Prime and **composite numbers** in **disaster management** may not be immediately obvious, but they can be cleverly applied in **planning, organizing teams, coding systems, and managing resources**.

Here's how both **prime and composite numbers** are used with **practical examples**:

◆ 1. Team Assignments and Scheduling

◆ Math Concept: Prime vs Composite Numbers

- **Use:** Disaster response teams can be grouped or scheduled using **prime and composite ID numbers** to organize shifts or locations.

✅ Example:

- Volunteers are numbered from 1–30:
  - Teams with **prime-numbered IDs** (e.g., 2, 3, 5, 7, 11, 13...) work in **critical zones** (hardest-hit areas).
  - Teams with **composite-numbered IDs** (e.g., 4, 6, 8, 9, 10...) work in **support zones** (less risky or recovery zones).

Why? Prime-numbered teams can be seen as elite or specially trained for advanced tasks.

◆ 2. Distribution of Supplies

◆ Math Concept: Composite Numbers for Multiples (Divisibility)

- **Use:** Use **composite numbers** to plan supply packs that can be **easily divided** among people or families.

✅ Example:

- Relief kits contain **24 bottles of water** (a composite number).
  - This can be divided **evenly** among:
    - 2 people (12 each)
    - 3 people (8 each)
    - 4 people (6 each), etc.
- If you used **prime numbers** like 17, they **cannot be evenly split** among more than one group (except 1 and 17).

◆ 3. Safe Location Coding

◆ Math Concept: Use of Prime Numbers for Security

- **Use:** Assign **prime numbers** to code **safe shelters** to reduce chances of confusion or unauthorized duplication.

✅ Example:

- Shelter numbers are prime: Shelter 2, Shelter 3, Shelter 5, Shelter 7…
- These are easy to verify and **less predictable**, useful for **coded communication** in emergencies.

◆ 4. Training Rotation Systems

◆ Math Concept: Composite Numbers as Multiples

- **Use:** Use **composite-numbered weeks** (e.g., week 4, 6, 8…) to rotate teams for training or disaster drills.

✅ Example:

- Prime weeks (e.g., Week 2, 3, 5, 7) = **Emergency drills**
- Composite weeks (e.g., Week 4, 6, 8) = **First-aid and logistics training**

This makes **scheduling structured and predictable**.

◆ 5. Password and Code Generation

◆ Math Concept: Prime Numbers in Encryption

- **Use:** Prime numbers are used in **security systems and encrypted communications** in disaster management tools and data protection.

✅ Example:

- Relief databases may use **prime number-based encryption** to secure sensitive data (e.g., private donor info, victim medical records).

✅ Summary Table:

Scenario	Math Concept	Real-Life Use
Team grouping	Prime/Composite IDs	Assign tasks based on skill
Supply sharing	Composite numbers	Easy division of supplies
Safe zone codes	Prime numbers	Shelter coding for security
Training schedule	Prime/Composite weeks	Alternating training focus
Data protection	Prime numbers	Encrypted systems for safety

Quick Definitions:

- **Prime number**: Only divisible by 1 and itself (e.g., 2, 3, 5, 7…)
- **Composite number**: Has more than two factors (e.g., 4, 6, 8, 9…)