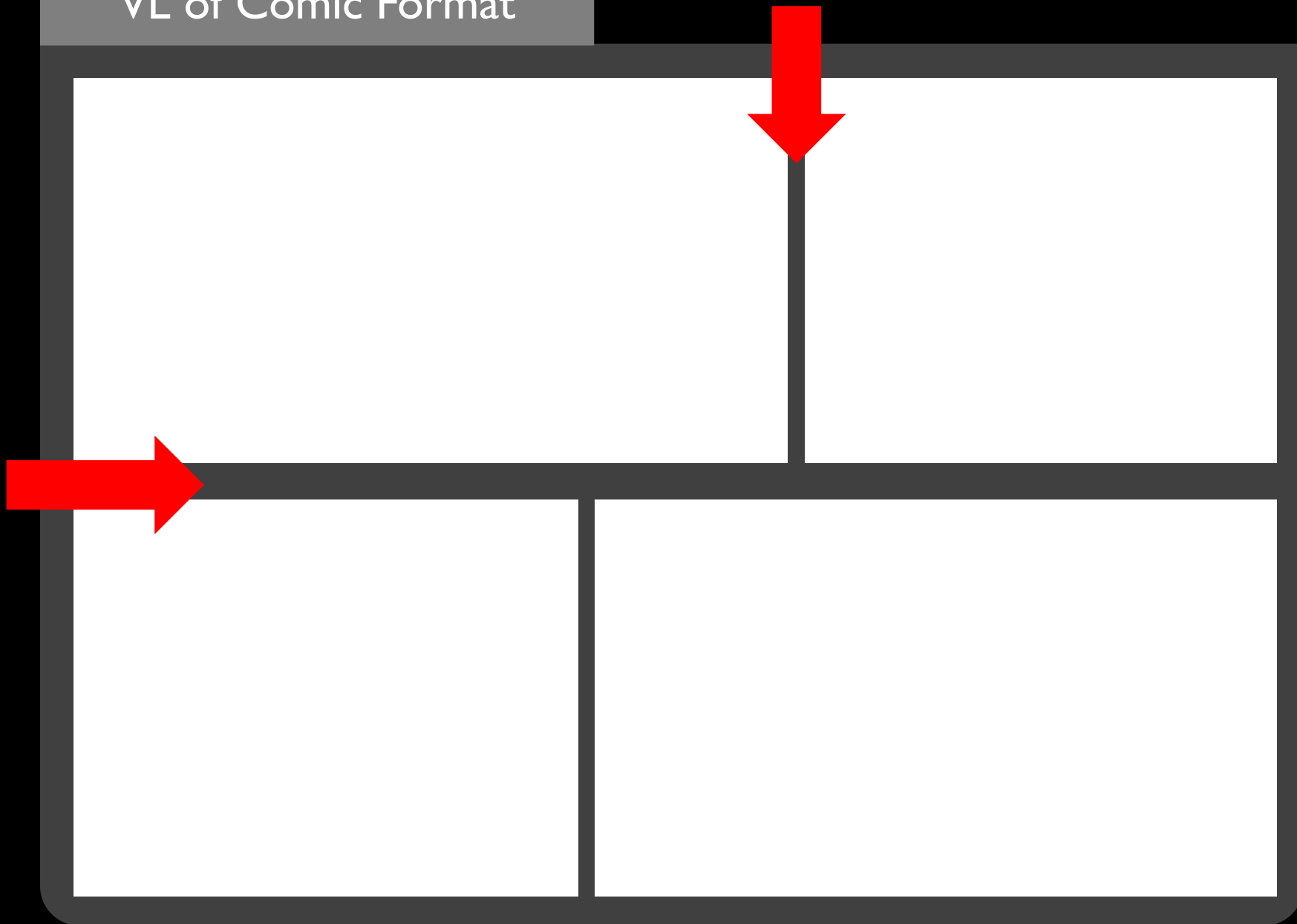
The narration part

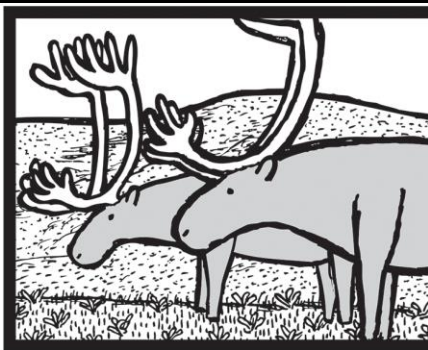
Caption

Gutter



VL of Comic Format

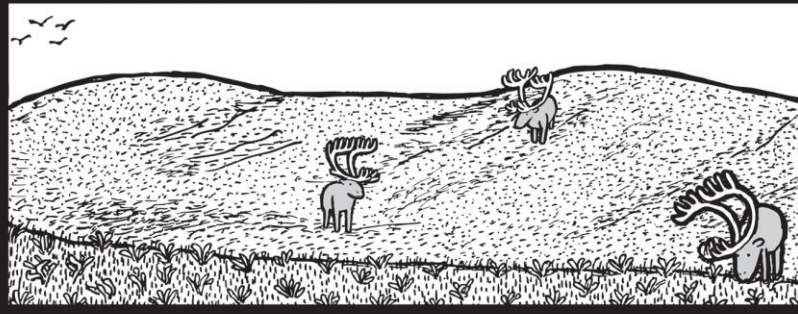




Summer 1966: The researchers return to St Matthew Island.

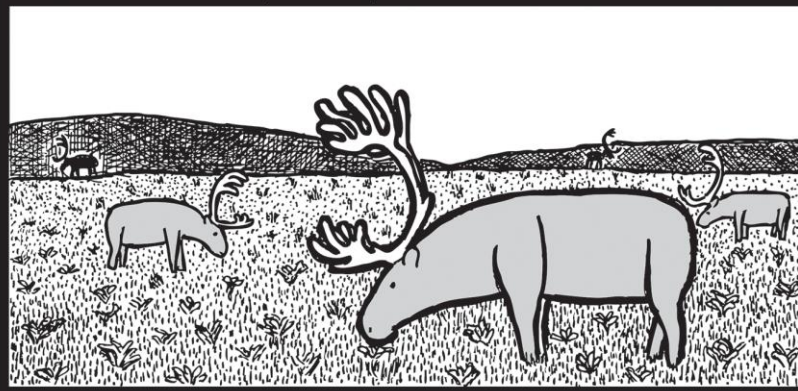


The reindeer find themselves on an island rich in their favourite food, lichen.



They find the island littered with reindeer skeletons.

With abundant resources and no natural predators, the reindeer breed prolifically.



From a population peak of 6,000, only 42 reindeer remain: 41 females and one infertile male. There are no calves.



by Stuart McMillen



Explaining with Graphs

Australia - 206

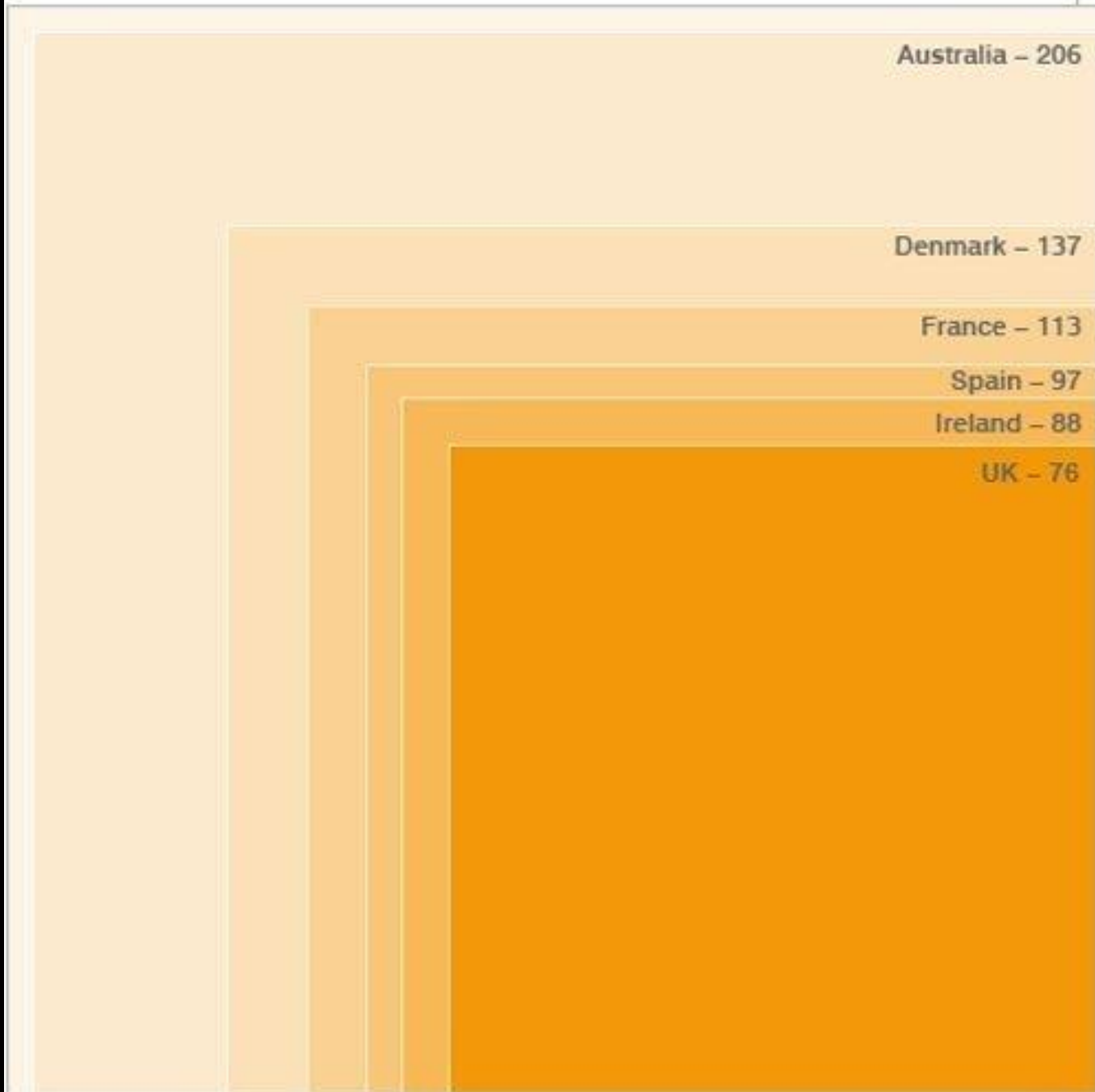
Denmark - 137

France - 113

Spain - 97

Ireland - 88

UK - 76



Benefits of Visualization

Makes the abstract concrete

Serves as a cognitive aid

Structures information

The number of email accounts around the world in 2013 was

3.9 BILLION



By 2017, that number is expected to rise to

4.9 BILLION

48% of emails are opened on mobile devices



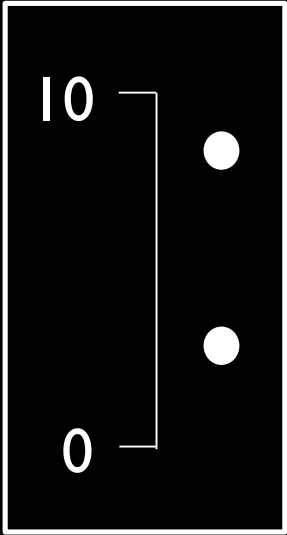
Email marketing has an ROI of

4,300%

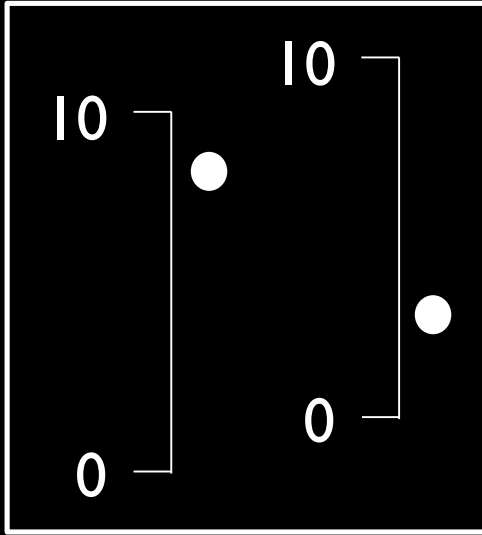


Choose a graph or visualization based on what you want the viewer to comprehend.

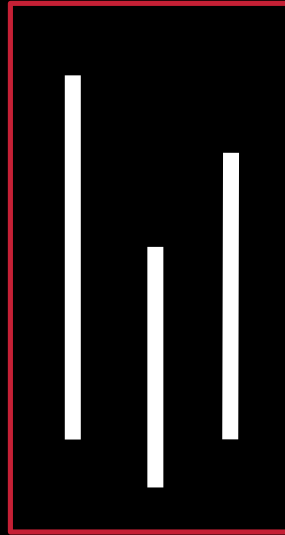
More Accurate



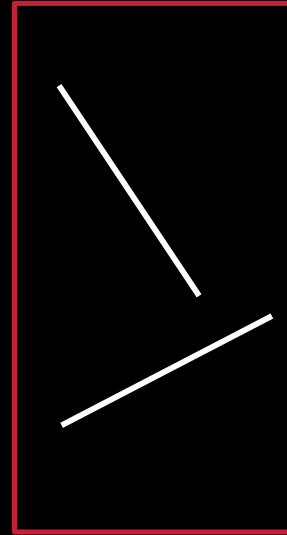
Position



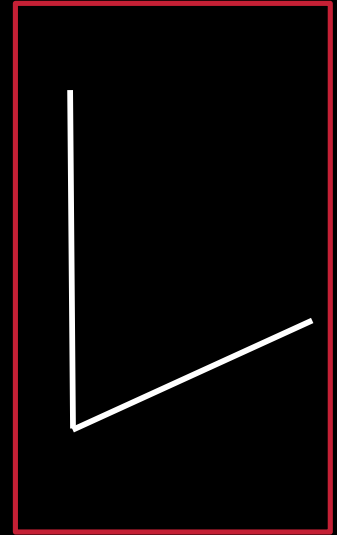
Position: nonaligned



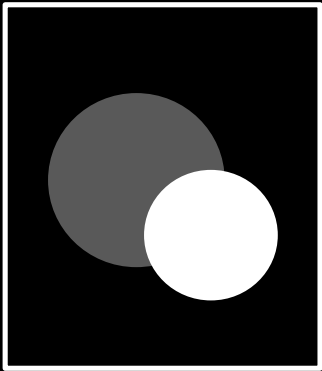
Length



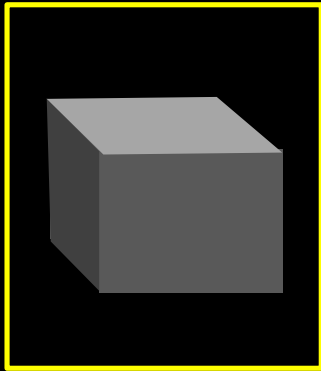
Direction



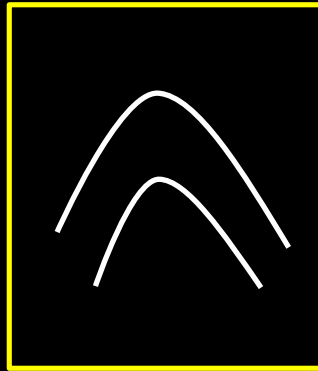
Angle



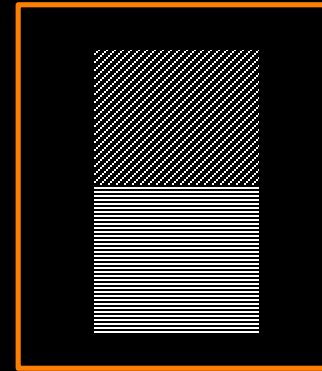
Area



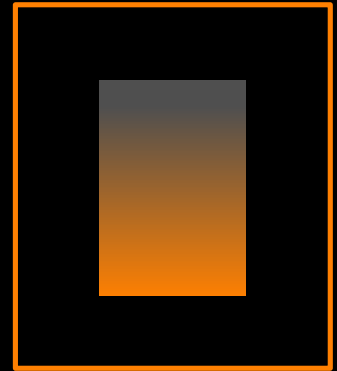
Volume



Curvature



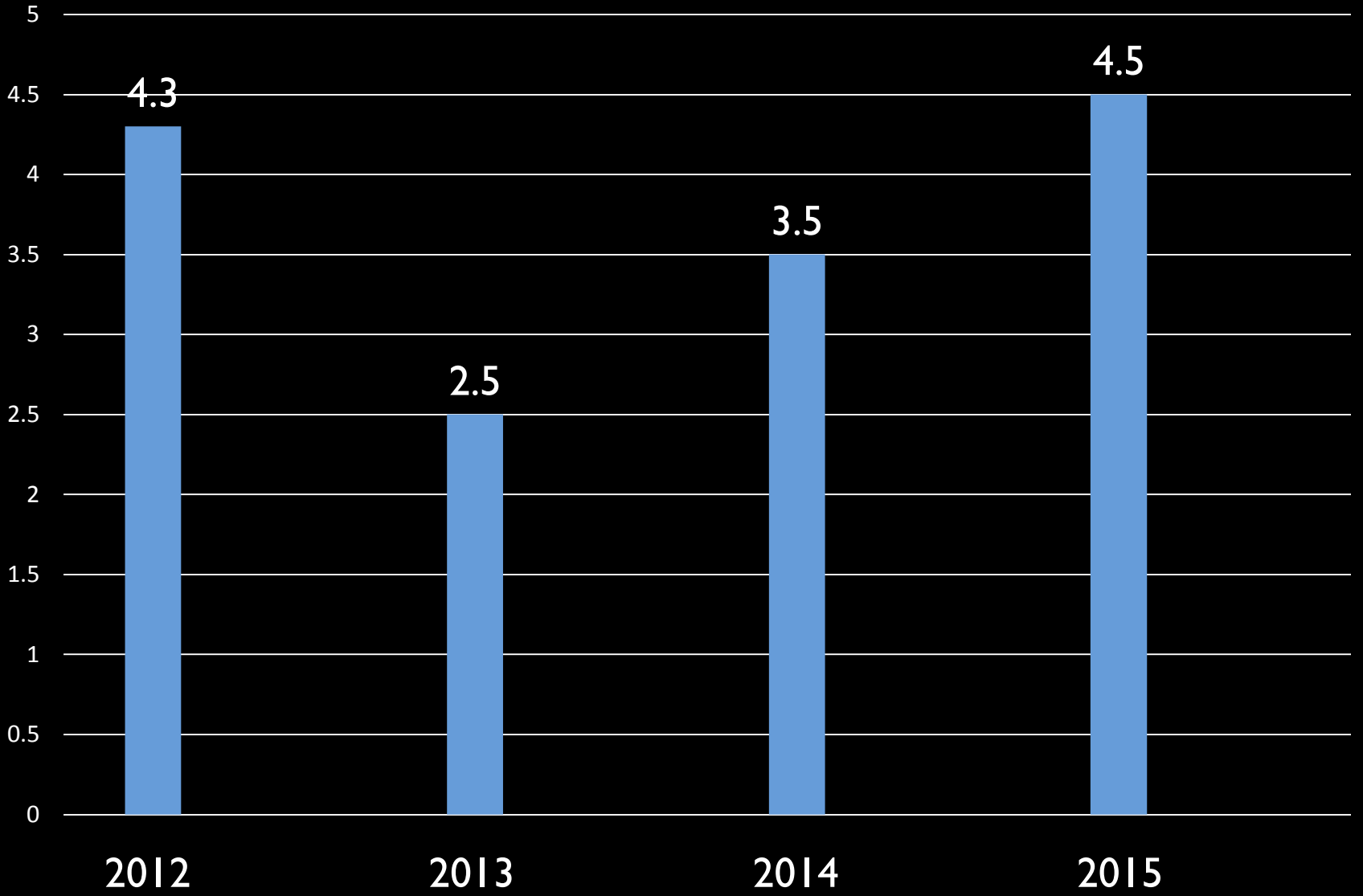
Shading



Saturation

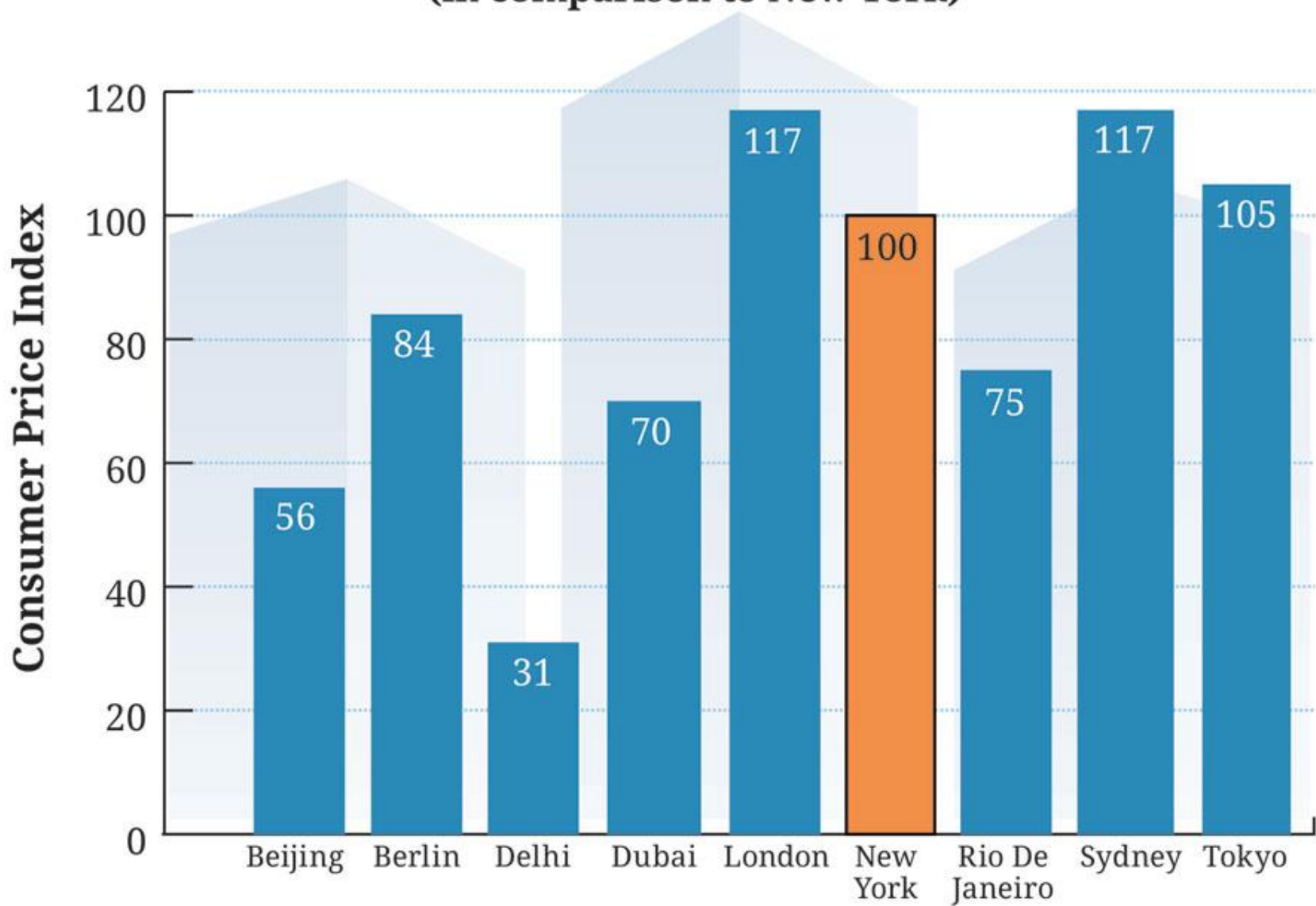
Less Accurate

Bar Chart



COST OF LIVING BY CITY

(in comparison to New York)



Grouped Bar Chart

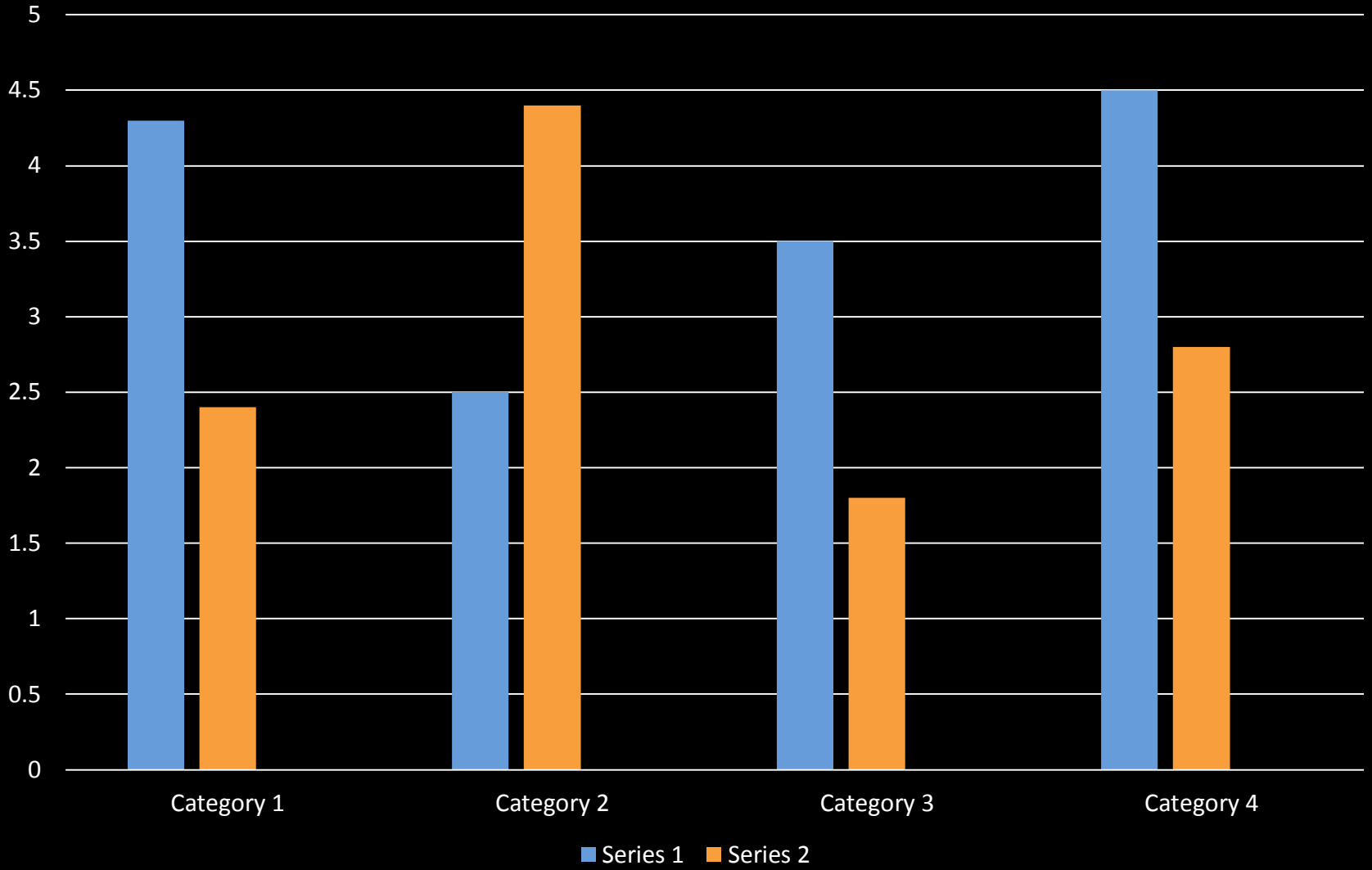
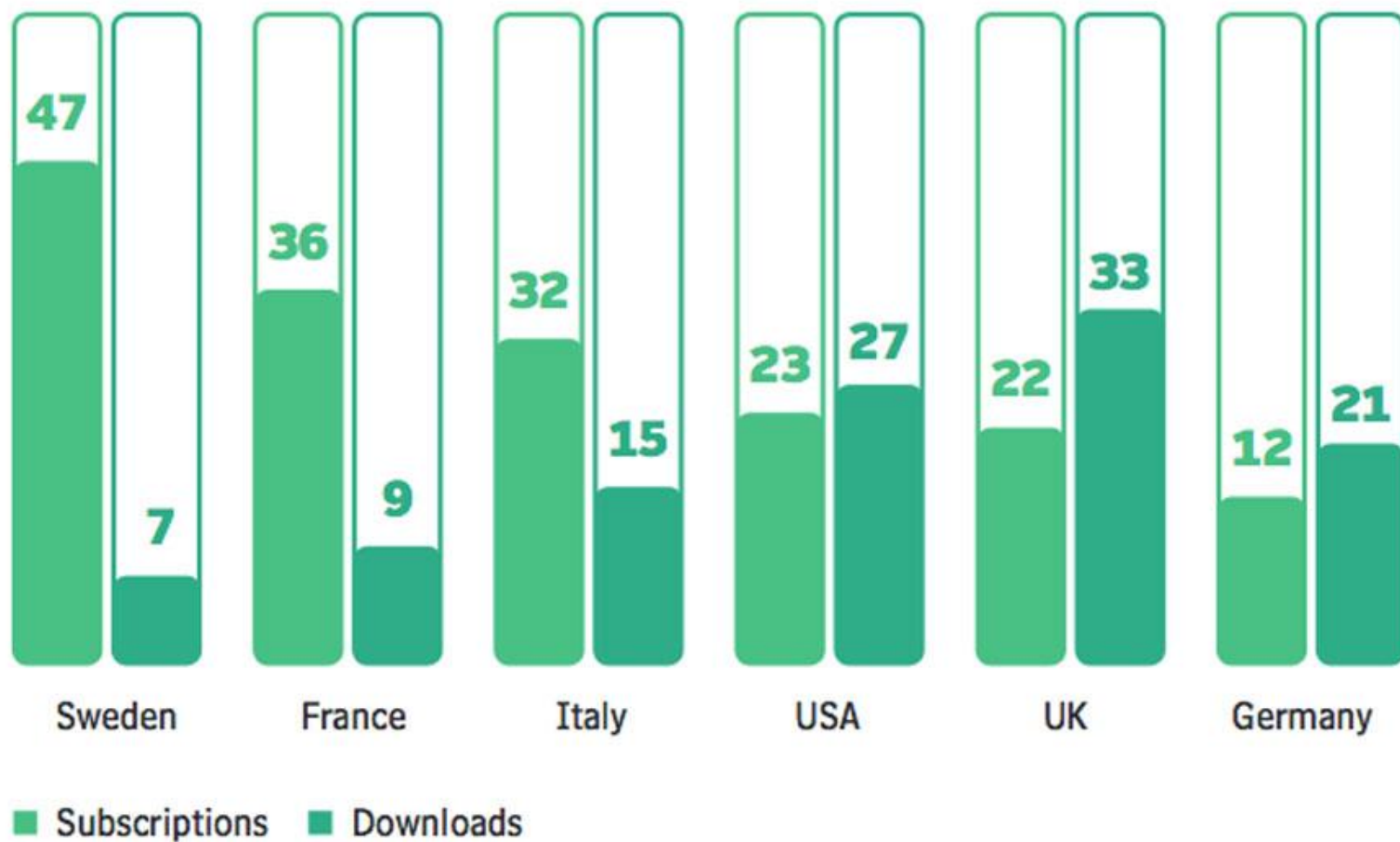
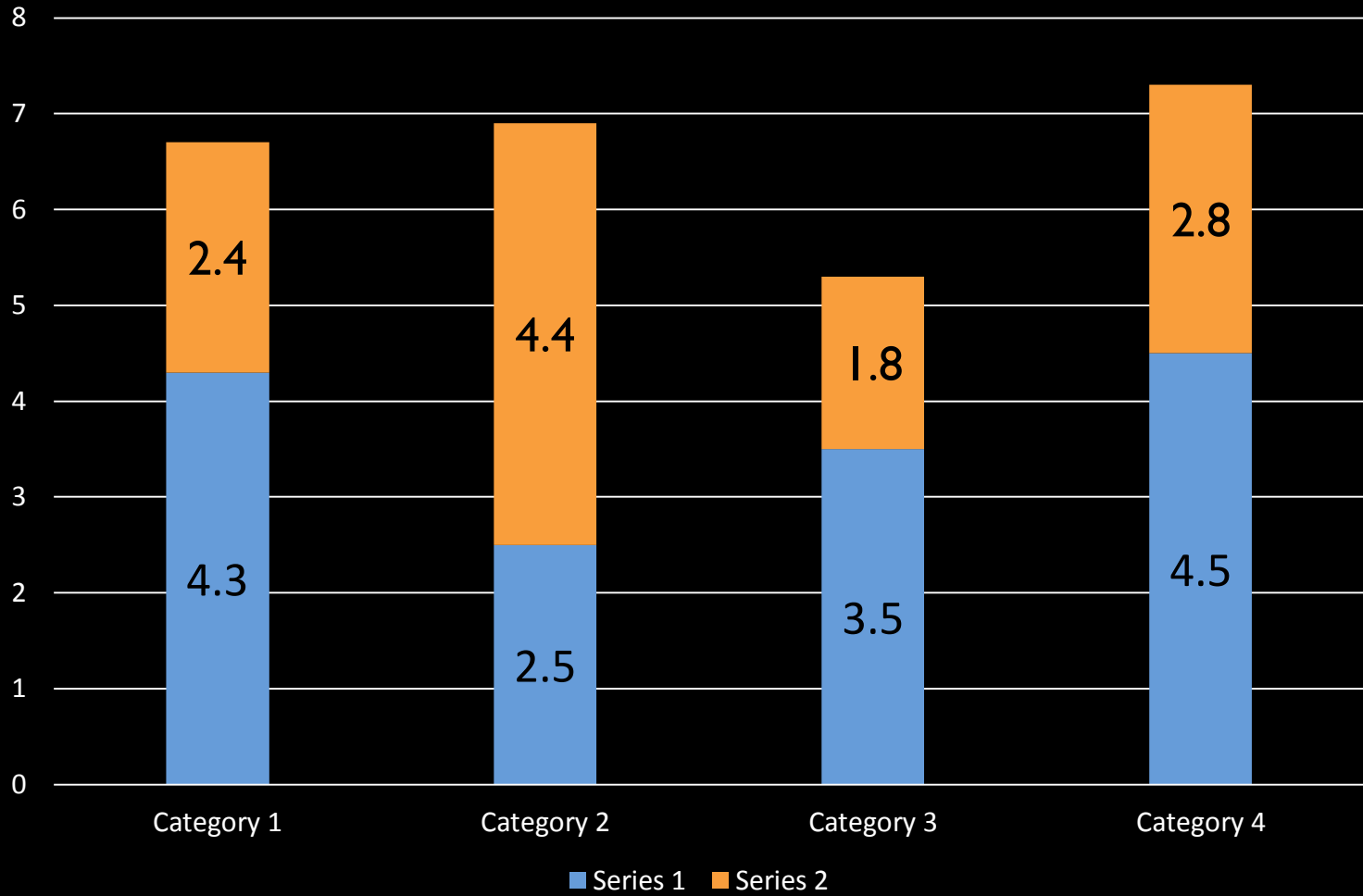


Figure 3: % Internet users using music subscriptions* / download services in past 6 months

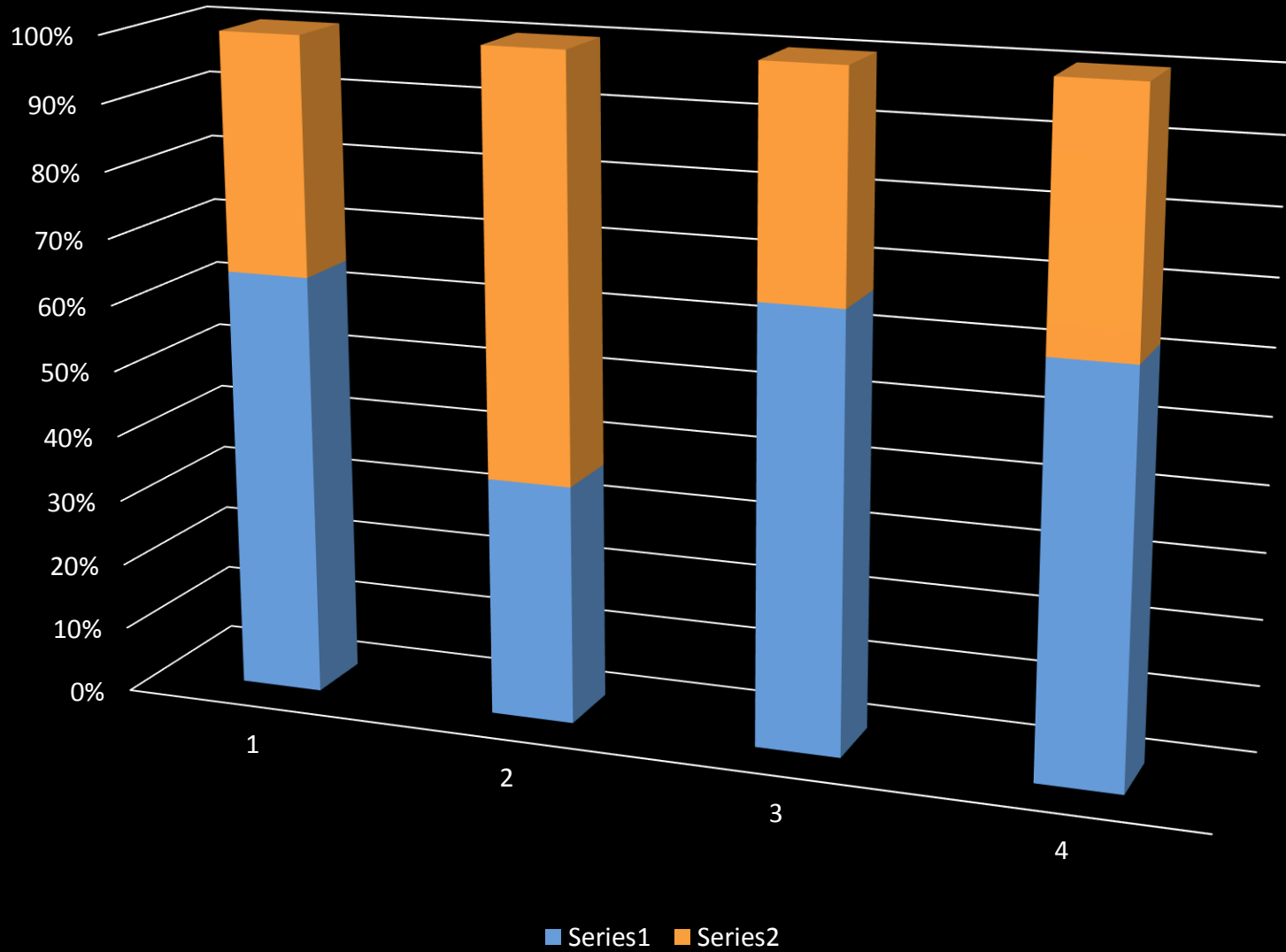


Source: Ipsos MediaCT *Also includes free users of subscription services

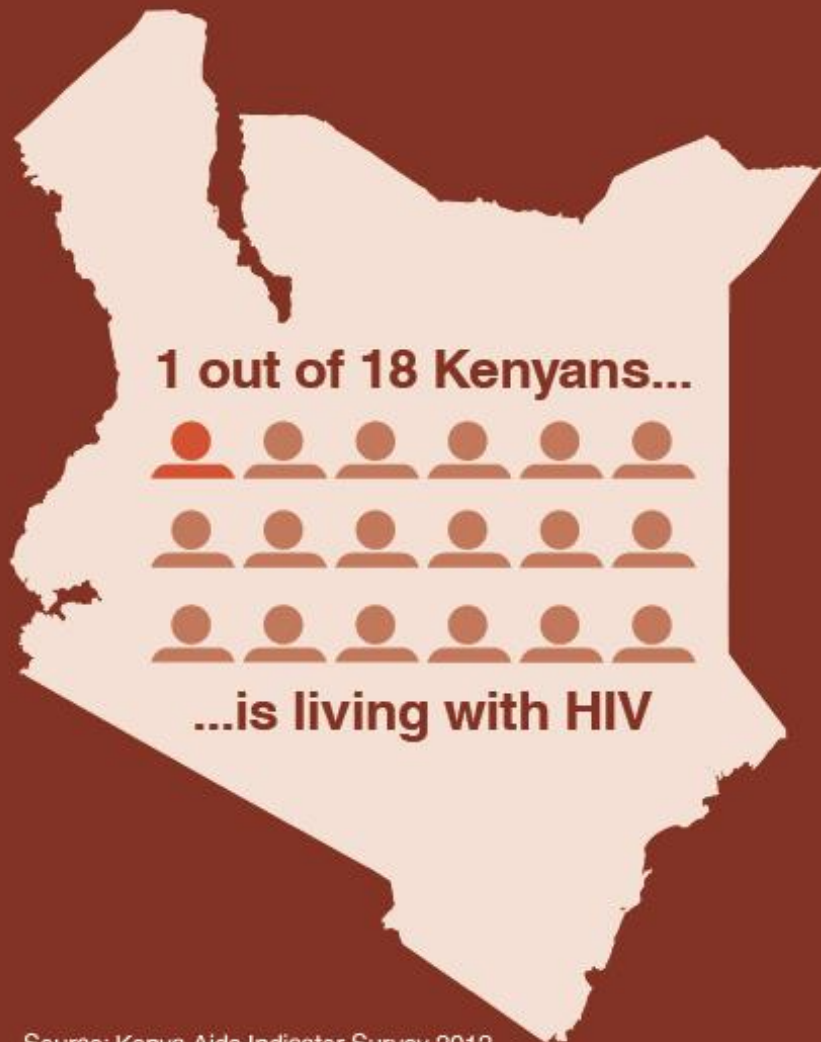
Stacked Bar Chart



3D Chart



HIV prevalence among women and men aged 15-64 years in 2012



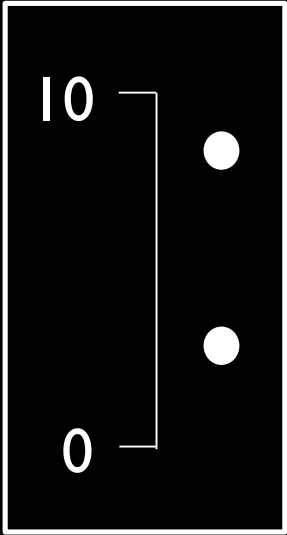
1 out of 23 men in Kenya is living with HIV



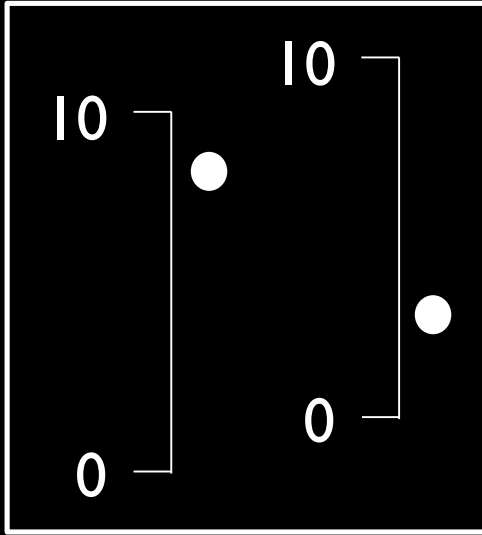
1 out of 19 women in Kenya is living with HIV



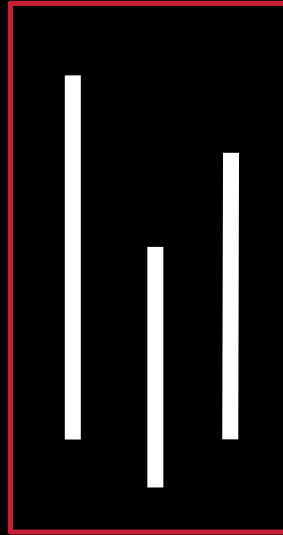
More Accurate



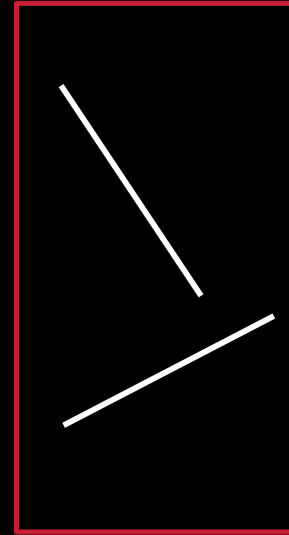
Position



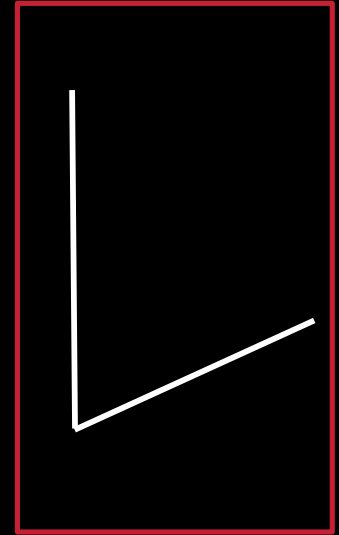
Position: nonaligned



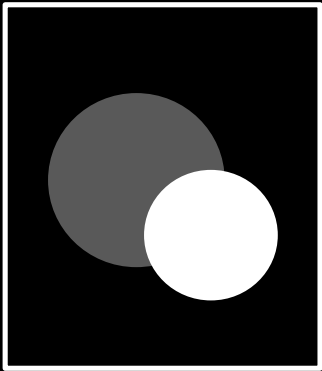
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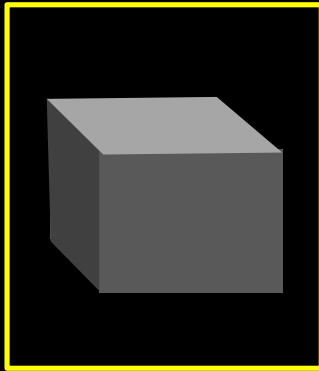
Direction



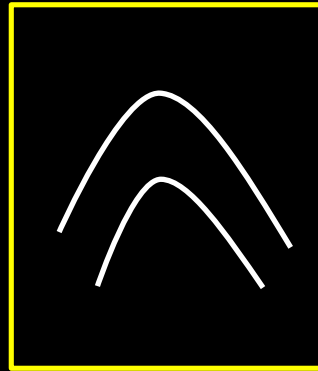
Angle



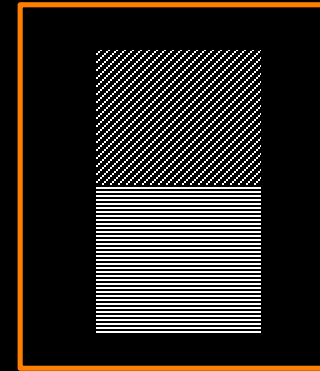
Area



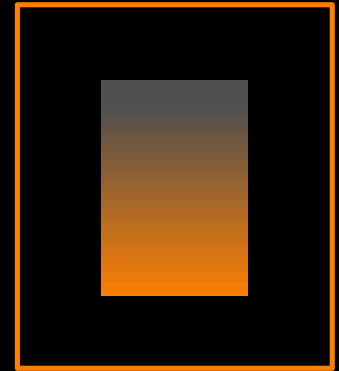
Volume



Curvature



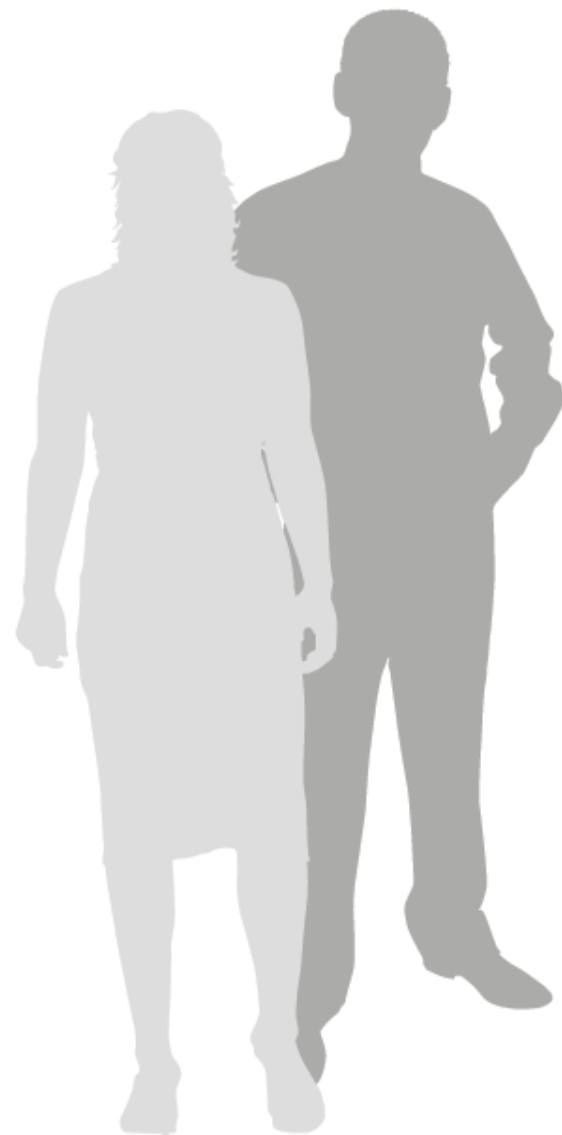
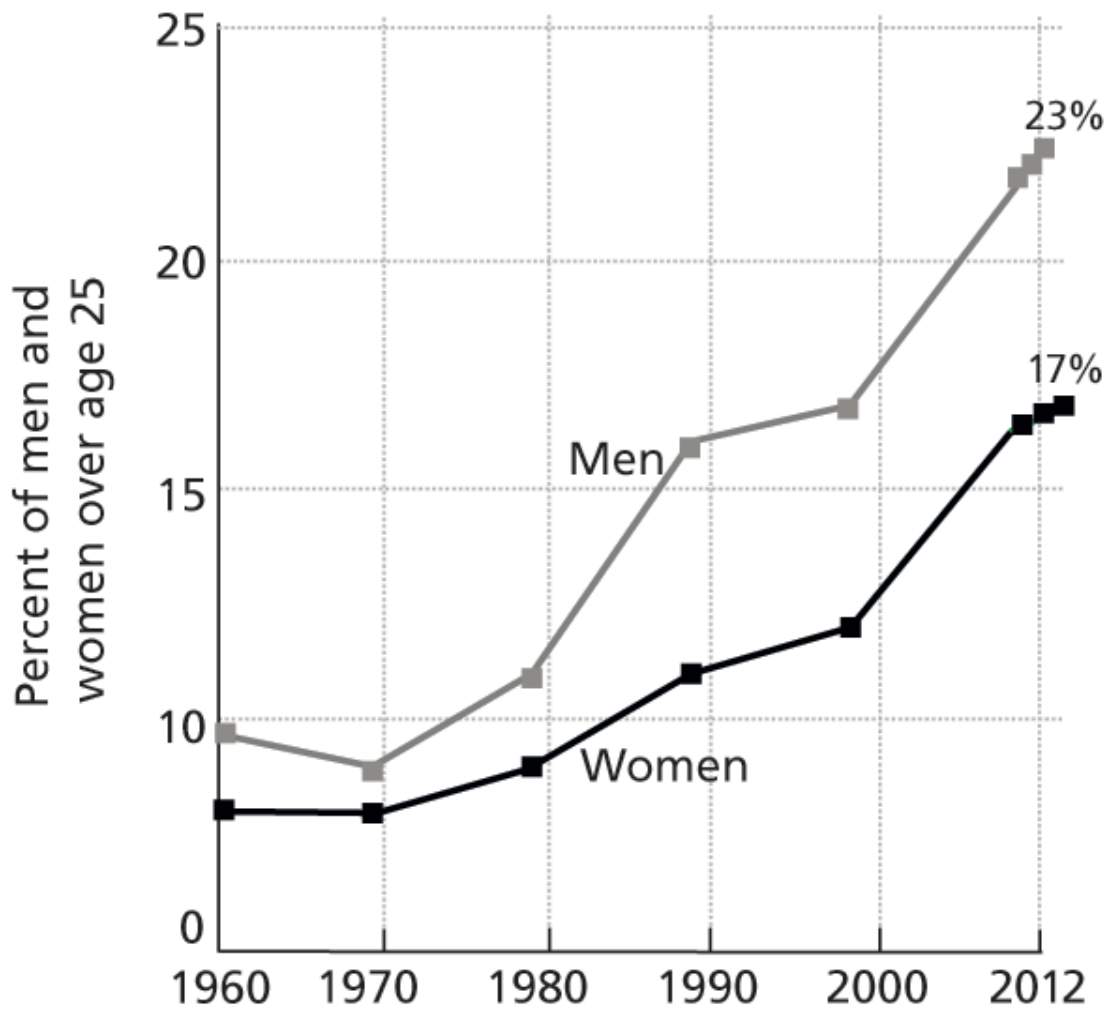
Shading



Saturation

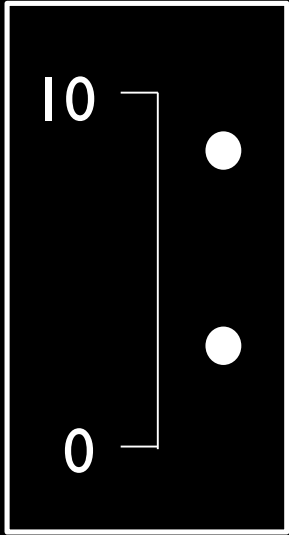
Less Accurate

PERCENT OF AMERICAN ADULTS WHO HAVE NEVER BEEN MARRIED 1960-2012

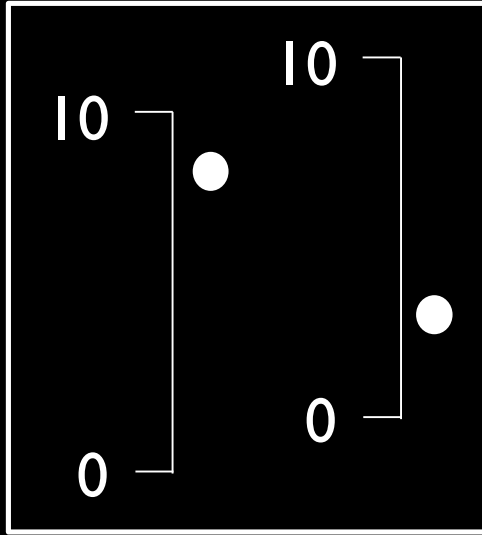


Source: PEW Research Center Analysis Of U.S. Census Data

More Accurate



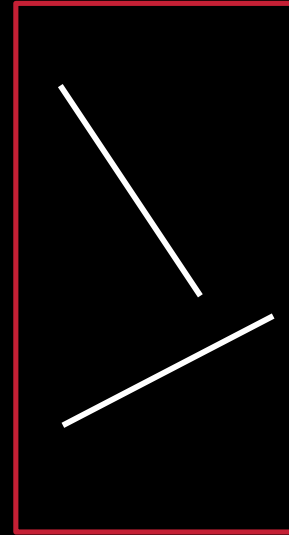
Position



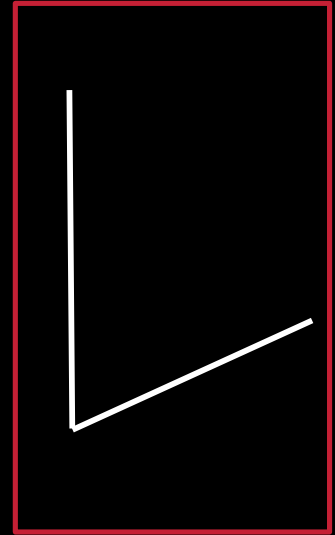
Position: nonaligned



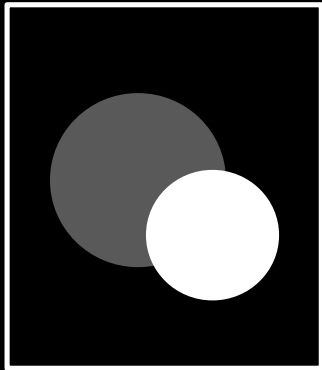
Length



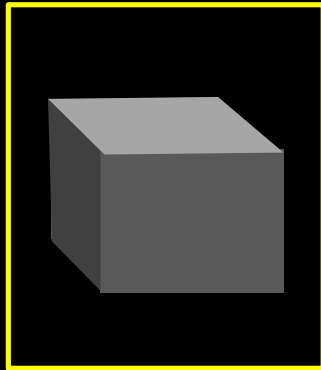
Direction



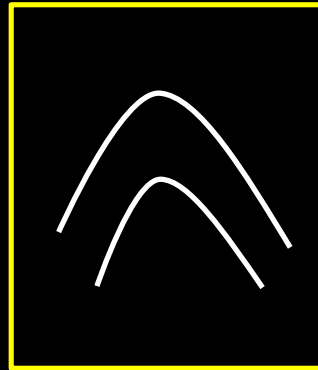
Angle



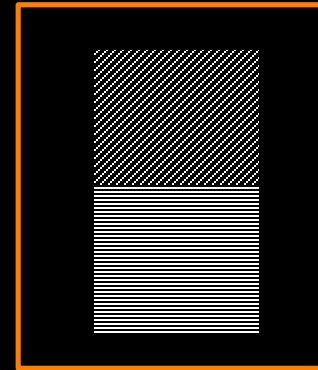
Area



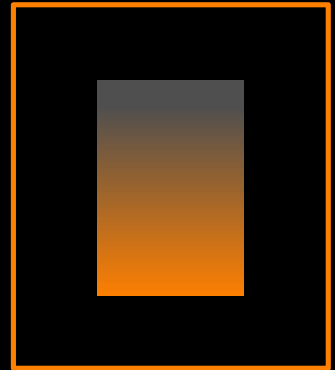
Volume



Curvature

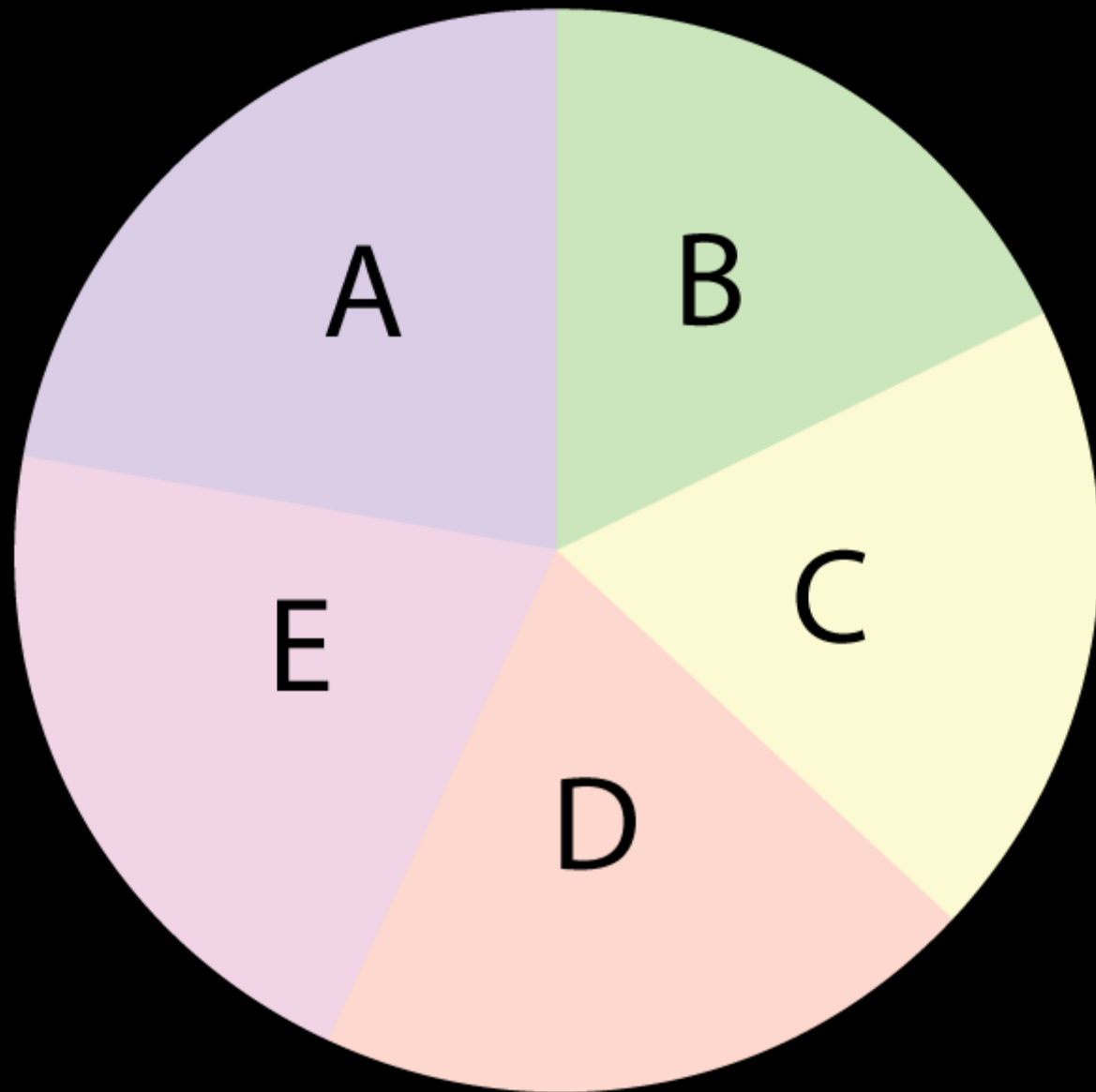


Shading

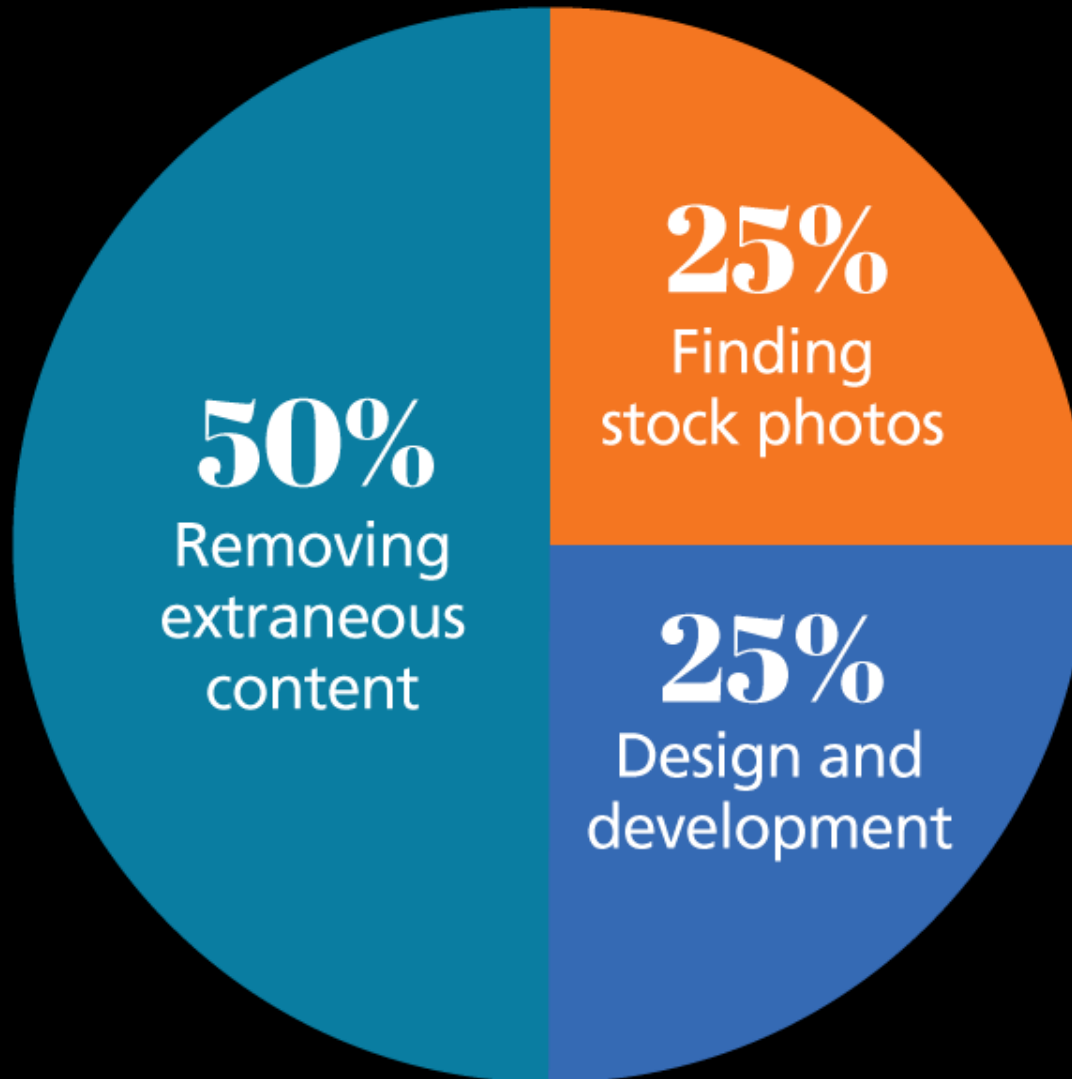


Saturation

Less Accurate



How Instructional Designers Spend Their Time



NHS Atlas of Risk

This atlas will help you to put health risks and death rates into perspective. Use it to compare cause of death and risks to health based on sex, age and region.



The Atlas of Risk



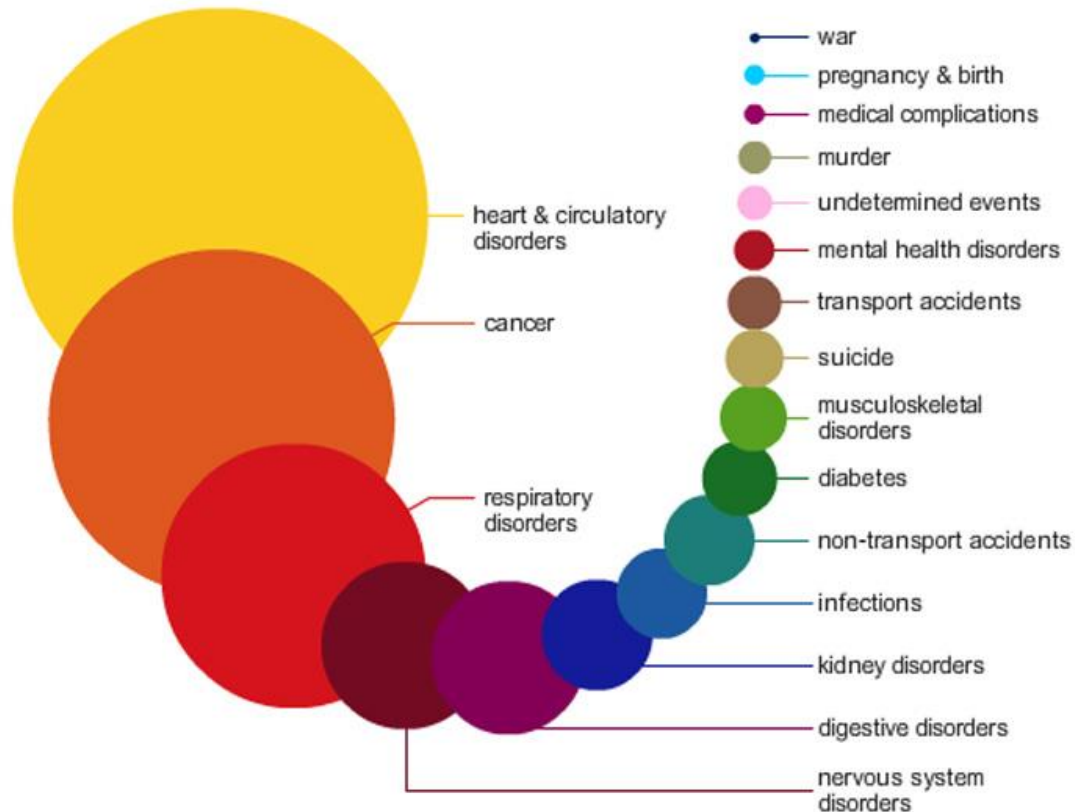
Causes

Risks

About

Data

Leading causes of death in perspective



Reset

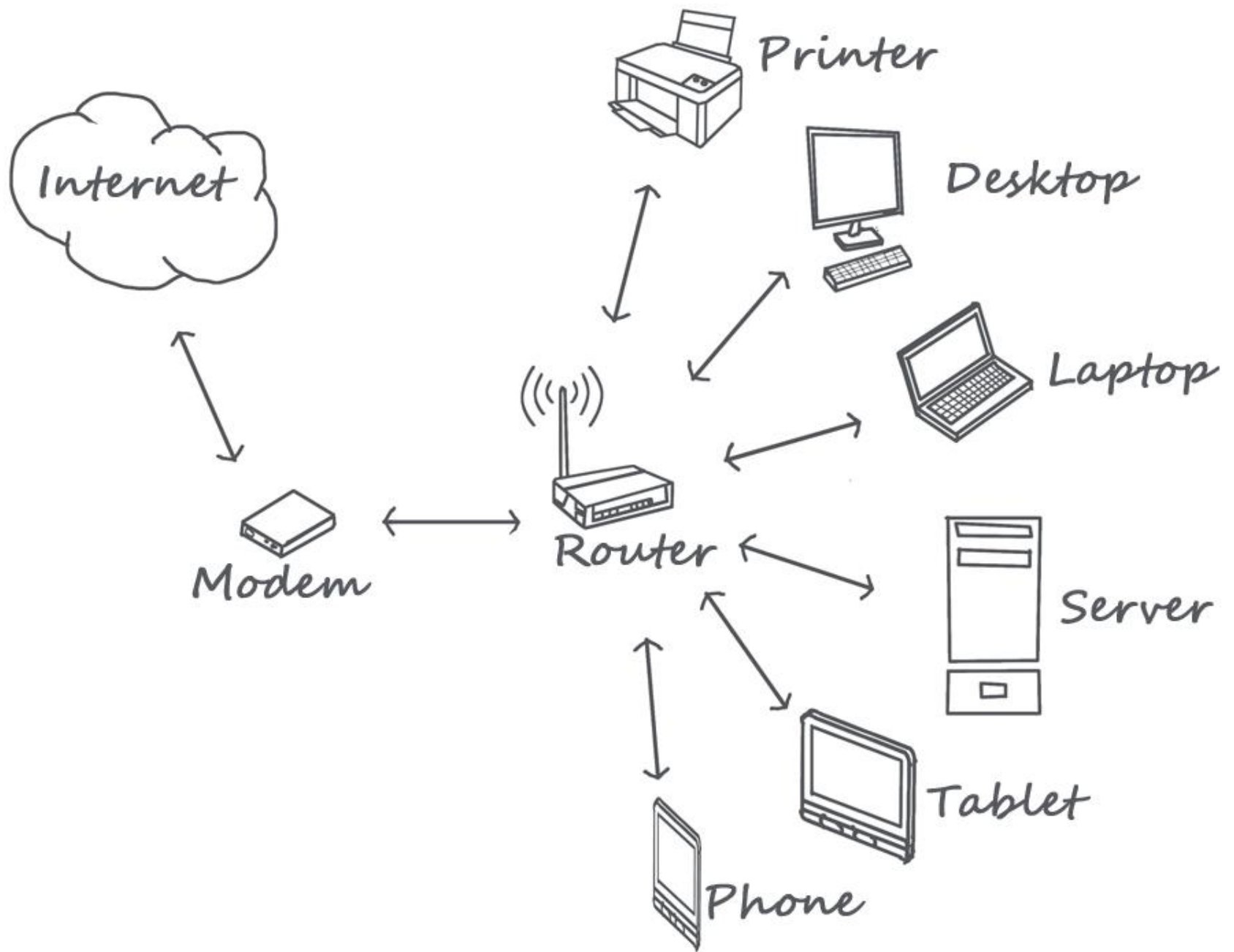
Scale Info

Circles

Bars



Explaining with Diagrams

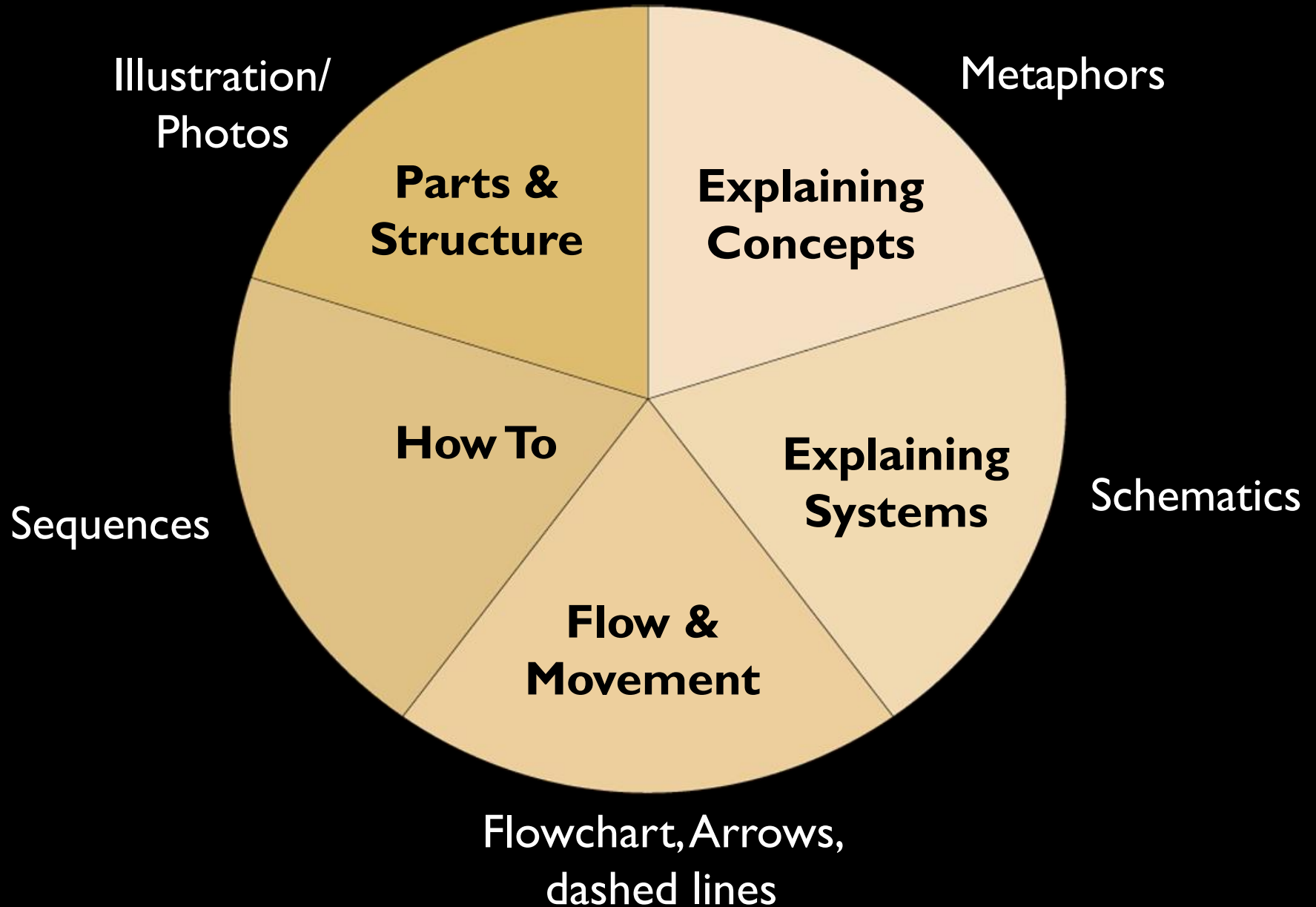


Benefits of Diagrams

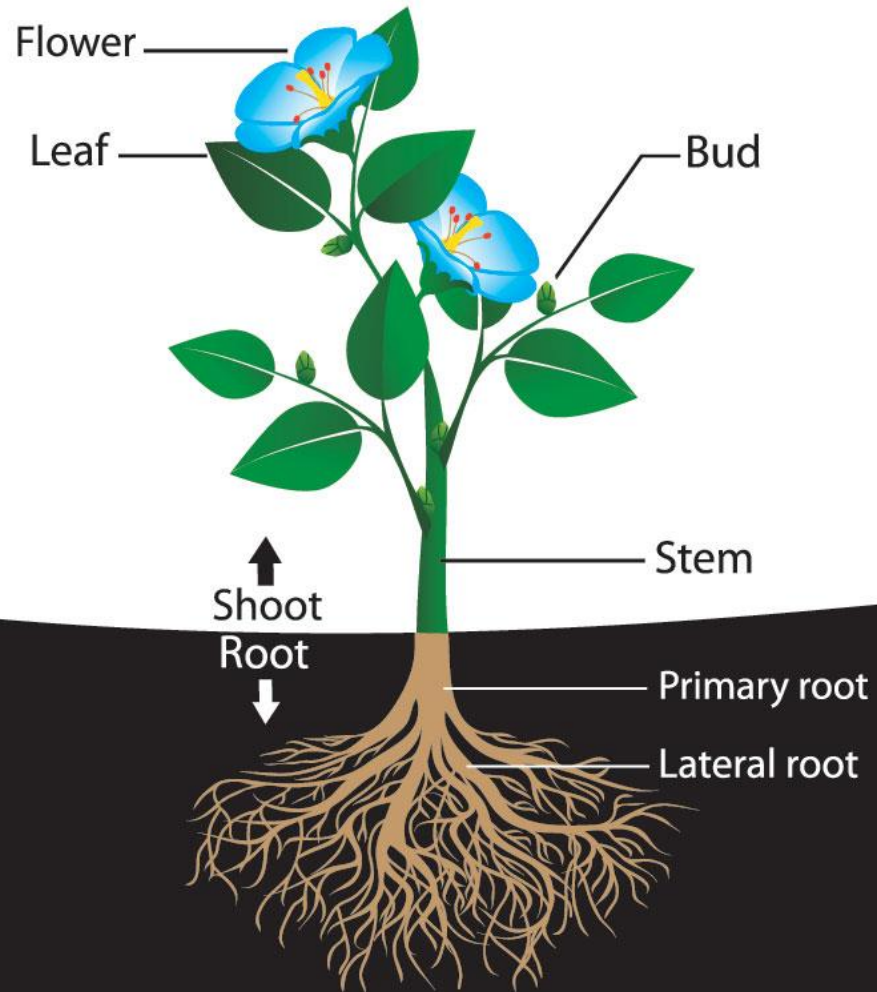
Less information to scan and process

Fewer visual distractions

Reduces load on working memory



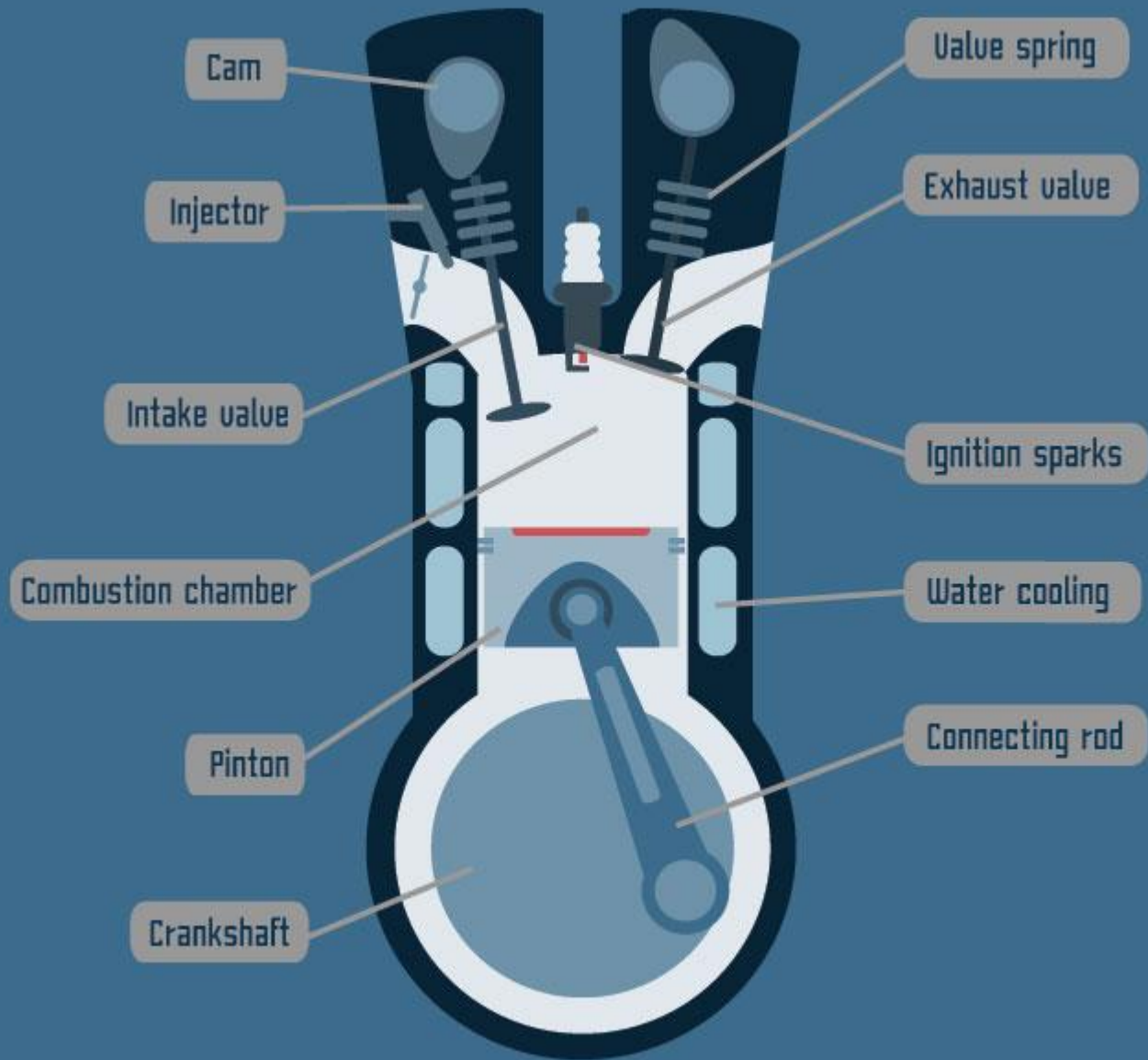
I. Parts and Structure





Key

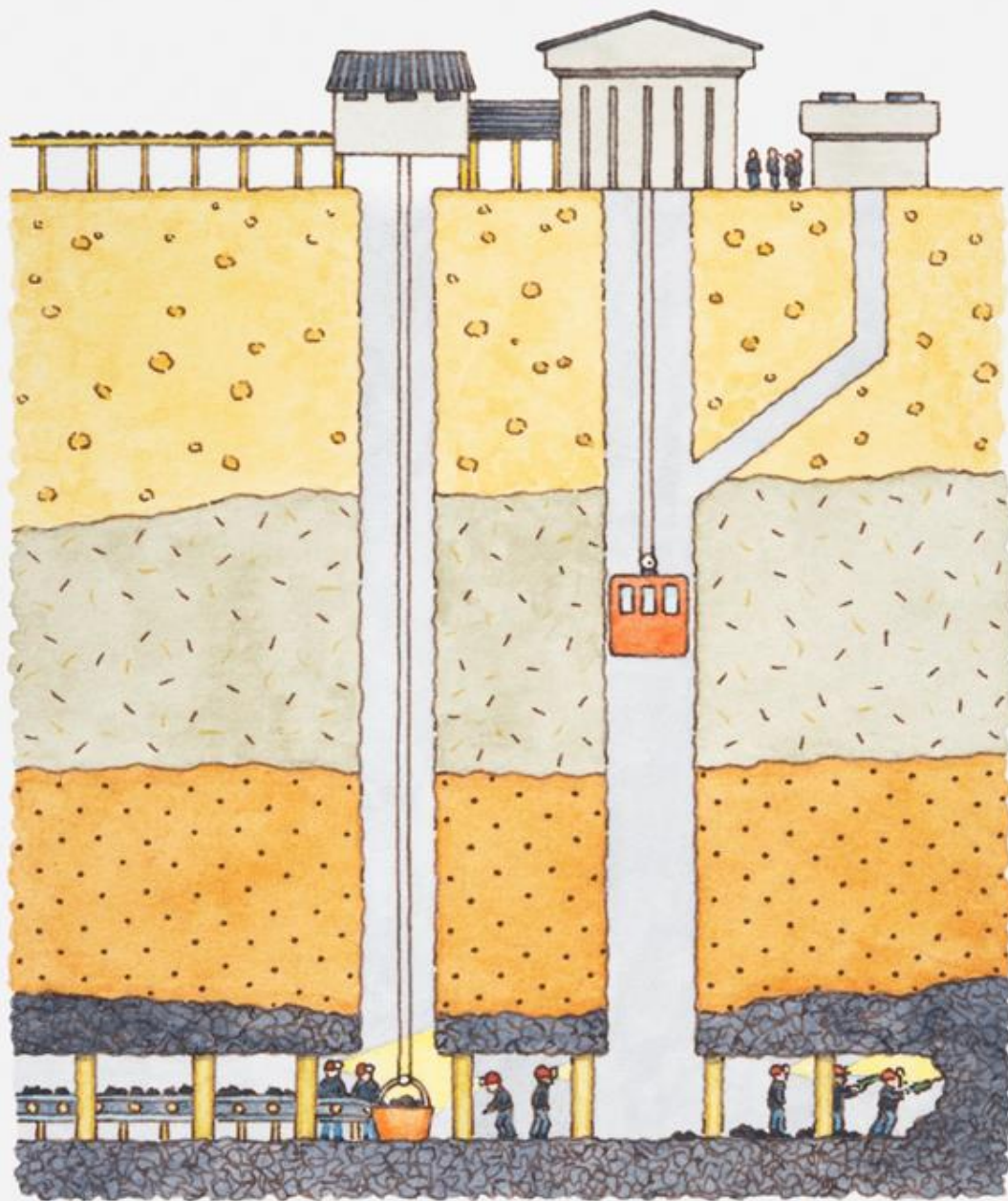
- 1 – camera part
- 2 – camera part
- 3 – camera part
- 4 – camera part
- 5 – camera part
- 6 – camera part
- 7 – camera part
- 8 – camera part



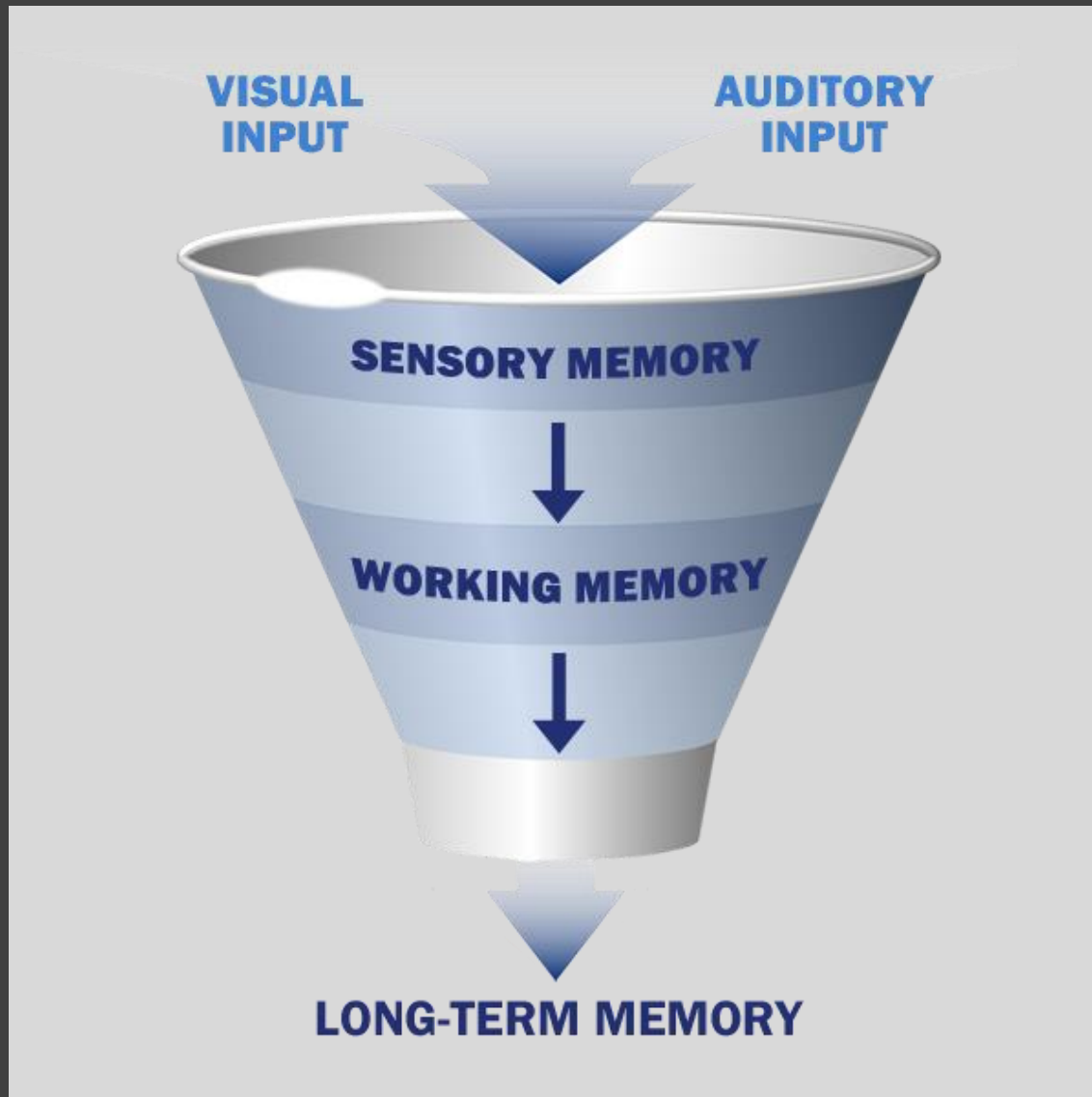
Levels of Protective Gear

These protocols, some specified by the C.D.C., were in place at some hospitals when Mr. Duncan was being treated in Dallas.

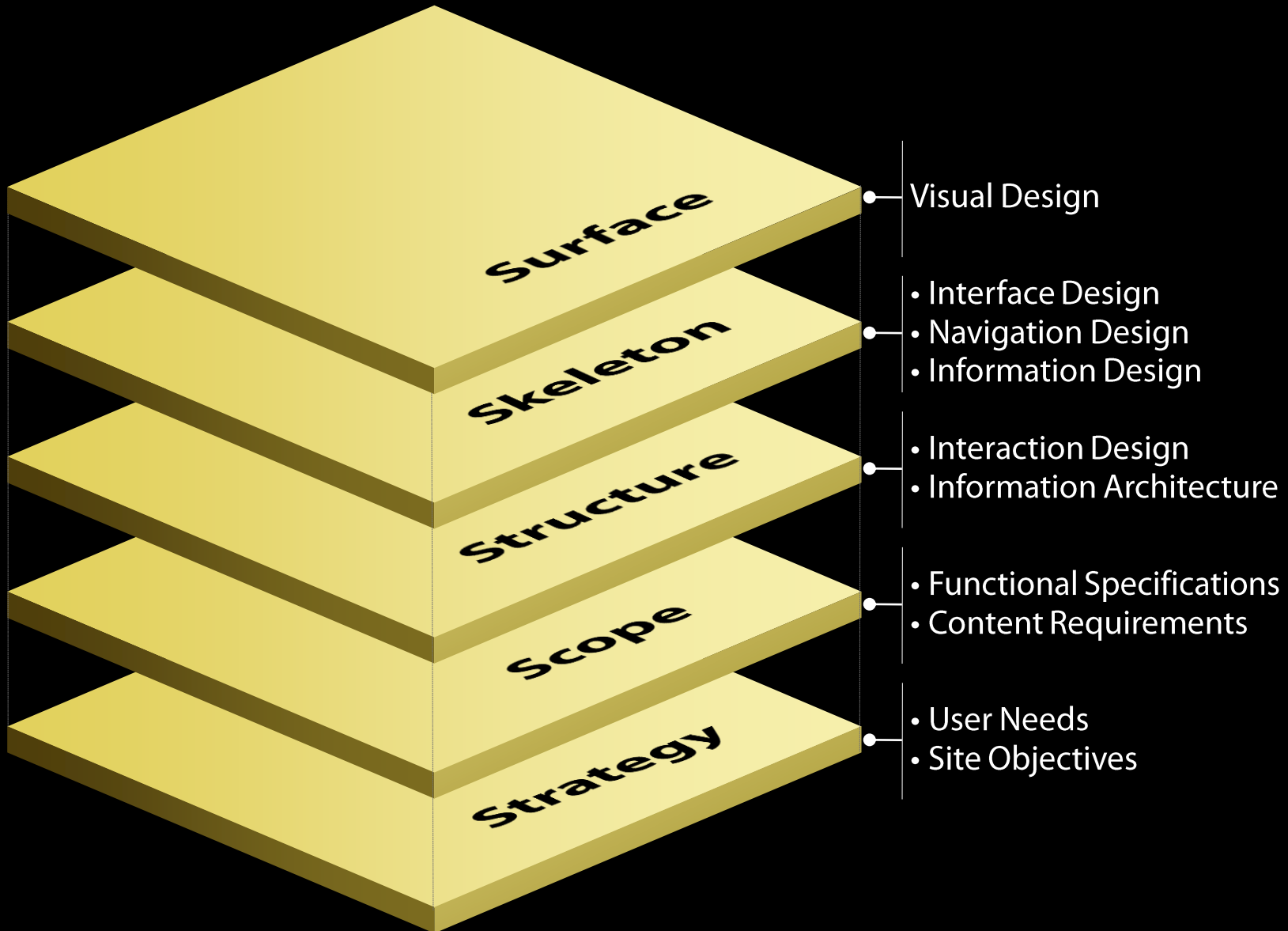




2. Explaining Concepts

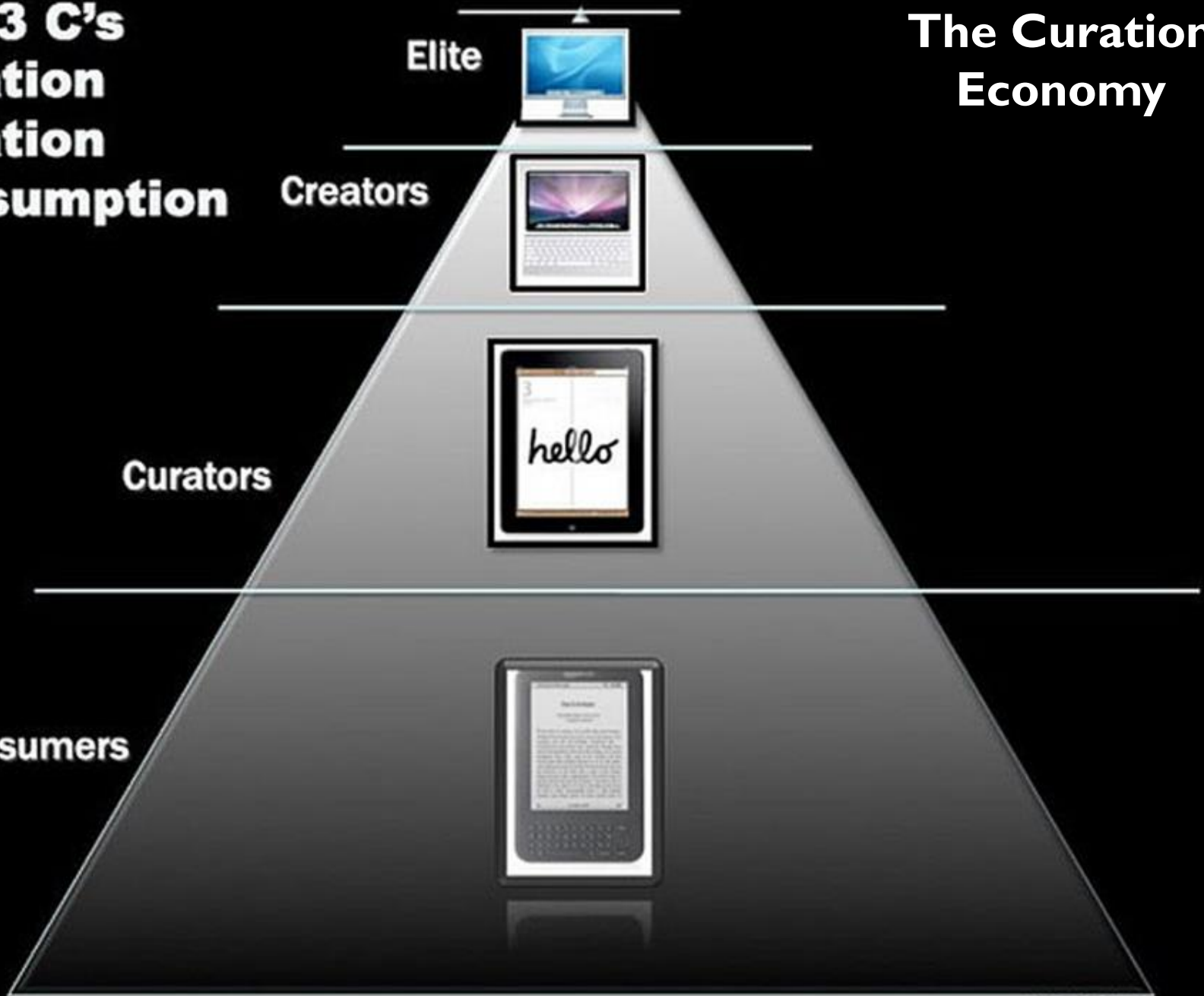


Elements of User Experience



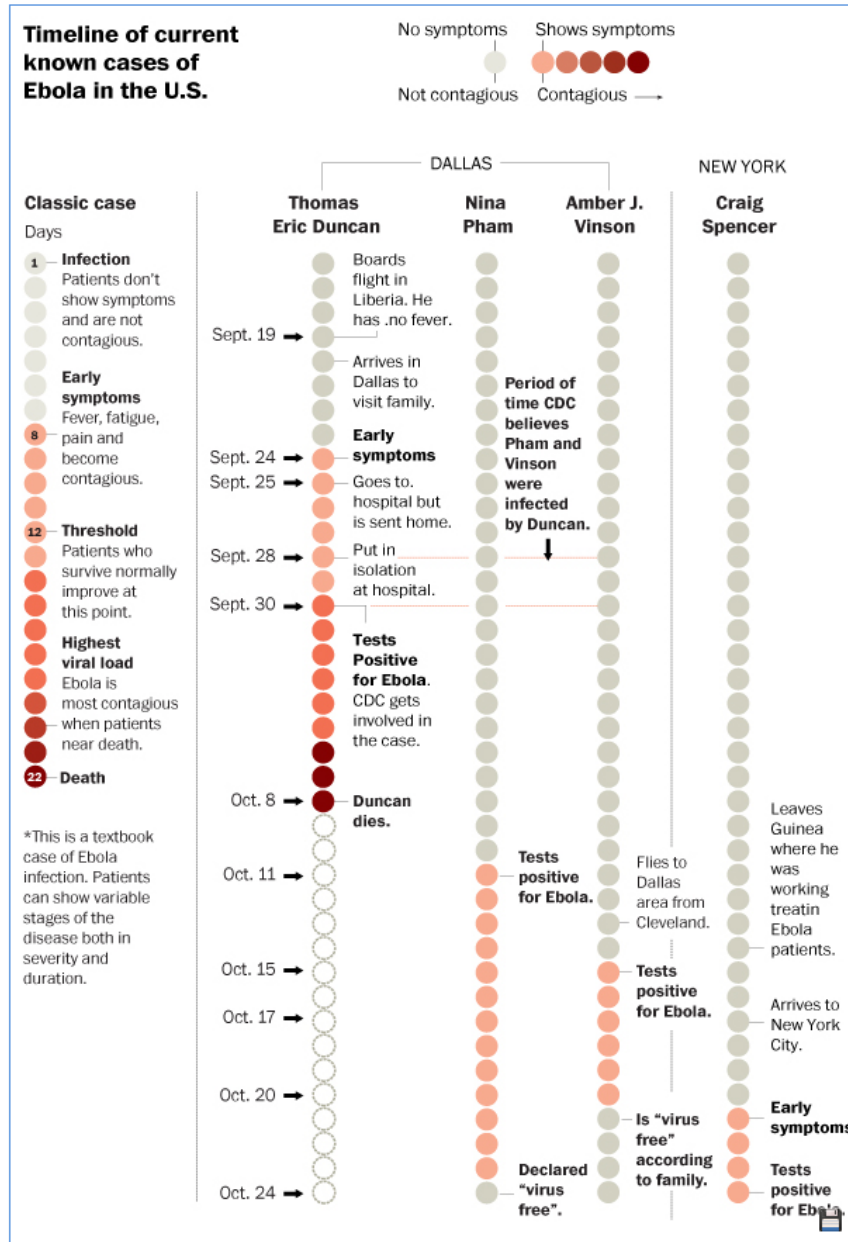
The 3 C's
Creation
Curation
Consumption

**The Curation
Economy**



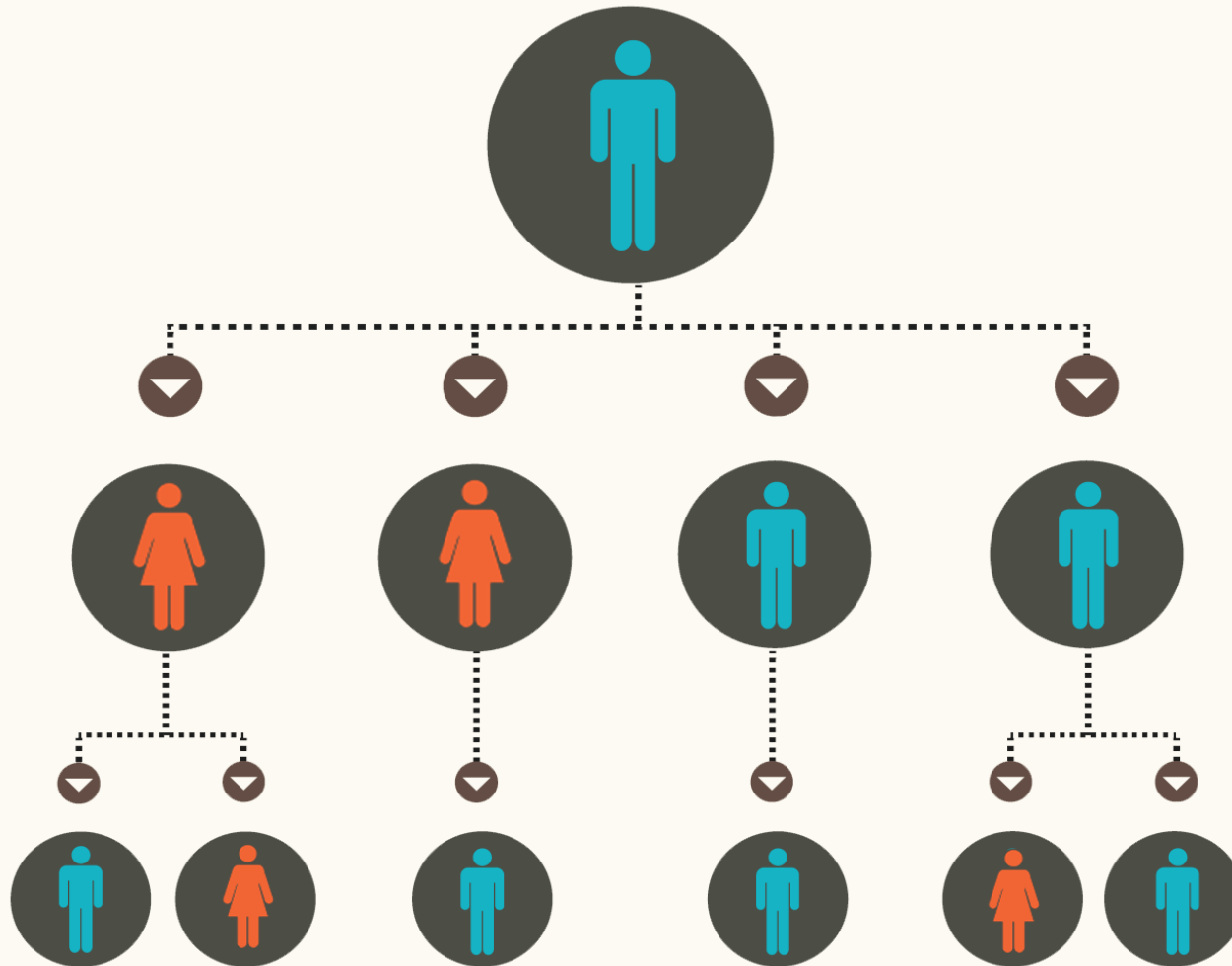
The time factor

Patients infected with Ebola are most contagious when their bodies are close to collapse and the “viral load” in their organs is at its peak. Time is a crucial factor in the occurrence of new cases of the disease.



3. Explaining Systems

Organization Chart



Kepler-22 System

Solar System

Habitable Zone



Kepler-22b

Mercury



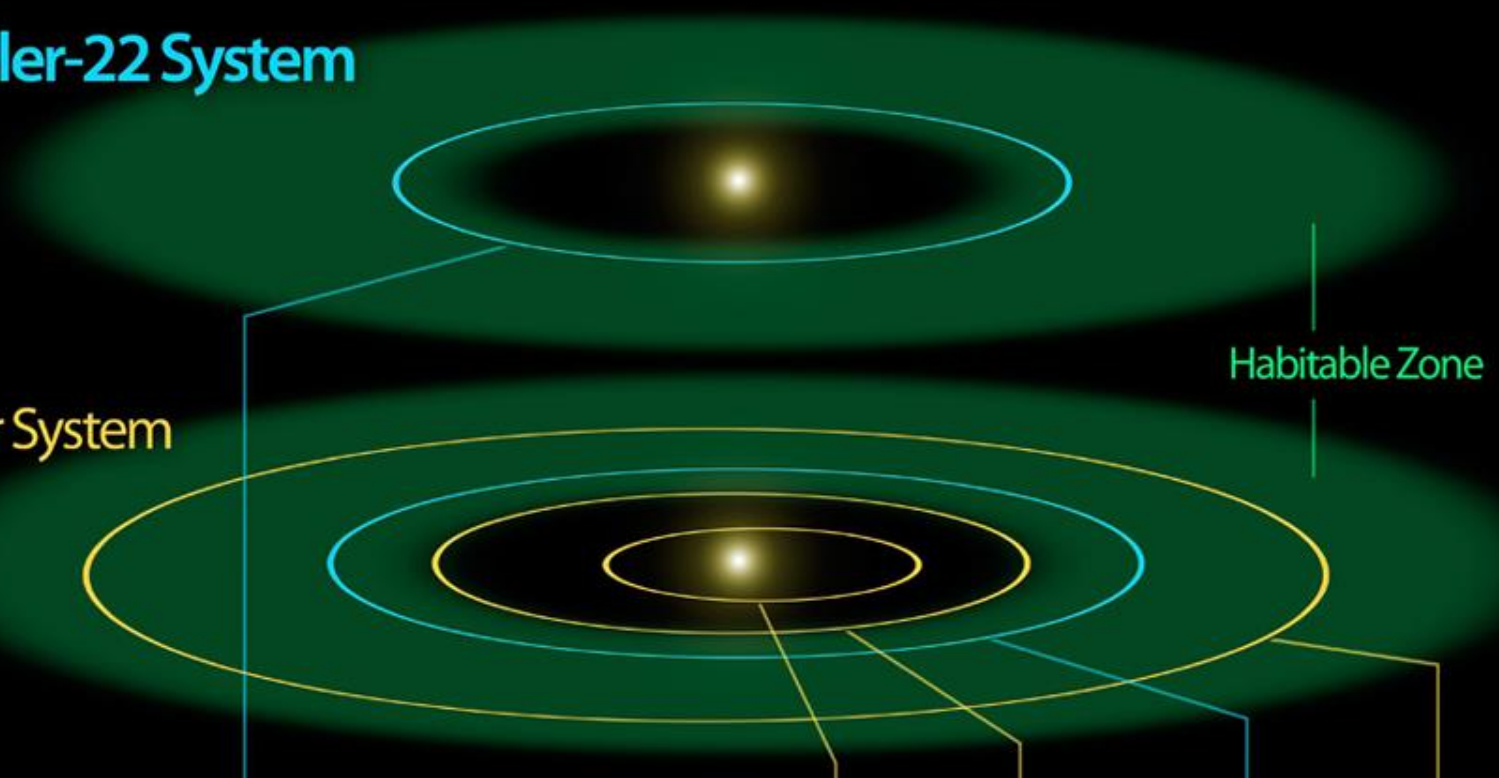
Venus

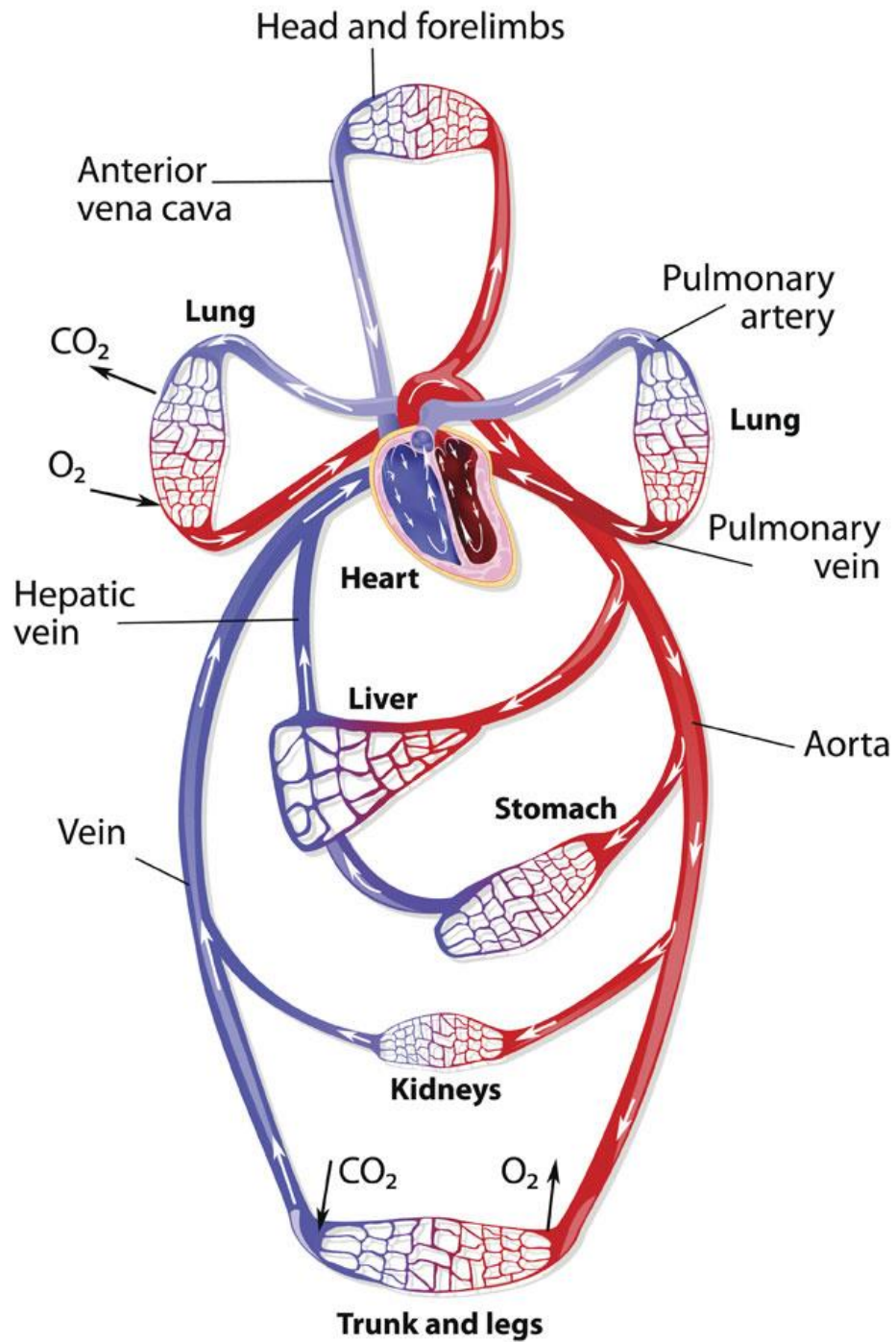


Earth

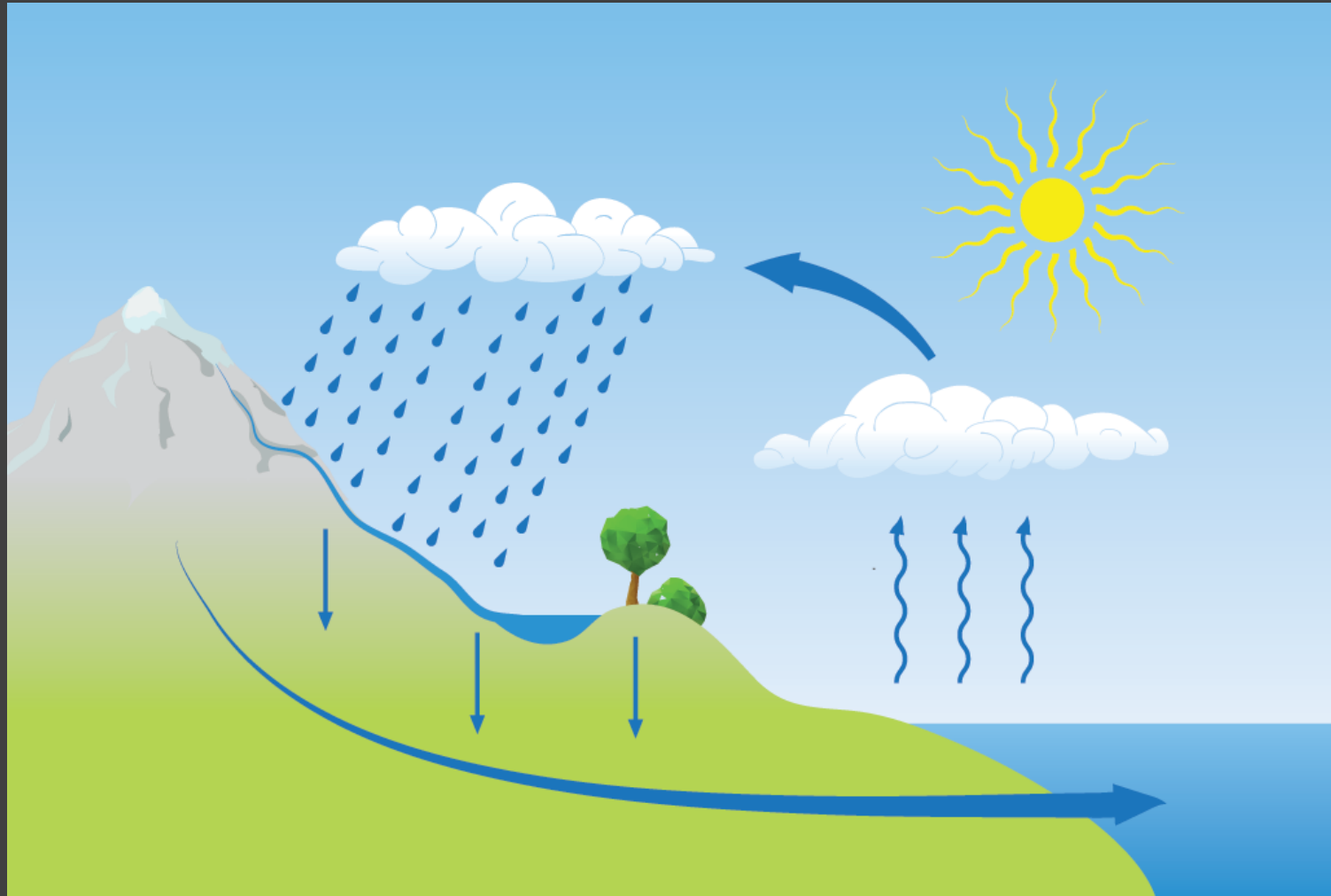


Mars





4. Explaining Flow



Phase Diagram



Intake Stroke



Compression Stroke



Power Stroke



Exhaust Stroke

A Cascade of Contacts From a Single Case of Ebola in Dallas

By HAEYOUN PARK OCT. 21, 2014

Federal health officials have tracked down and monitored hundreds of individuals who may have had direct or indirect contact with the three people in the United States who were confirmed to be infected with Ebola. The estimates of people affected are as of Monday afternoon. [RELATED ARTICLE](#)



Thomas Eric Duncan, a Liberian man who traveled to Dallas to visit family, died while being treated for Ebola at Texas Health Presbyterian Hospital.

 Confirmed Ebola case  No longer being monitored

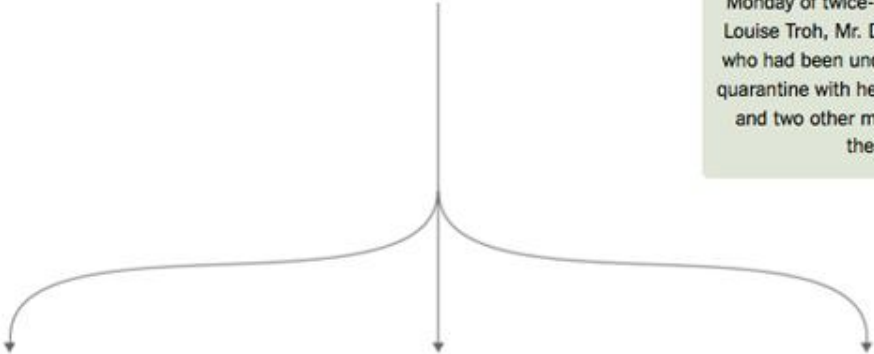
PEOPLE MR. DUNCAN HAD CONTACT WITH



About 120 people, mostly health workers, are being checked daily by officials who look for fever and other symptoms. Texas has asked hospital workers who cared for Mr. Duncan to sign a document agreeing to stay away from public places for 21 days.

48 people whom Mr. Duncan may have had contact with before being hospitalized had been monitored for 21 days.

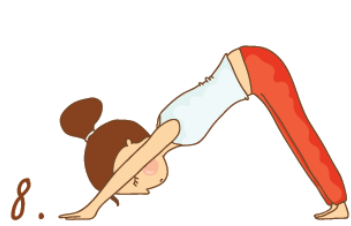
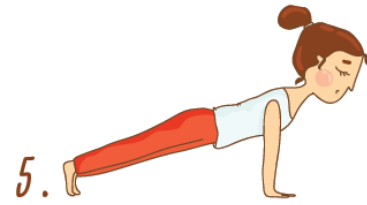
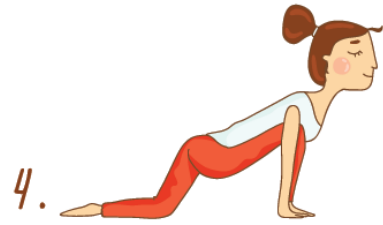
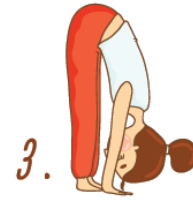
43 contacts were cleared on Monday of twice-daily monitoring. Louise Troh, Mr. Duncan's fiancée, who had been under state-ordered quarantine with her 13-year-old son and two other men, was among them.

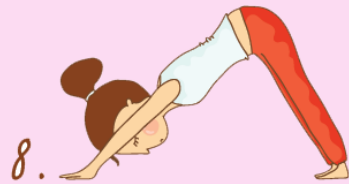
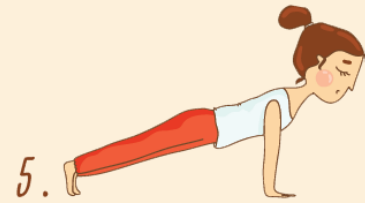
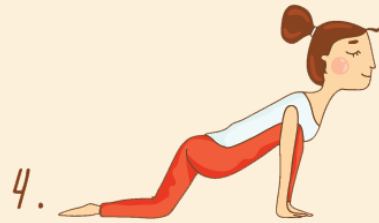


5. How To



**Step-by-Step
Spinach Dough**



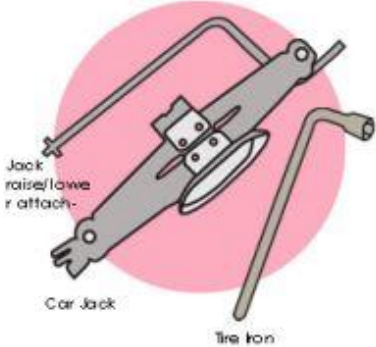


Changing a Car Tire

Caution!

Before proceeding make sure your emergency brake is on and that car is on leveled ground.

Tools Needed

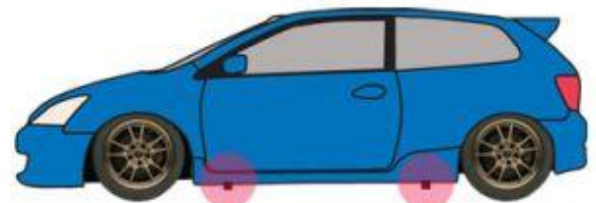


Location of Spare Tire and Tools



Tools and spare tire are kept in the trunk underneath the carpet

Jack Points



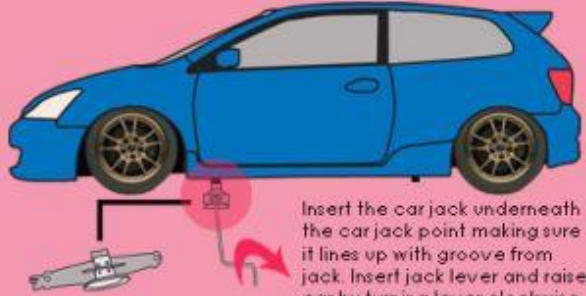
There are 4 jacking points. Two located on each side of the car in the locations outlined with the red circles. These are the points where the jack is placed when needing to raise car.

1. Loosening Wheel Bolts



First begin by Loosening the wheel bolts with the tire iron by turning iron counter clockwise. Do not remove bolts completely.

2. Raising Car



Insert the car jack underneath the car jack point making sure it lines up with groove from jack. Insert jack lever and raise car by turning lever clockwise.

3. Removing Tire



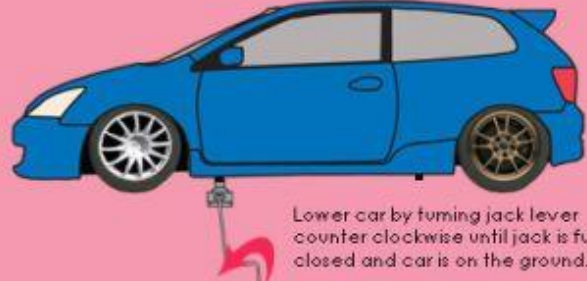
Once car tire is lifted off the ground, continue to unbolt the nuts the rest of the way and pull off tire. Pull towards yourself.

4. Replacing Tire



Put replacement tire on the car and secure with bolts. Screw bolts on with tire iron to hold tire in place.

5. Lowering Car



Lower car by turning jack lever counter clockwise until jack is fully closed and car is on the ground.

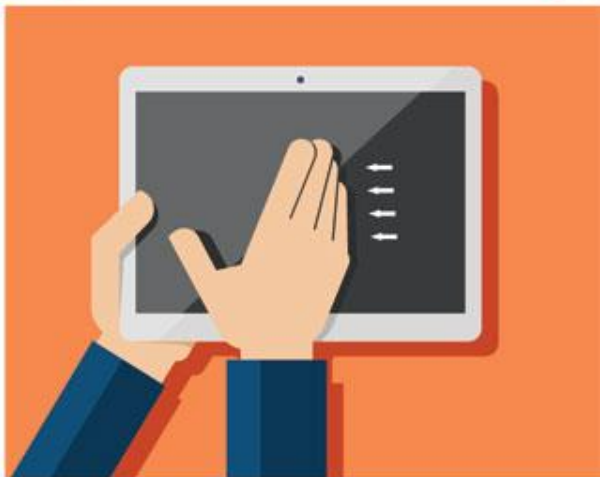
6. Tightening Wheel Bolts



Tighten wheel bolts by turning tire iron clockwise. Tighten one bolt at a time by alternating from one to the other in a "X" direction.

Done!

By Enrique Tejero



STORIES

GRAPHS

DIAGRAMS



Content



Cognitive
Architecture

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