How to Write GOOD
Standard Operating Procedures
and
Why They are Important

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What are SOPs?

SOPs are
written,
step-by-step
instructions
that describe **HOW YOU**
perform an activity

Where do we find SOPs being used?

- Emergency Operating Procedures (EOPs)
- Office procedures or office manuals or desk references, etc.
- Lab procedures
- Work practice

Why do we need SOPs?

Why do we need SOPs?

- Safety
- Training
- Regulatory Compliance
- Standardization (Lean)
- Consistency
- Communication
- Accountability
- Reference
- Legal defense
- Emergencies (COVID)

What is a good SOP?

What is a good SOP?

- **A good SOP is an SOP that is being used!**

- **A good SOP is "Alive"!**
  - it is important to regularly update the SOP so it reflects what you are <u>currently</u> doing!

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What's the difference between an SOP and the manufacturer's / user's manual?

Formats of SOPs

Types / Formats of SOPs

- Checklist
- Simple step-by-step
- Hierarchical steps
- Graphic – flow chart
- Combination of the above

Types / formats of SOPs

- **Checklist**
  - Suitable for simple, easily understood operations such as:
    - Facility lockup
    - Pre-trip inspection
    - Facility inspection
  - Typically for tasks that may be done in any order like simple inspections
  - Best for short lists
  - Usually require an introductory sentence or short paragraph

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Types / Formats of SOPs

- **Simple step-by-step**
  - Simple tasks that require more order than a checklist
    - Do step one first, then step two, etc.
  - Suitable for tasks like:
    - Disabling remote station alarms:
      1. Enter building
      2. Proceed to control panel
      3. Turn intrusion alarm off within 15 seconds

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Types / Formats of SOPs

- **Hierarchical steps**
  - Tasks that require ordering and have sub-tasks associated with one or more steps or,
  - Steps needing additional information to accomplish
  - Makes SOPs easier to follow by shortening sentences
  - Very typical format for SOPs
  - May use photos and screenshots

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Types / Formats of SOPs

- **Hierarchical steps**
  - Suitable for many tasks such as:
    - Vegetation management
    - Main repair
    - Process start-up and shut-down
    - Confined space entry
    - Emergency response
    - Stormwater permit
    - Sewer line cleaning
    - Main flushing

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Types / Formats of SOPs

- **Graphic - Flow chart**
  - Best for tasks with many decision points, complex processes, or both
  - May be combined with other types of SOPs to create complete SOP document
    - A hierarchical SOP may reference a flowchart to solve an abnormal issue
  - May contain questions with Yes/No decision points and follow-on questions to reach the recommended or required action
  - Commonly used for troubleshooting and processes

Types / Formats of SOPs

- **Graphic – flow chart**
  - Simple Flow chart
  - Decision tree
  - Org chart
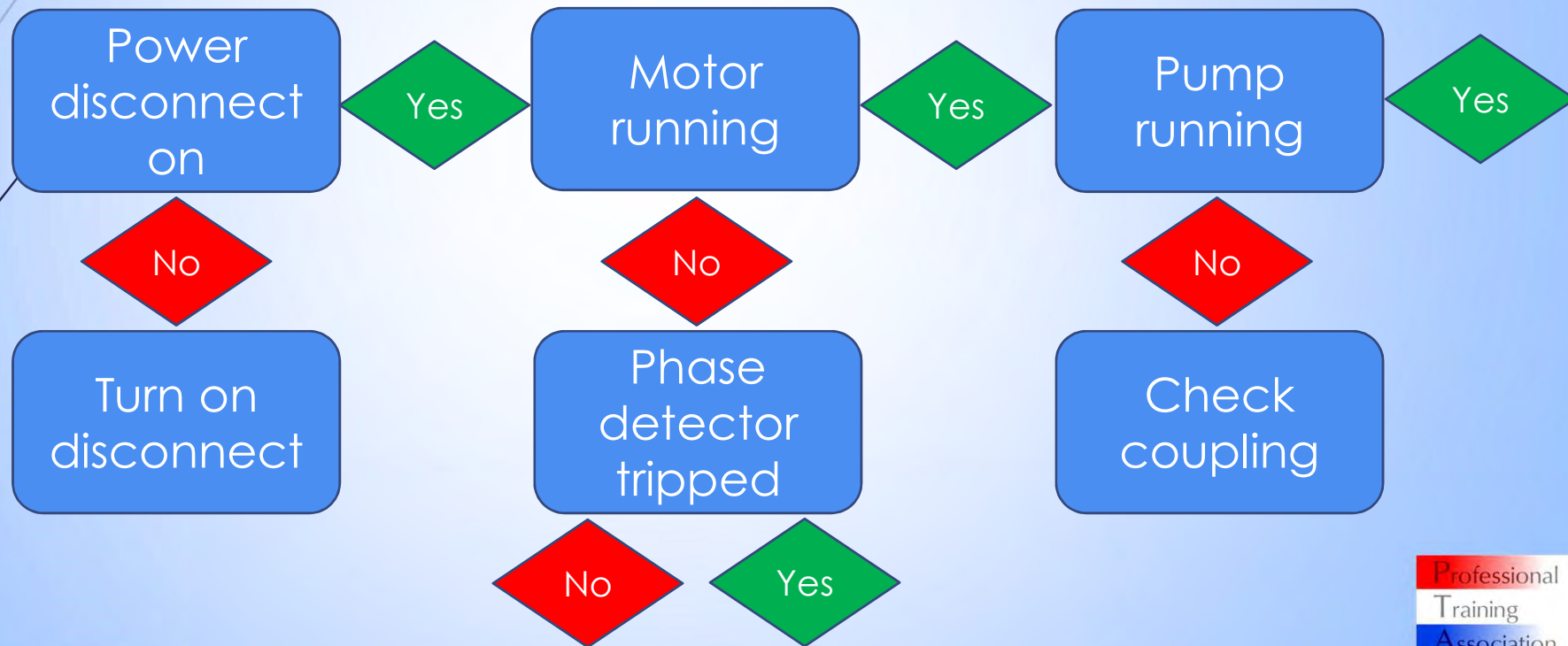 - Complex multi-level flow chart

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Types / Formats of SOPs

- **Graphic – Simple flow chart**
  - Vegetation management
    - Mixing herbicide

Fill tank with 200 gal water	Add 2 gal of Weed Kill	Add 1 qt surfactant

Types / Formats of SOPs

- **Graphic - Decision tree**
  - Pump not pumping

Power disconnect on	→ Yes →	Motor running	→ Yes →	Pump running	→ Yes
↓ No		↓ No		↓ No	
Turn on disconnect		Phase detector tripped		Check coupling	

Phase detector tripped: No / Yes

Levels of SOP Detail

- Overview level
  - Lists or shows major steps of entire process
- Intermediate level
  - Enough detail to understand the process but not specific details
- Detailed level
  - Specific steps performed to execute the task
  - How handoffs are handled
  - Includes decision points within the process

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Levels of SOP Detail
Using the example of what you do on workdays

Get up	Go to Work	Go to Bed	Overview
Get up	Get kids ready for school	Go to Work	Intermediate
Get up	Take Shower	Get dressed with work clothes	Detailed

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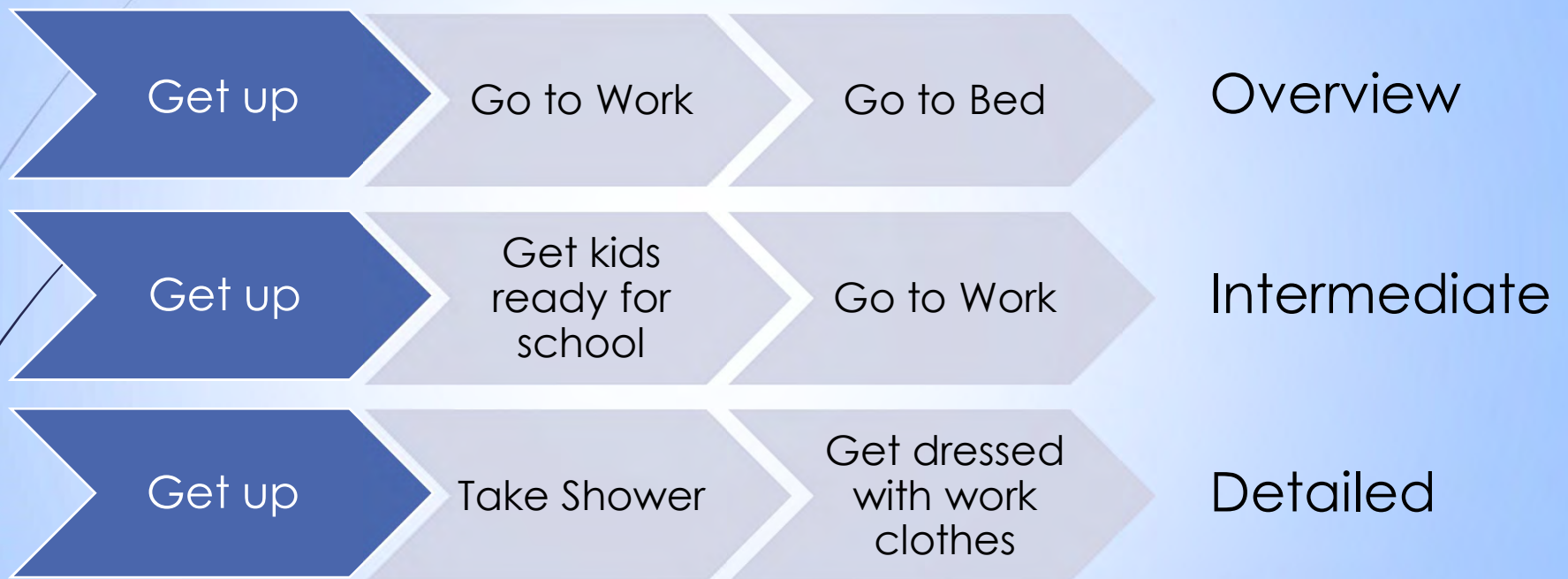
SOP development best practices

Best Practices when developing an SOP

Recommendations for writing a good SOP:

- Establish a clear SOP approval process

- Use the same format / lay-out for all SOPs (template)

- Create an SOP group or committee

- Ask others for input

- Engage stakeholders

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Best Practices when developing an SOP

Recommendations for writing a good SOP:

- Identify your audience

- Draft a process flow diagram / outline the process

- Record **exactly** how your procedure is done

- Include photos or screen shots if appropriate

- Note training requirements necessary to perform the task

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Best Practices when developing an SOP

Recommendations for writing a good SOP:

- Describe safety measures required for the activity

- State which permits may be needed to perform the activity

- Emphasize if it is necessary to inform the regulator about this activity

- List who may be impacted by this activity

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Best Practices when developing an SOP

Recommendations for writing a good SOP:

- Format for mobile devices

- Make it scannable

- List positions, not people

- Reference frequently changing data

- Use clear language:

  - Use active voice
  - Use action words

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Best Practices when developing an SOP

Recommendations for writing a good SOP:

- Include checklists

- Record references

- Update regularly

- Keep records of each update

- Archive old versions

Best Practices when developing an SOP

Recommendations for writing a good SOP:

- Test the SOP

  - Ask operators and technicians not involved in the SOP development process to review the SOP

  - Ask a staff member not familiar with the task, to use the SOP to accomplish the task

- Train to the SOP

- Improve the SOP

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Best Practices when developing an SOP

What <u style="color:red">NOT</u> to do when writing SOPs:

- Use the manufacturer's SOP <u>unless</u> you really follow it step by step

- Copy someone else's SOP word-for-word and just plug in your organization's name

- Draft an SOP without review from other operators and technicians

- Make general instead of concise & clear statements

- Leaving out the list of reference material
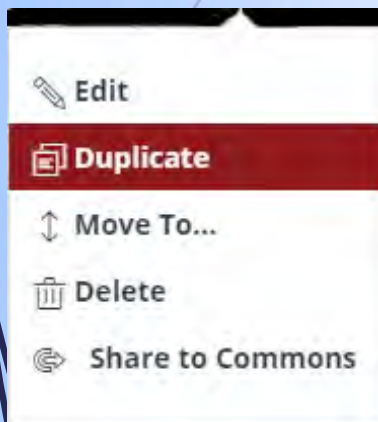
Example of breaking down the process

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Best Practices when developing an SOP

Recommendations for writing a good SOP: (continued)

We'll use making a cup of a hot beverage as an example to outline an SOP

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Best Practices when developing an SOP

Recommendations for writing a good SOP: (continued)

Breaking the procedure into meaningful sections:

- Supplies

- Equipment

- Types of hot beverage

- Processes for each hot beverage

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Best Practices when developing an SOP

Recommendations for writing a good SOP: (continued)

Flow / process diagrams:

| Supplies | Equipment | Type of Beverage | Procedure for how to make each beverage |

| How to serve the beverage | What to do with the waste products | Quality Control | Troubleshooting |

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Best Practices when developing an SOP

Recommendations for writing a good SOP: (continued)

Flow / process diagrams:

```
        ┌─────────────┐
        │  Supplies   │
        └──────┬──────┘
     ┌─────────┼─────────┐
┌────┴────┐ ┌──┴──────┐ ┌─┴───────┐
│ Fluids  │ │Beverage │ │ Options │
│         │ │Specific │ │         │
│         │ │Supplies │ │         │
└─────────┘ └─────────┘ └─────────┘
```
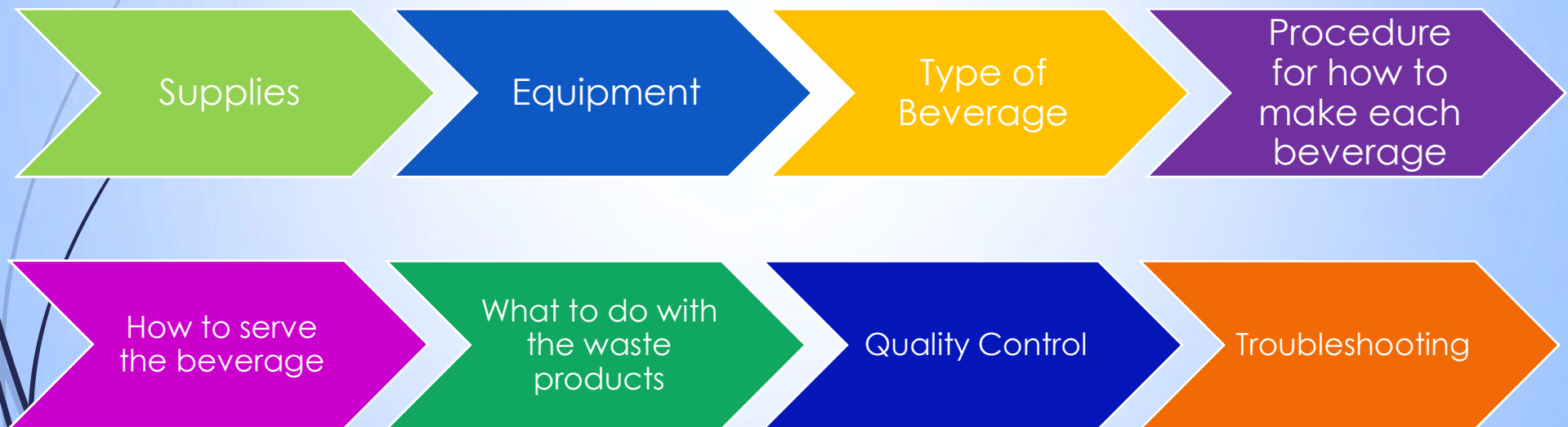
Best Practices when developing an SOP

Recommendations for writing a good SOP: (continued)

Flow / process diagrams:

Best Practices when developing an SOP
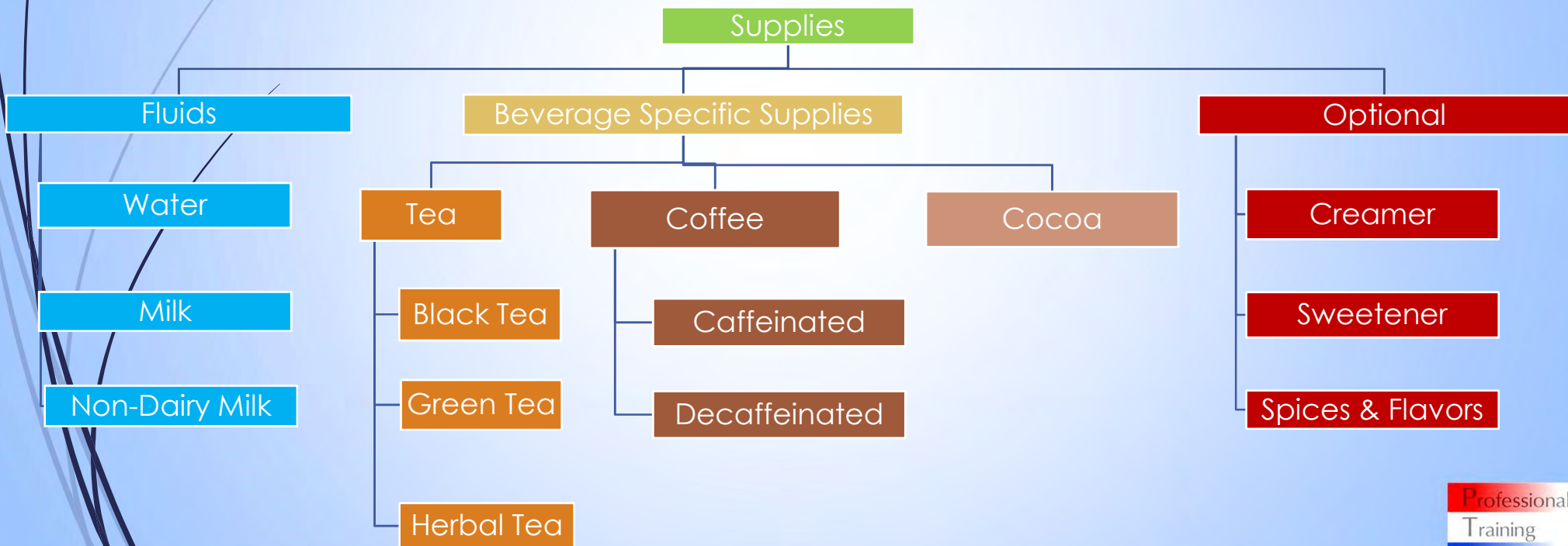
Recommendations for writing a good SOP: (continued)

Flow / process diagrams:
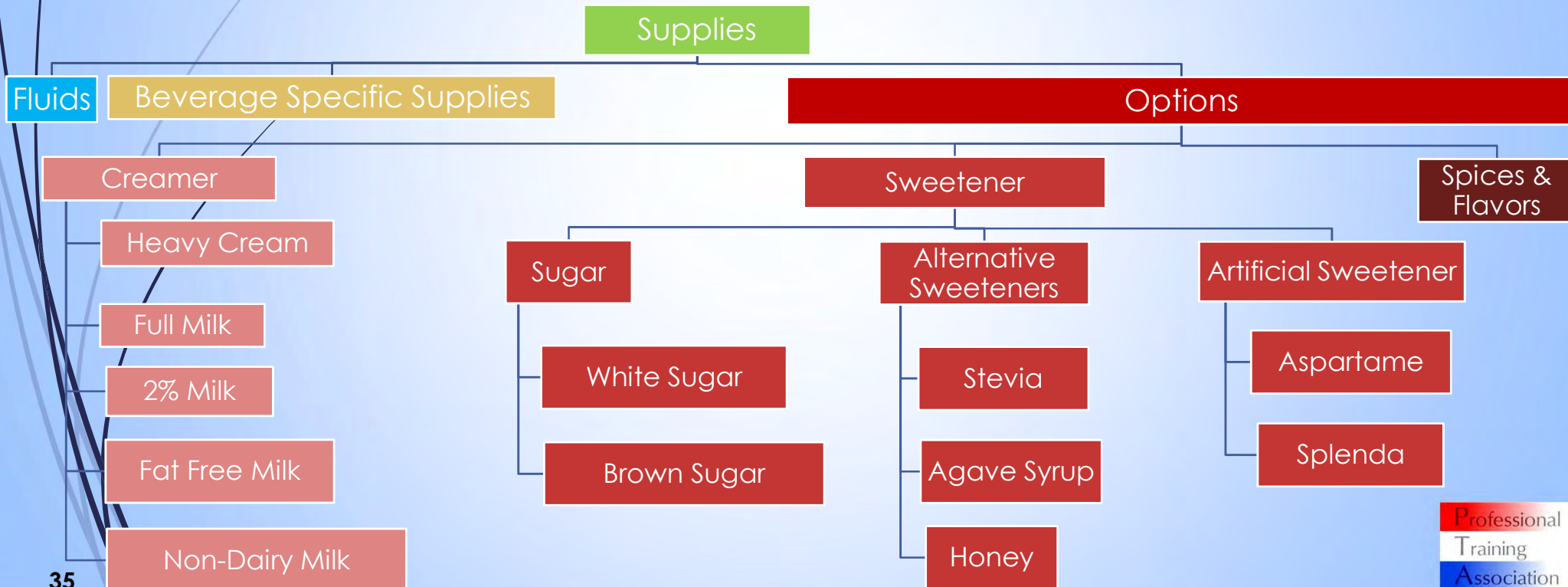
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