The Value of Data
Data, Information, and Intellectual Property

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Learning Objectives

- Differentiate between data and information

- Explain how businesses make data-driven decisions

- Understand the importance of intellectual property protections (copyrights, trademarks, patents)
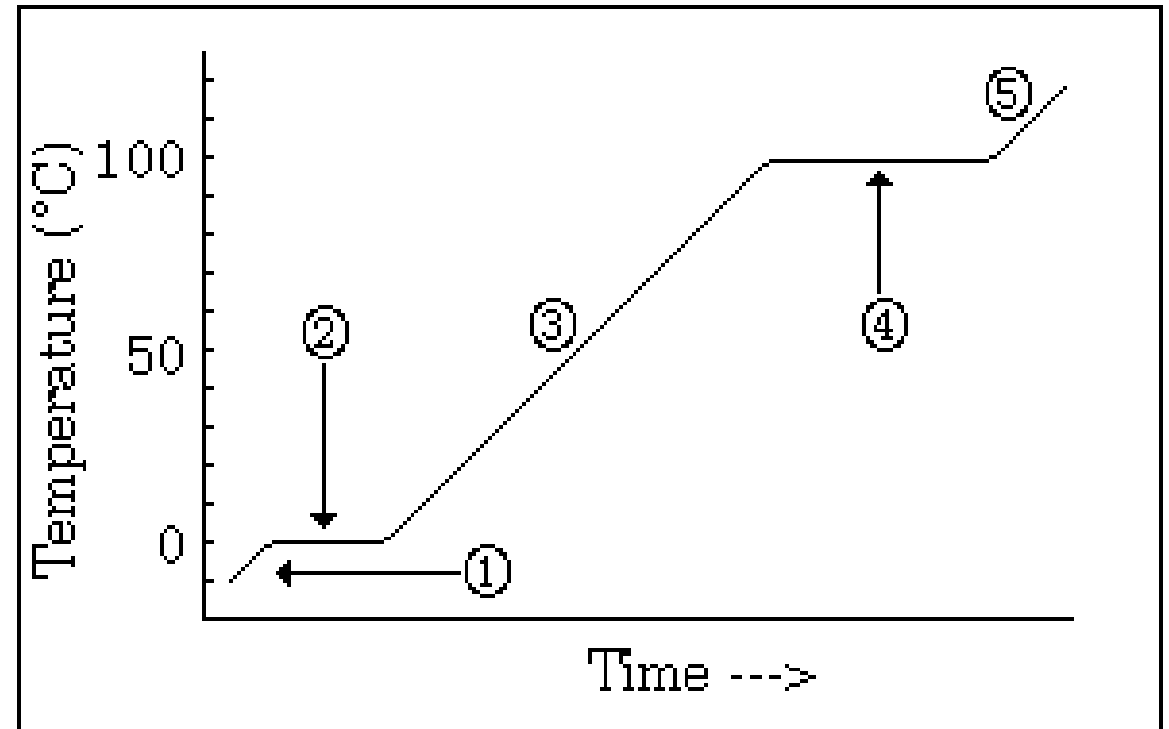
Why Is Data Valuable?

- In today's economy, data is as valuable as physical assets.

- Businesses rely on data to make decisions and stay competitive.

- Data-driven insights can help optimize operations, avoid risks, and improve customer experiences.
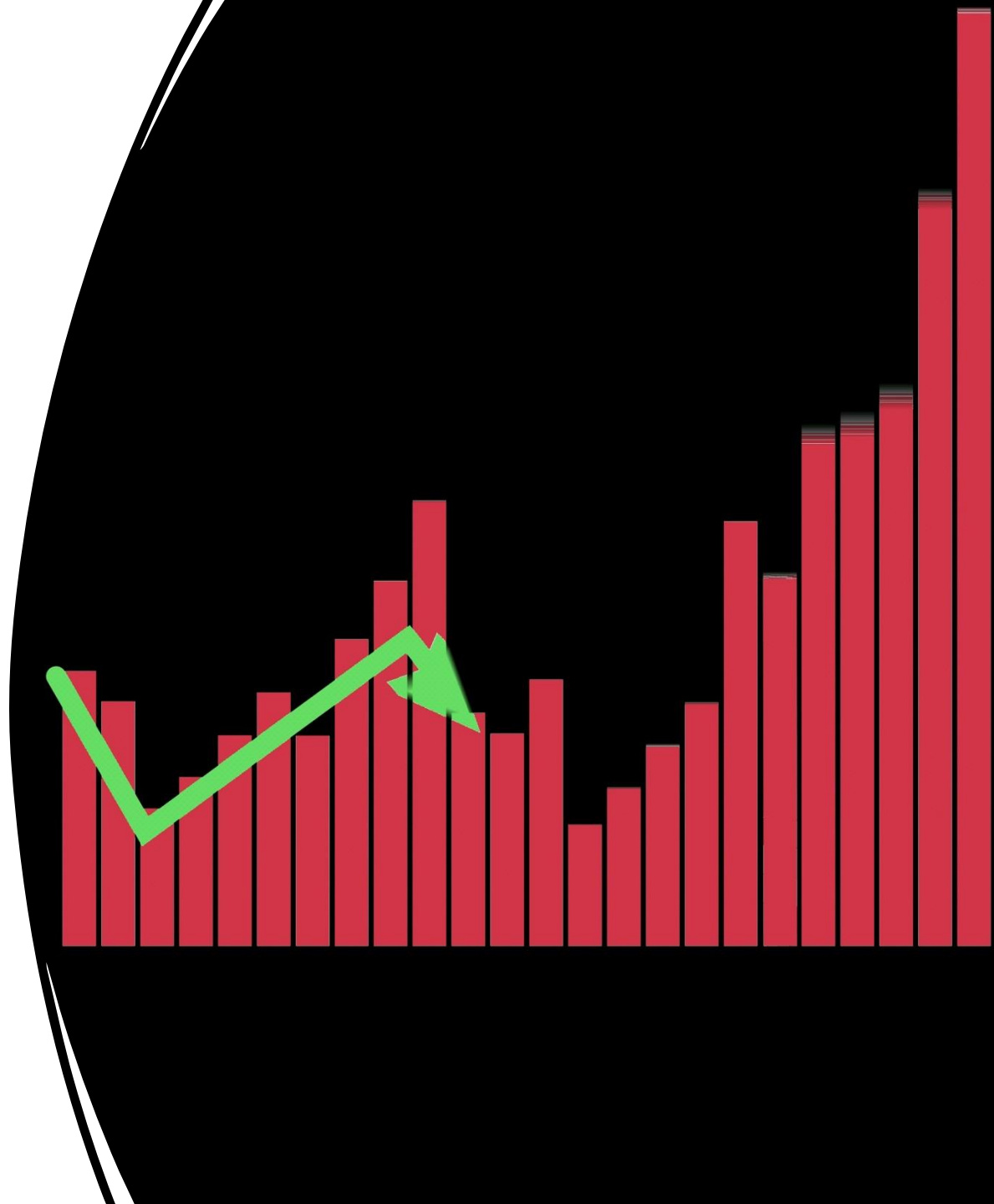
Data vs. Information

- **Data:**
- Raw facts and figures (e.g., temperature readings, sales numbers).
- Example: Temperature readings taken every 10 minutes in a factory.
- **Information:**
- Data that has been processed and analyzed to provide context and meaning.
- Example: A graph showing how temperatures spike every afternoon.
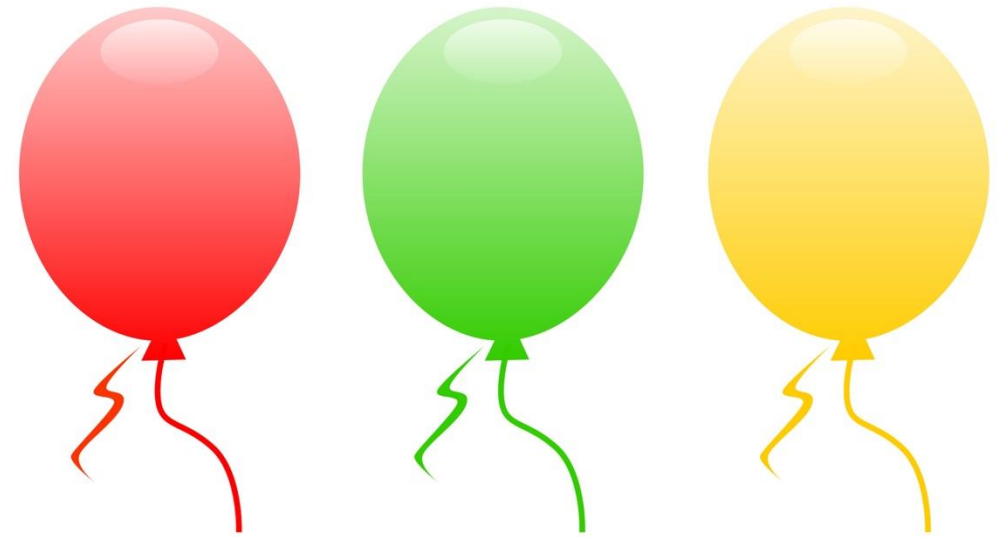
Example: Data vs. Information

- A thermometer records the equipment's temperature every 10 minutes.

- **Data:** Temperature recordings in a spreadsheet.

- **Information:** A plot revealing dangerous spikes at 2:00 PM.

- **Decision:** Investigate what happens each afternoon to cause the spikes.
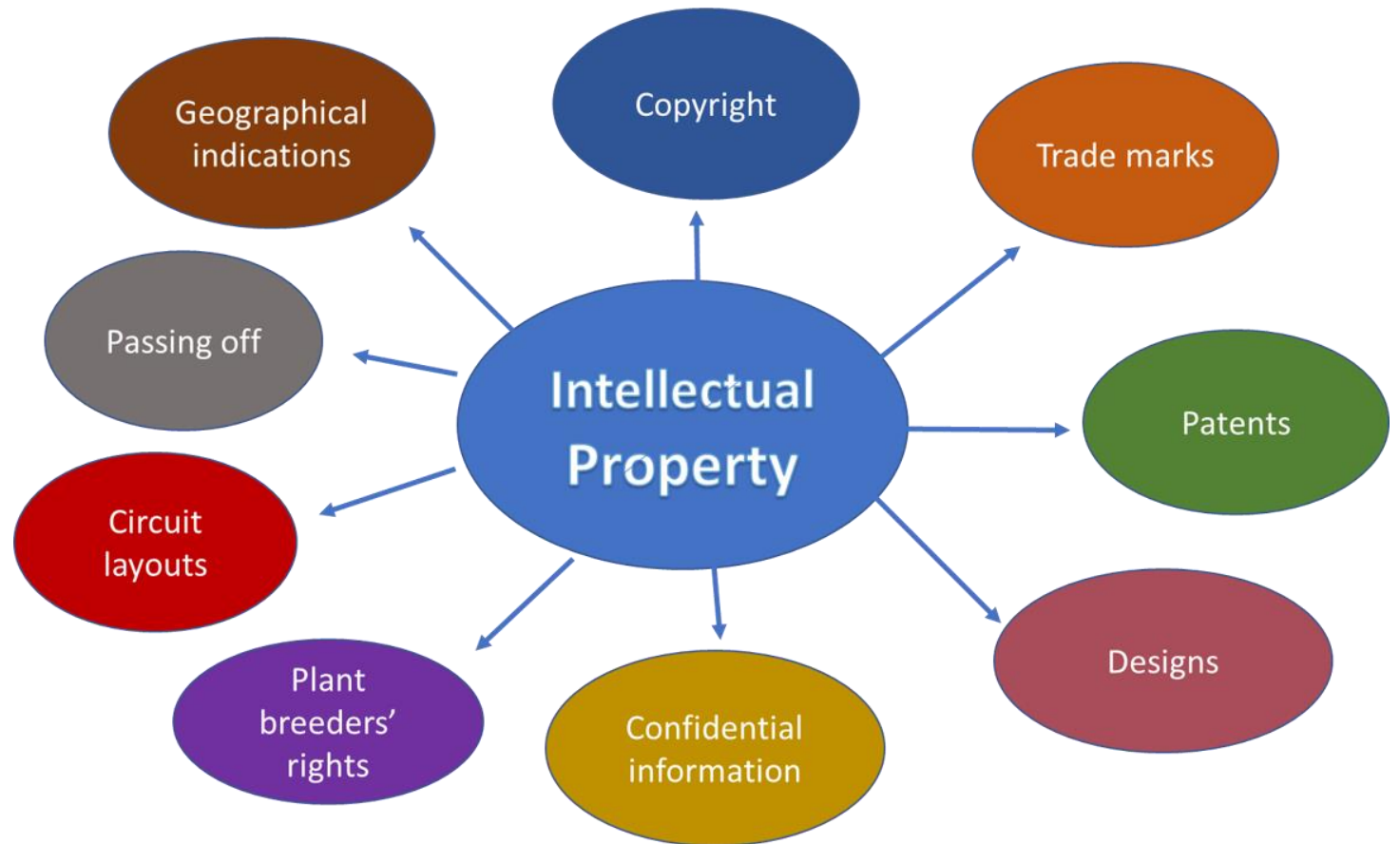
Data-Driven Business Decisions

3 Stages of Data-Driven Decisions:

1. **Capture Data:** Collect raw data that might be meaningful (e.g., temperature, customer behavior).

2. **Analyze Data:** Correlate and process it to extract meaningful information.

3. **Make Decisions:** Provide reports and insights to guide business actions
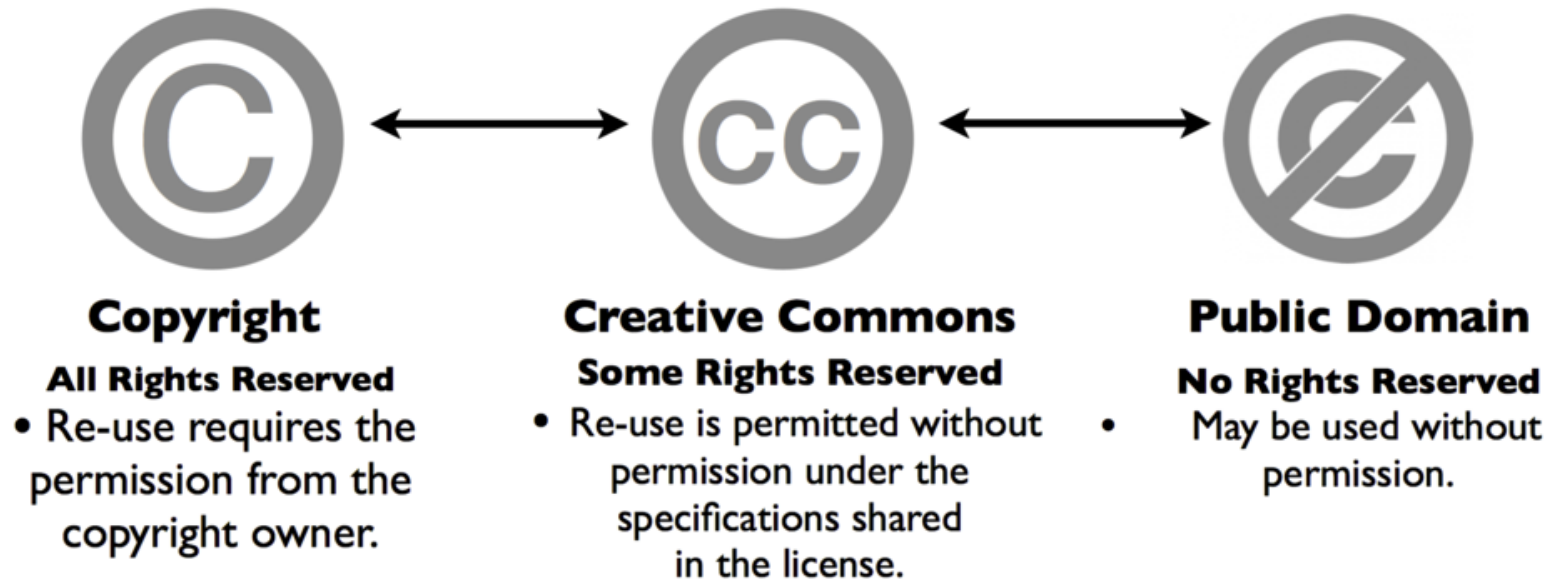
Intellectual Property (IP)

- Just like physical property, data and information are assets.

- Businesses use **IP protections** to safeguard their information.

- Types of IP protection:
  - Copyrights
  - Trademarks
  - Patents

Copyrights

- Protect creative works: books, music, digital products, and software.
- Automatically granted upon creation (registration optional).
- Lasts for 70 years after the creator's death.
- **Symbol:** ©

the spectrum of rights

Copyright
All Rights Reserved
- Re-use requires the permission from the copyright owner.

Creative Commons
Some Rights Reserved
- Re-use is permitted without permission under the specifications shared in the license.

Public Domain
No Rights Reserved
- May be used without permission.

Trademarks

- Protect brand names, logos, slogans, and symbols.
- Registration with the government is required for full protection.
- Must be renewed every 10 years.
- **Symbol:** ™ (before registration) or ® (after registration)

Patents

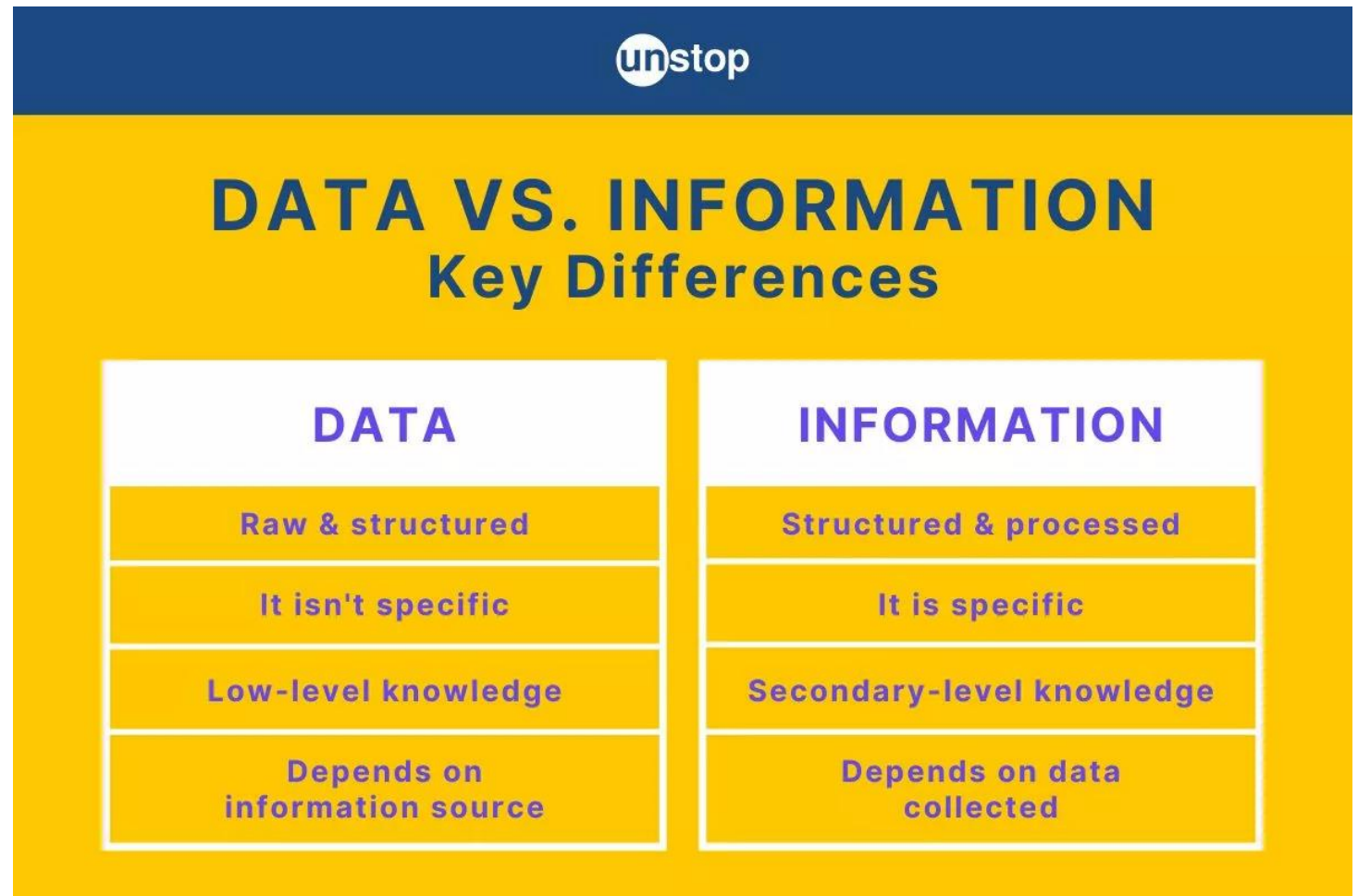Protect inventions and ensure the inventor's exclusive rights. Criteria for a patent:

1. **Novel:** The idea is new.

2. **Useful:** It provides practical benefits.

3. **Non-obvious:** It involves inventive work.

- Lasts for a limited time (20 years in most cases).

Review: Data vs. Information and IP

Key Takeaways:

- Data becomes valuable when processed into information.

- Data-driven decisions can improve operations and identify risks.

- Intellectual property protections safeguard business innovation and creativity.

Case Study Review

Scenario:
A factory sees temperature spikes every afternoon at 2:00 PM.

- What data do you collect to investigate the problem?

- What actions would you take to fix the issue?

Exit Ticket Activity

- **Prompt:**
  "Describe one way data-driven decisions or intellectual property protections could be important in a future career you're interested in."

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Thank You!

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