Introduction 2

- How do we know things?
- Genetics Introduction

Fill out an information sheet!

Labs start next week!

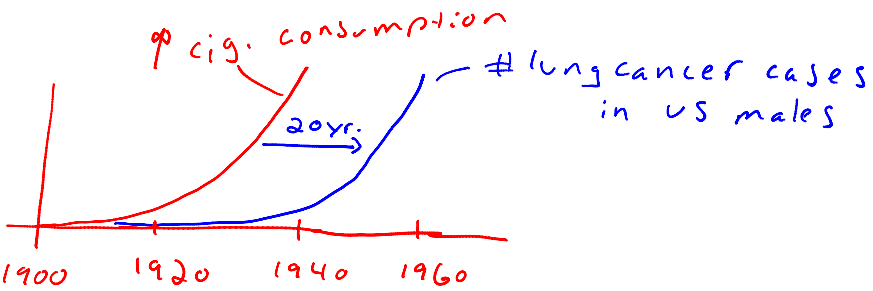
- Due in Lab – Pre-Lab 01

Next Week you will need:

- Campbell book (8th edition)
- Problems Book
- Lecture Handouts
- Lab Manual
- iClicker
- Copy of Problems book CD

ex. Smoking ↑ risk of lung cancer

observations:



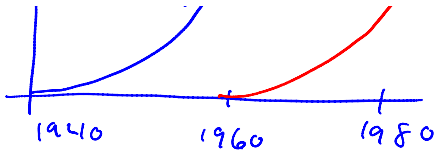
per 100,000 people

non-smokers = 11 Smokers = 122 (10x)

Hypothesis: ① Smoke —20yrs.→ lung cancer

② Something else → lung cancer

women's cig. consumption. — # lung cancer cases in women



more data → ↑ confidence

Science = ~~certainty~~ vs. confidence

Genetics → explaining genes
= analysis of inheritance

Gregor Mendel (1850's)
→ model that explains observations & predict outcomes

pre-Mendel = blending inheritance
→ offspring look like mixture of parents

Starting Point

① organism = pea plant

② Specifics characteristics w/ distinct traits

feature of organism — variant of char.

ex. pea shape ○ ☁
plant height tall / short

pure-breeding plant
→ always identical offspring

crossed (sym. X)

Experiment I

parents cross #1 pure-breeding round ○ X pure-breeding wrinkled ☁

offspring (F_1) = all round ○ → wrinkled disappears

cross #2: F_1 round X F_1 round

cross #2 : F_1 round ○ × F_1 round ○

offspring F_2 round ○ : wrinkled ○

5474 : 1850

2.96 : 1

~ 3 : 1

Mendel -> make model ⇒ predict outcomes

Blended Inheritance Model