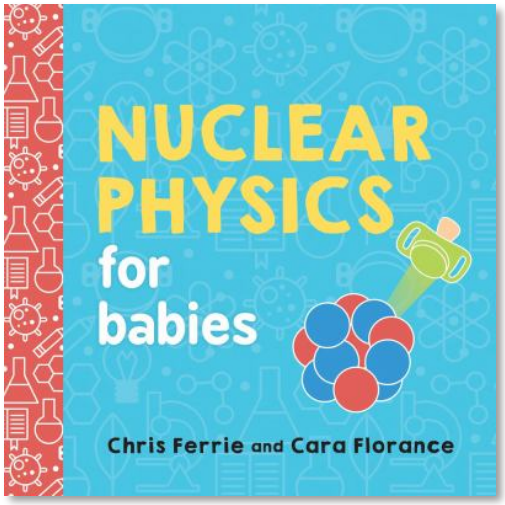
# How to Think about
# Effective Communication

NSE
Nuclear Science
and Engineering
science : systems : society

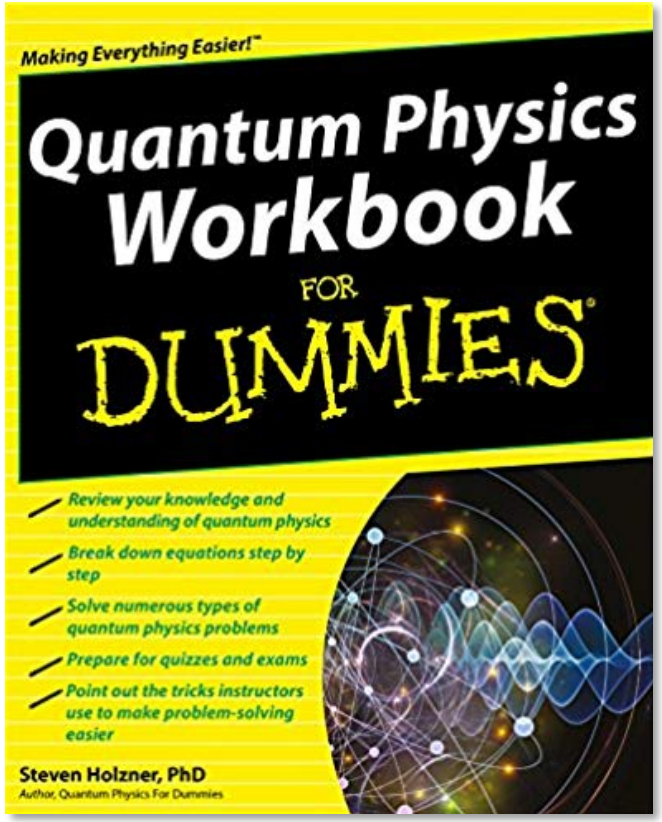
22.011
Nuclear Science:
Science, Systems, and Society

Feb 12, 2020

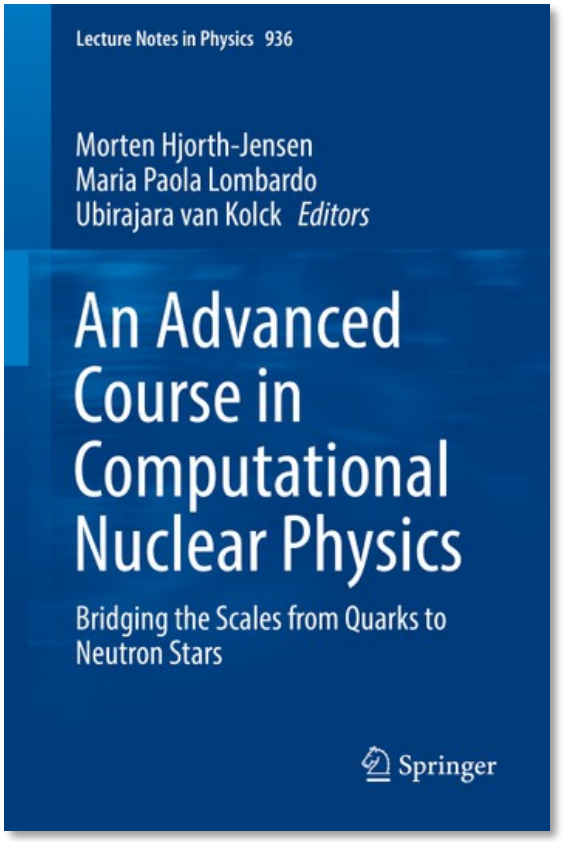
# Who, Why, What, How



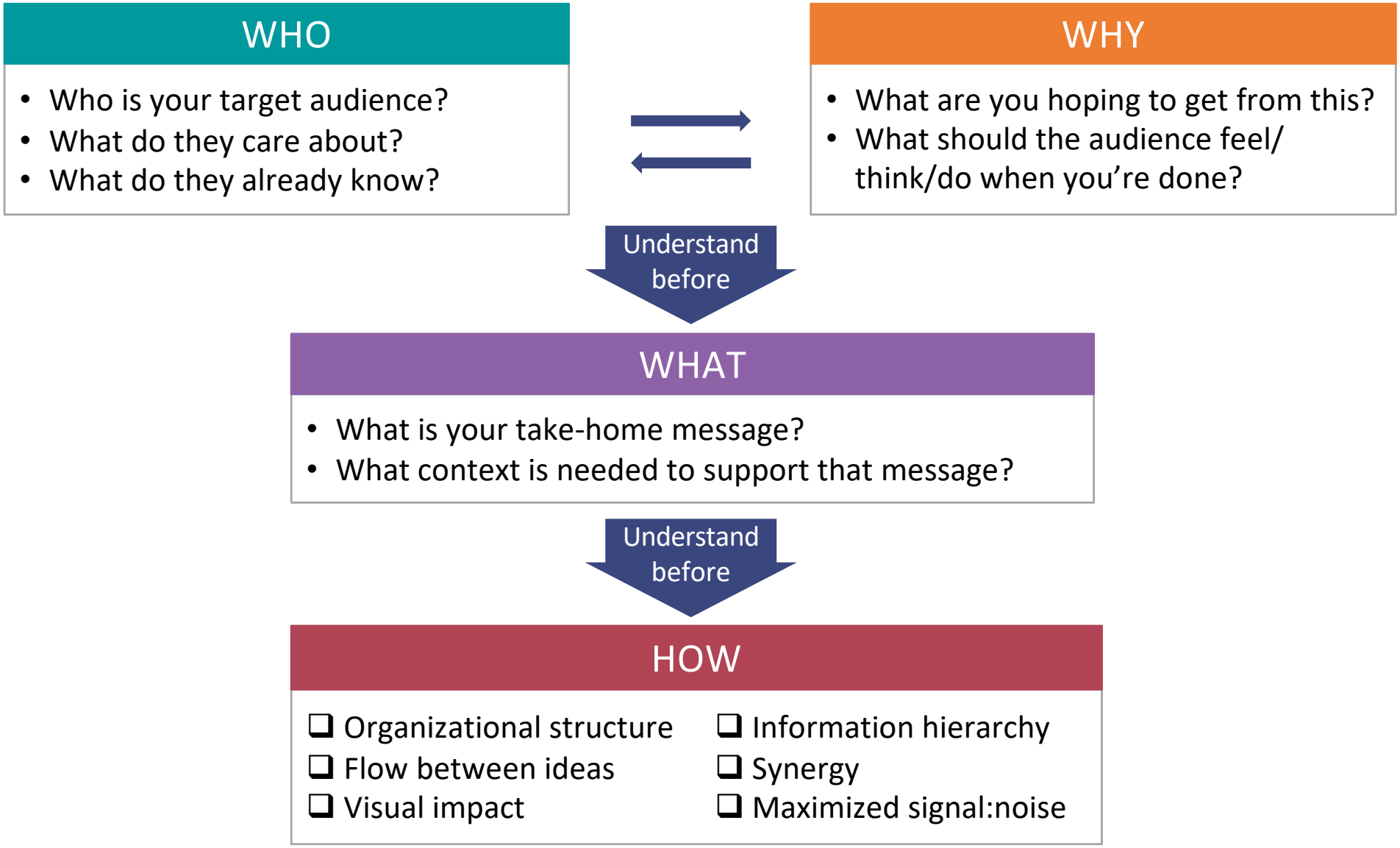




# Communication decisions are driven by audience and objectives



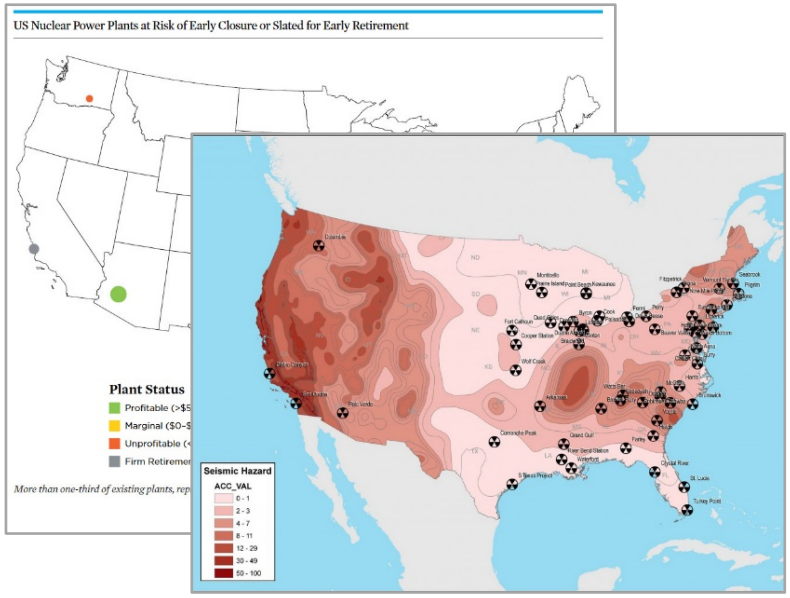





Framework by MIT School of Engineering Communication Lab

# Plan for today:

## Extract layers of information from a visual




You'll learn the sources after the activity.





## Turn a message from text to a visual (bar graph, pie chart, etc.)

We are surrounded by naturally occurring radiation. Only 0.005% of the average American's yearly radiation dose comes from nuclear power; 100 times less than we get from coal[1], 200 times less than a cross-country flight, and about the same as eating 1 banana per year[2].

Before we jump in...

# Visuals often have layers of information

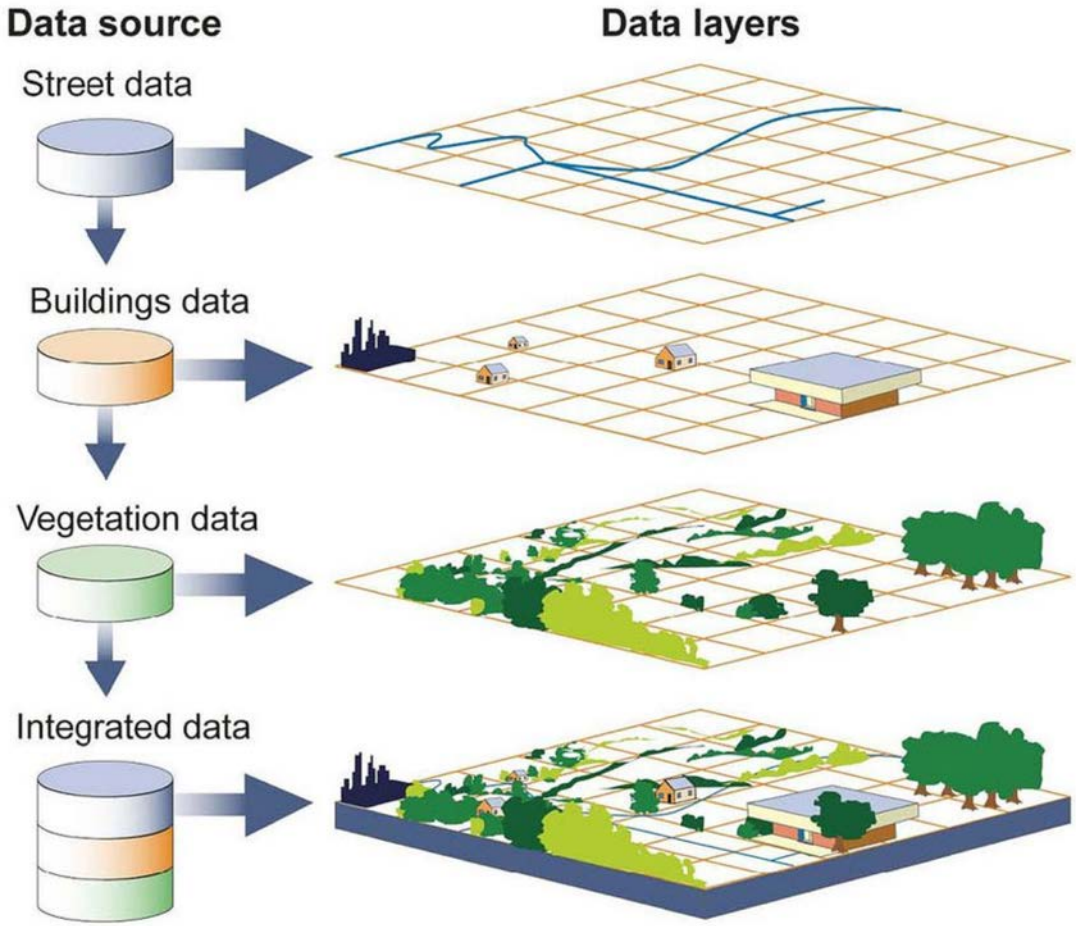




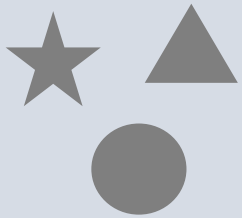

Image: Sušanj, Ivana et al. (2013). WMHE 2013 - 13th International Symposium on Water Management and Hydraulic Engineering, At Bratislava; Slovakia, Volume: 13th

Before we jump in...

# Visuals convey information in many ways

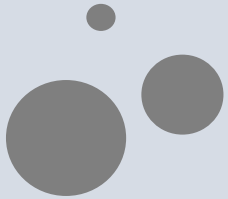
Titles

Symbols



Color

Size

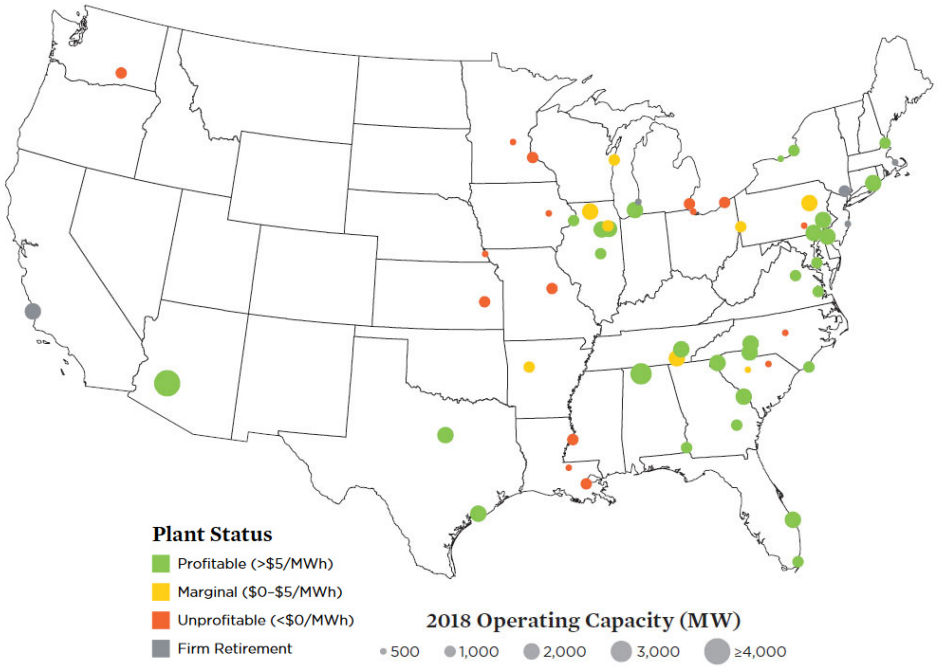


Labels

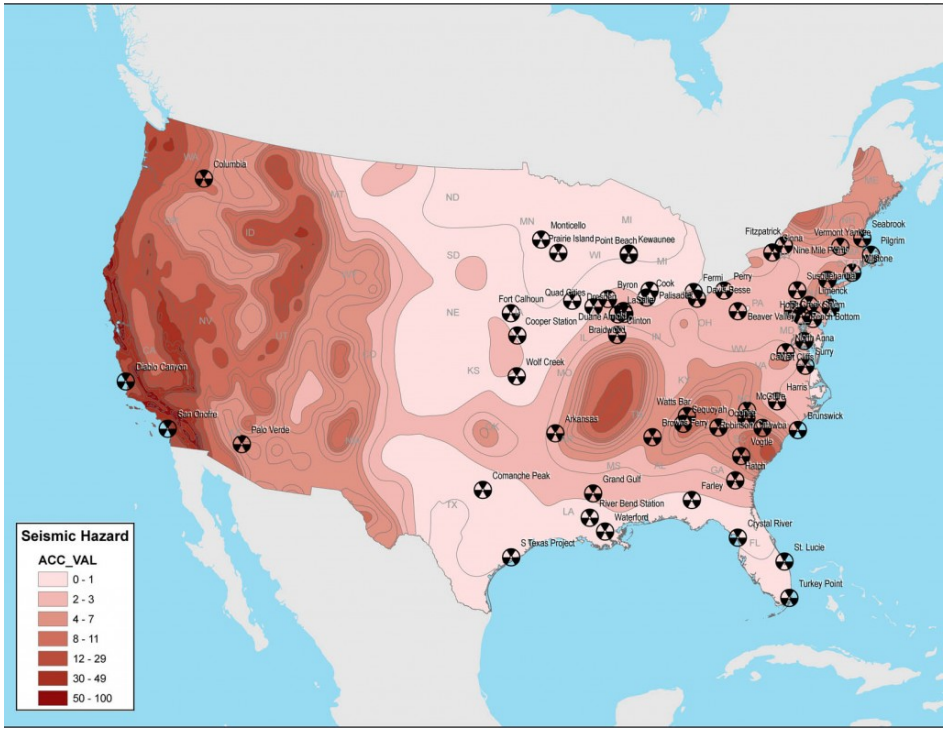
Empty space

Text *font,* size, & **color**

# Activity 1







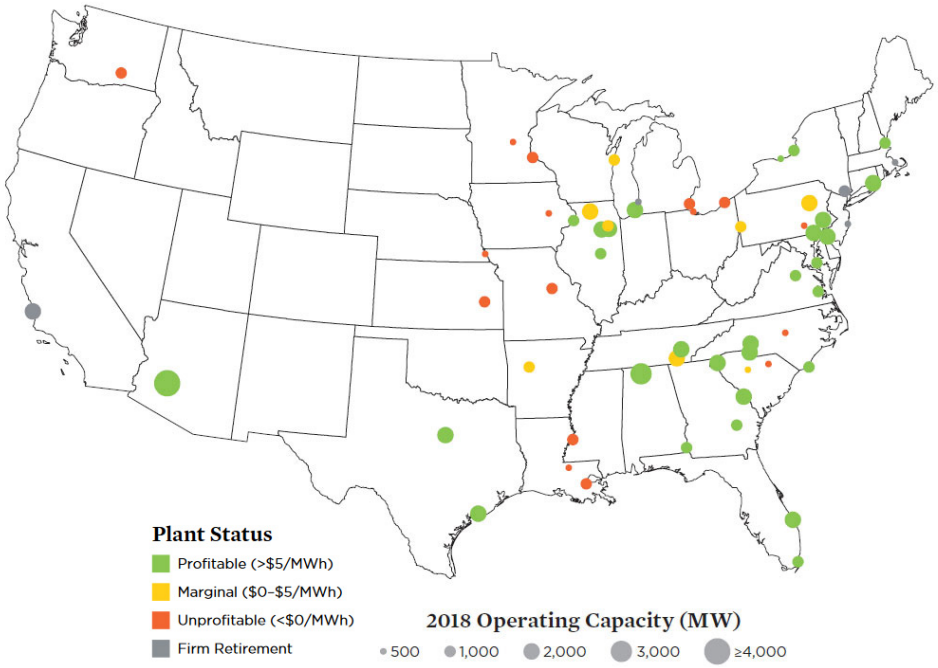

In each figure:

**What** layers of information are shown?

**How** is each type of information shown?

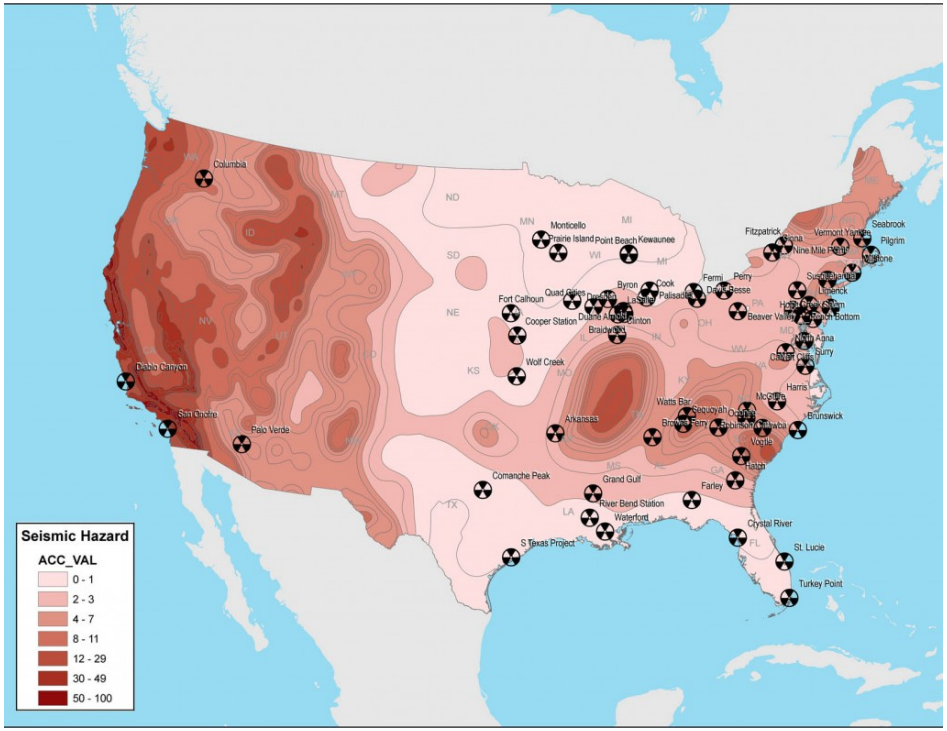
# Activity 1

## From: Union of Concerned Scientists






## From: Green Peace

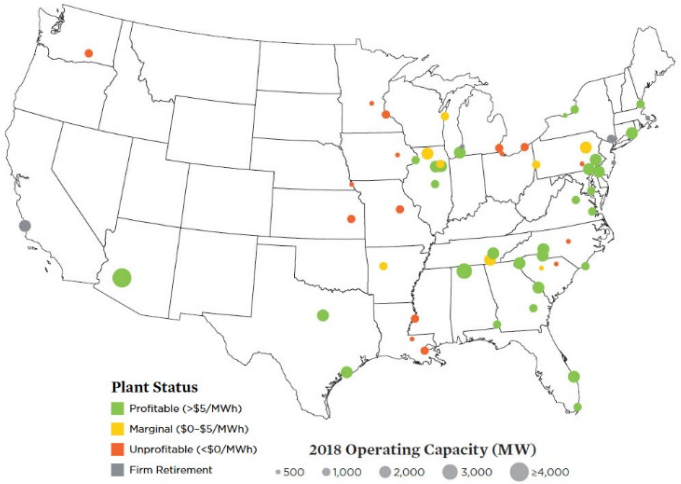





For each figure:

**Who** is the intended audience?

**Why** was the figure created? What was the desired outcome?

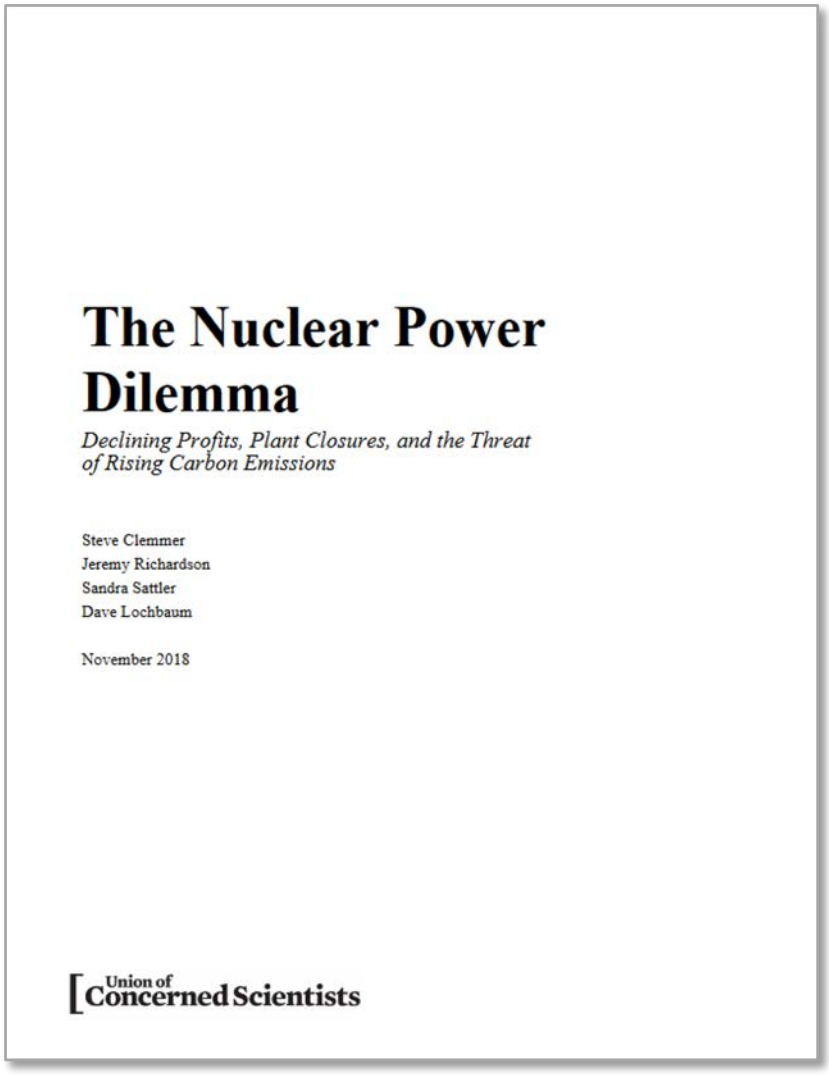


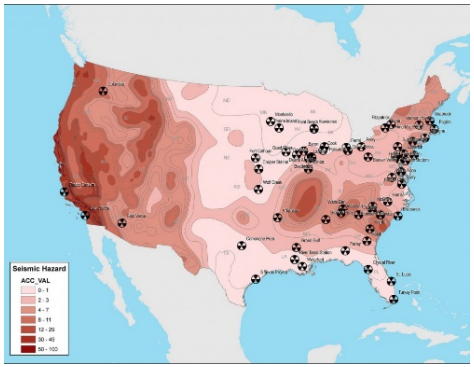



The UCS analysis found that:

***More than one-third of existing plants, representing 22 percent of total US nuclear capacity, are unprofitable or scheduled to close*** (Figure ES-1). On average, projected operating costs exceed revenues between 2018 and 2022 for 16 nuclear plants in addition to five plants scheduled for retirement. These 21 plants accounted for 22.7 gigawatts (GW) of operating capacity in 2018. The annual average cost of bringing unprofitable plants to the breakeven point is $814 million, for a total of more than $4 billion over five years. Merchant plants are more susceptible to

…






# Nuclear Power Plants and Earthquake Risks

Posted by Infra on Tuesday, March 29th, 2011

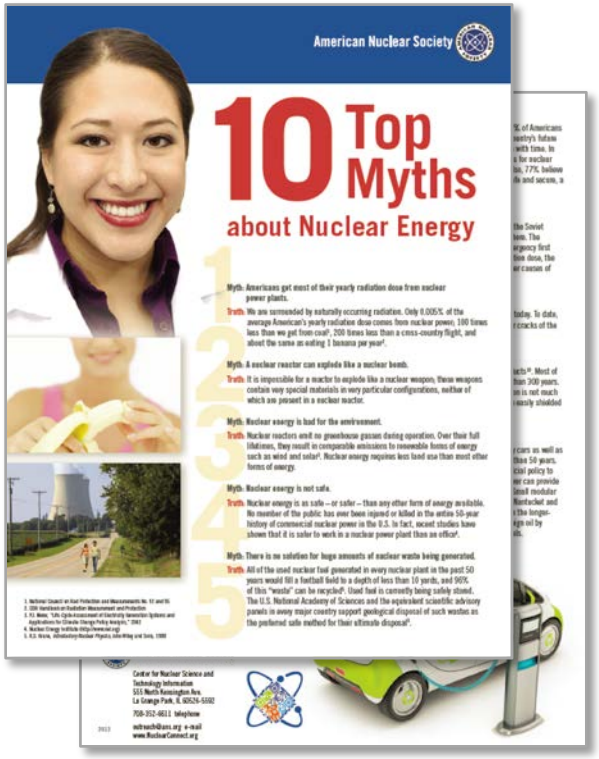
"This map shows areas of equal seismic hazard and indicates the minimum peak horizontal ground acceleration value, a measure of the how hard the ground shakes in a given area. The map also shows locations of the 63 US nuclear power plants. The data comes from the US Geological Survey Geological Hazards Team and the US Energy Information Administration."

**-Greenpeace.org**

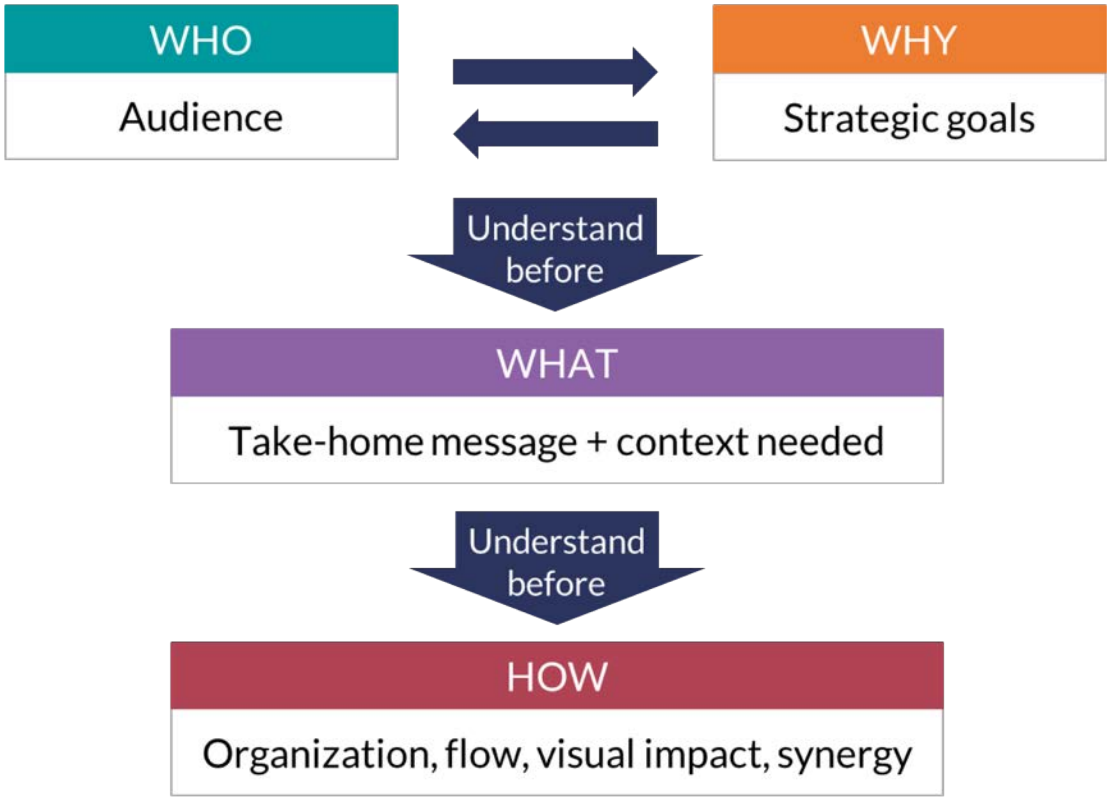


Source: https://www.infrastructureusa.org/nuclear-power-plants-and-earthquake-risks

# Activity 2: In groups of 3-4, select one of the myths and turn it into a visual





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