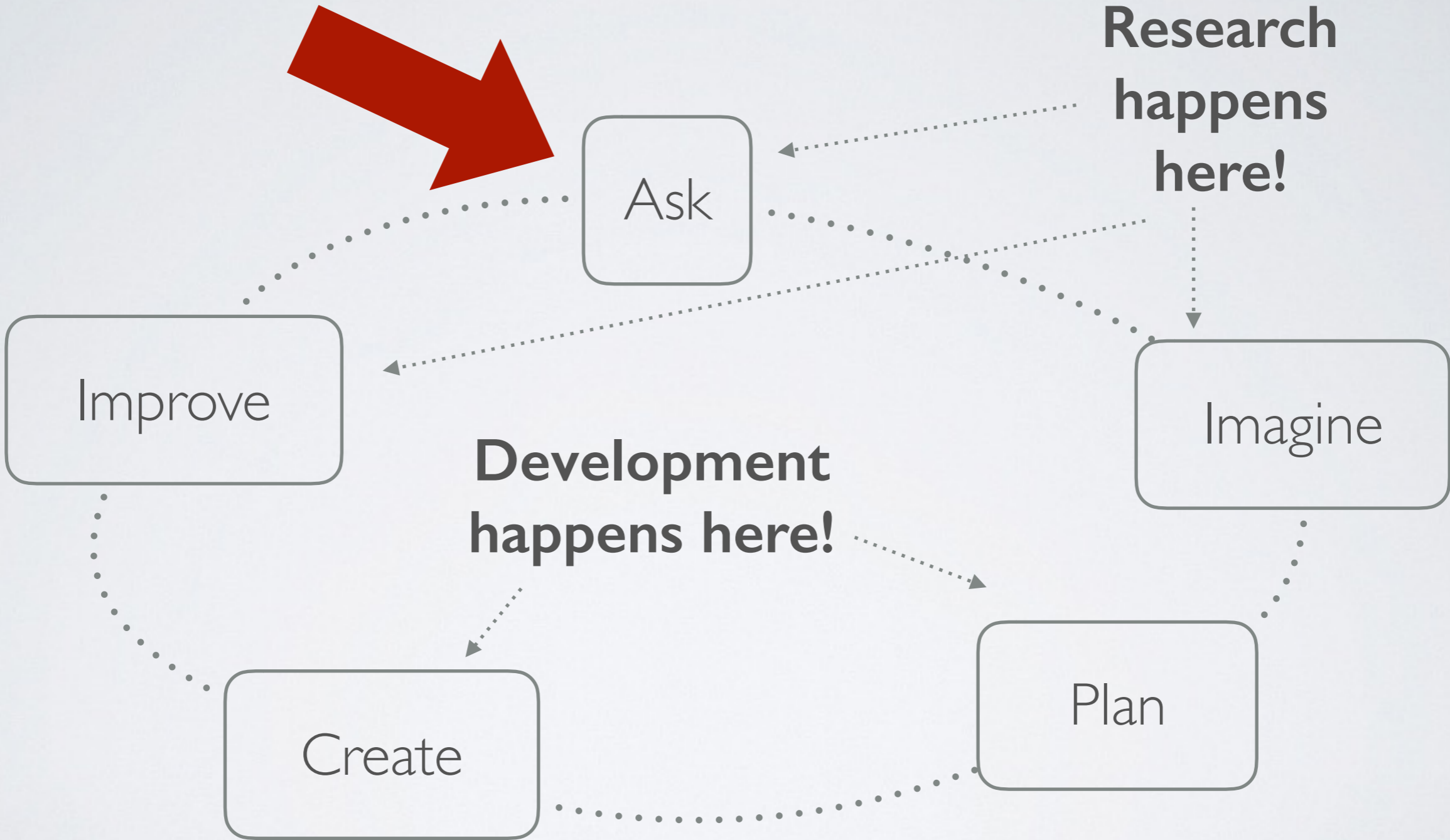


# RESEARCH & DEVELOPMENT

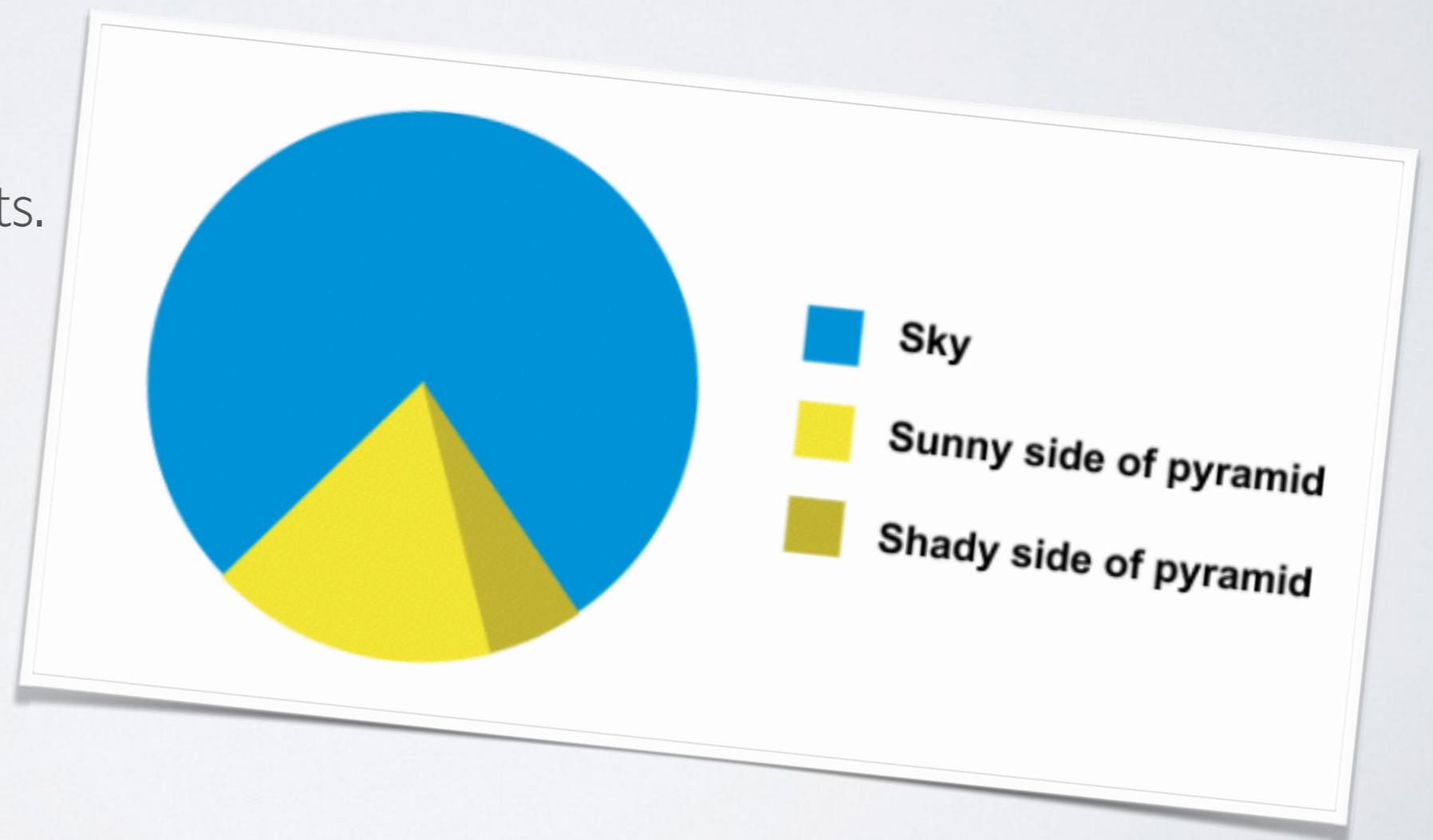
- Many companies have R&D departments whose specific goal is to look at market needs to determine what inventions or innovations are necessary to make a profit
- R&D Teams consist of: Engineers, Product Designers, Researchers, Scientists > **Combines creative and technical knowledge**

# ENGINEERING DESIGN PROCESS



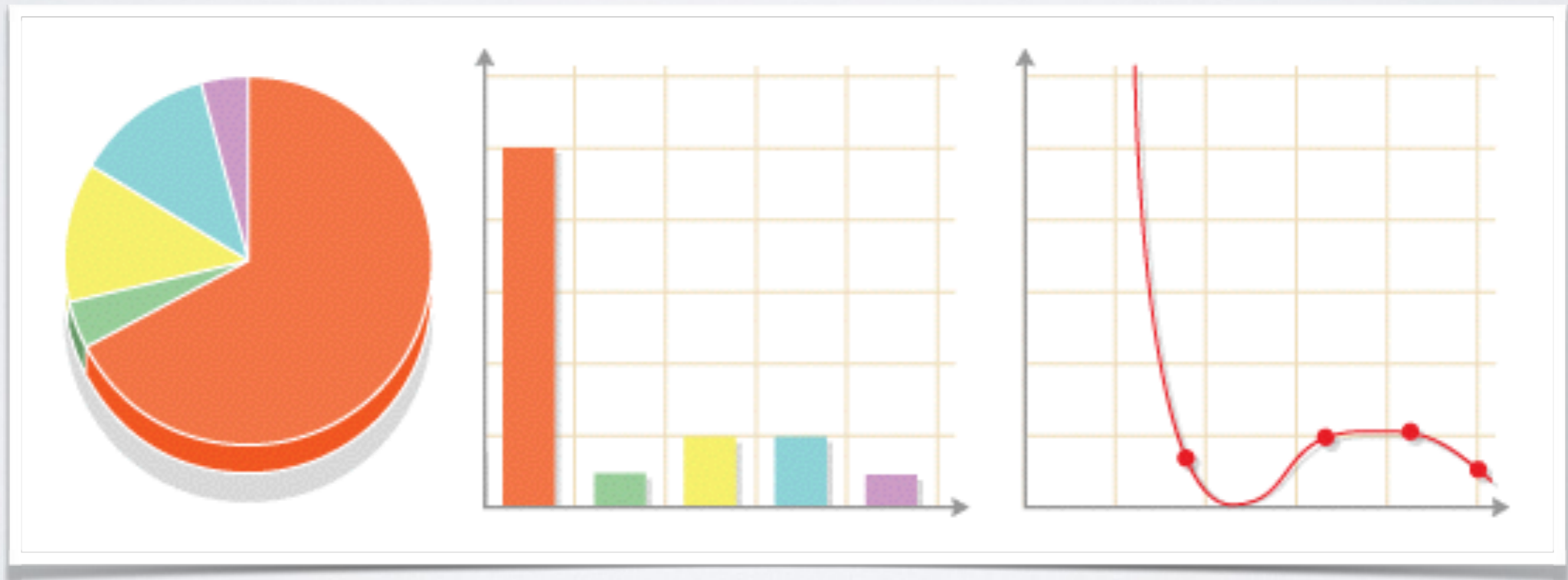
# INTERPRETING CHARTS

- It's important to be able to analyze data during Research & Development to make sure that decisions are made logically.
- Some charts you may see include bar, pie, and line charts.



# INTERPRETING CHARTS

- TIPS:
  - Read the title of the chart
  - Read the labels
  - Don't confuse raw values for percentages



# EFFECTS OF INVENTIONS/INNOVATIONS

- When developing new products, we have to consider the effect of that product.
- An **unintended side-effect** sometimes happens when a new technology becomes popular. For example, online marketing was designed so that it will target specific audiences based off of search history and browser histories. Unfortunately, this data is sometime used maliciously. Things like identity thief as a result of online ads is an unintended side-effect.

# UNINTENDED SIDE-EFFECTS



Iron Monger used the tech of Tony Stark's Iron Man Suit for evil.

# PATENTS

- Companies, designers and engineers will submit ideas to be patented to protect their creative property rights.
- A **patent** a government authority or license conferring a right or title for a set period, especially the sole right to exclude others from making, using, or selling an invention.

