

Literature Searching

What to do when a "Google"
search is not enough?





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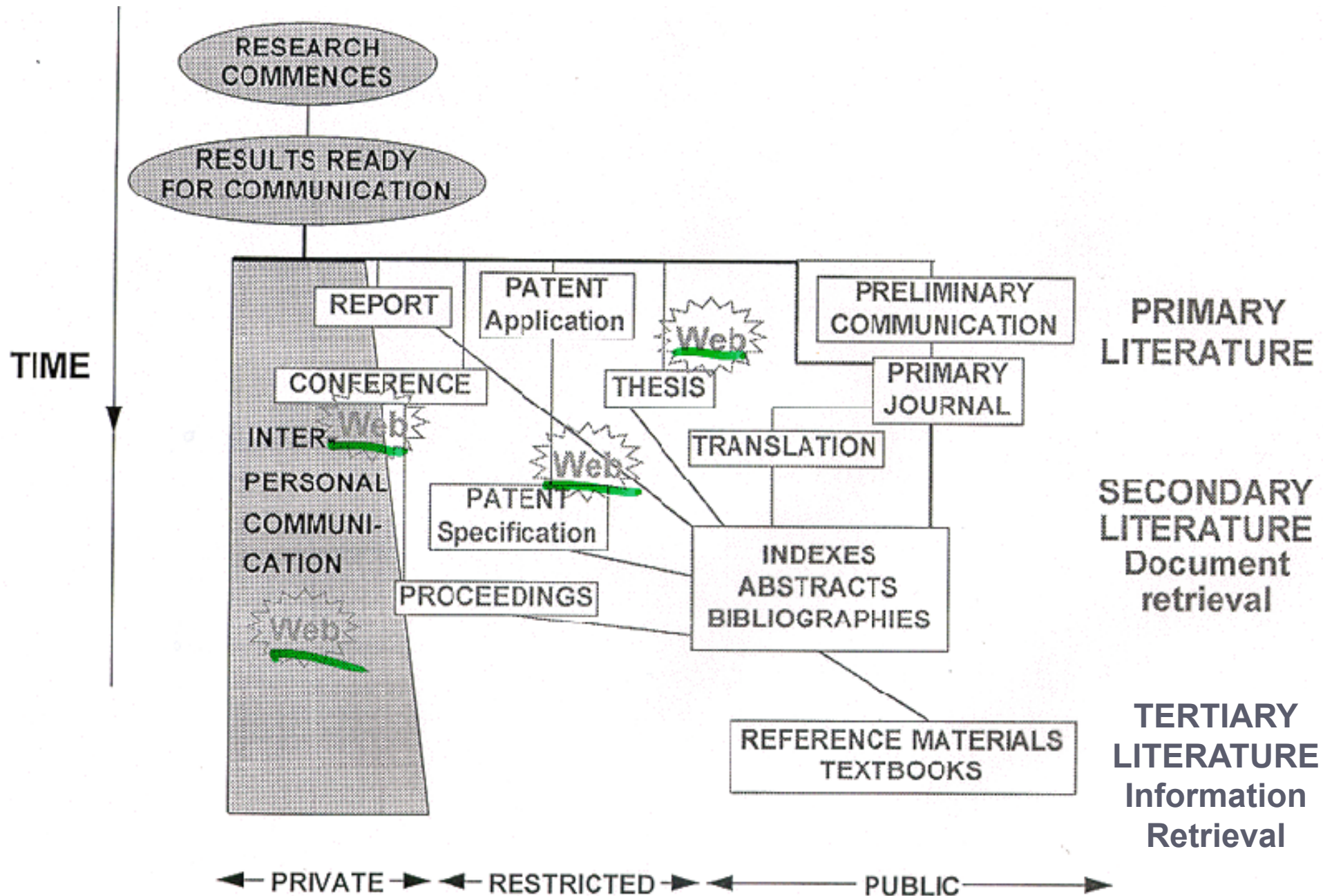
Purdue University

To Warm Up

Ideas, common terms that we use when
doing literature searches



Structure of the literature and Channels of Communication



Search Operators, Wildcards, and Parentheses

▶ What are search operators?

- AND, OR, NOT, SAME, NEAR

▶ What are wildcards?

- ? = one character

▶ E.g. EN?OBLAST will search ENDOBLAST and ENTOBLAST

- * = zero to many characters

▶ E.g. Gene* will search Gene, Genes, General, Generation

- Combination of ? and *

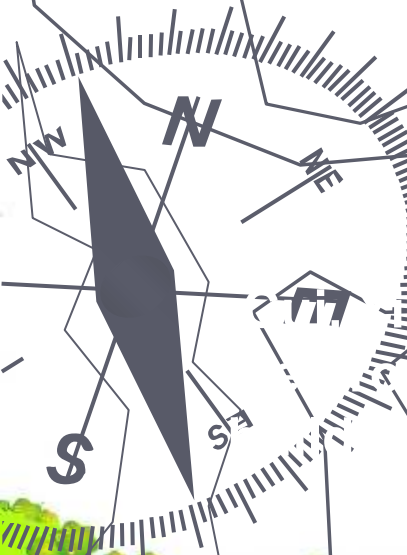
▶ E.g. CH?M* will search CHEMISTRY, CHEMIST, CHEMICAL, CHEMIE, CHIMICA ...

Parentheses

- (A or B) and C, (B and C) not A

What is in a citation?

- ▶ Author
- ▶ Title
- ▶ Source/journal
- ▶ Enumeration (volume/issue)
- ▶ Chronology (date)
- ▶ Pagination

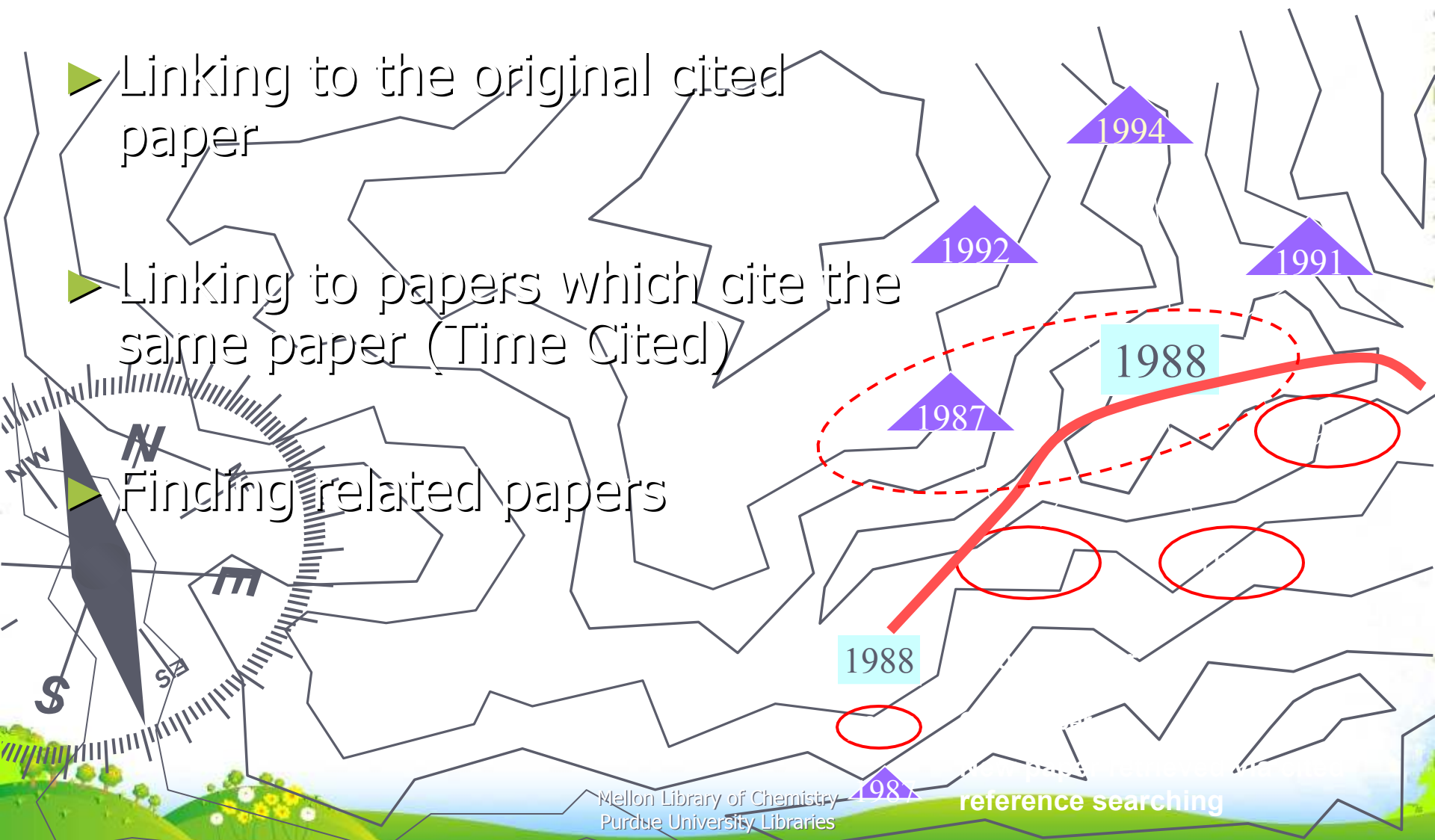


Cited/Citing Reference ?@#&!

▶ Linking to the original cited paper

▶ Linking to papers which cite the same paper (Time Cited)

Finding related papers



Major Databases in Chemical Engineering

- ▶ COMPENDEX (OVID)
- ▶ SciFinder Scholar (CAS)
- ▶ Web Of Science (ISI)

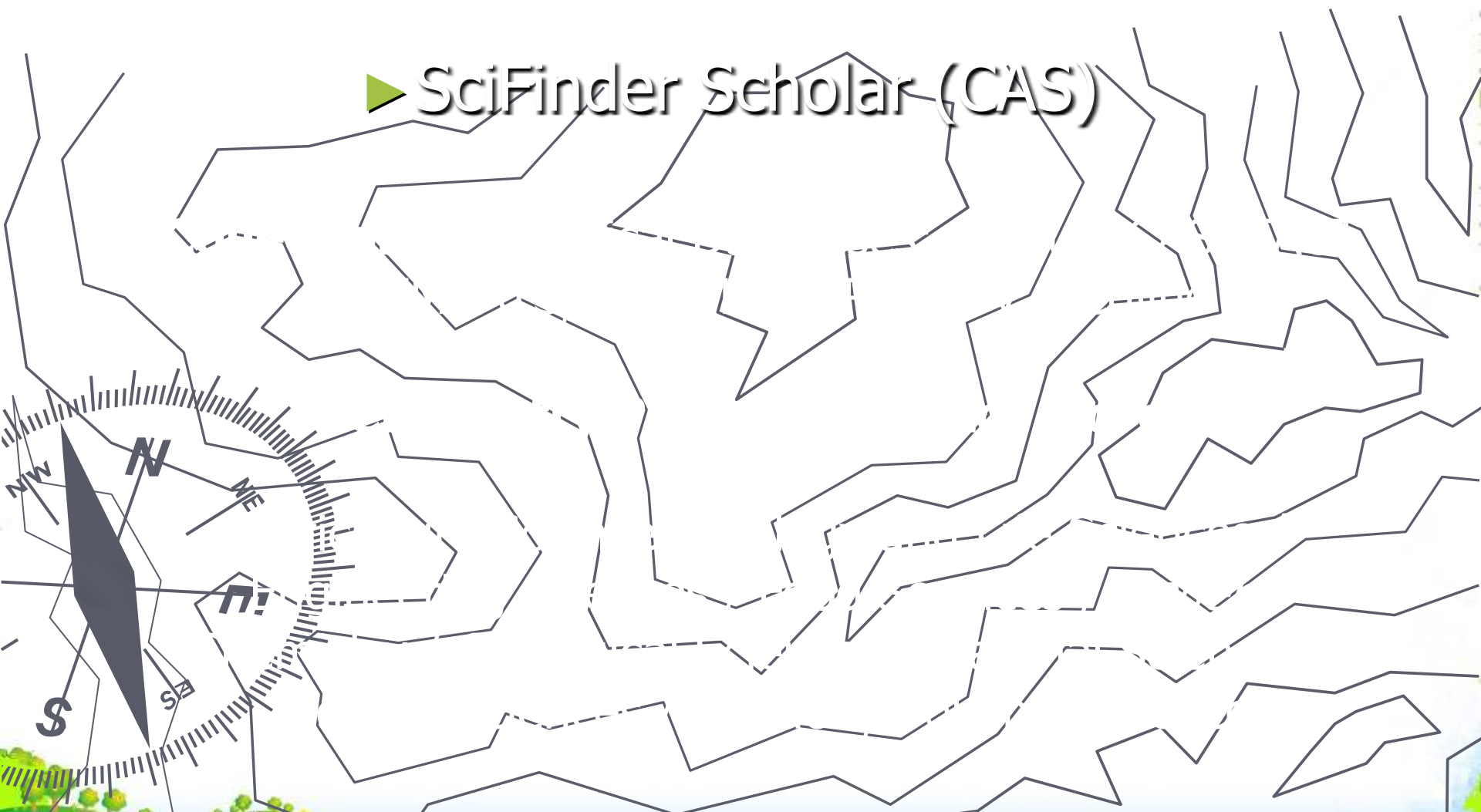
Major Databases in Chemical Engineering

▶ COMPENDEX (OVID)



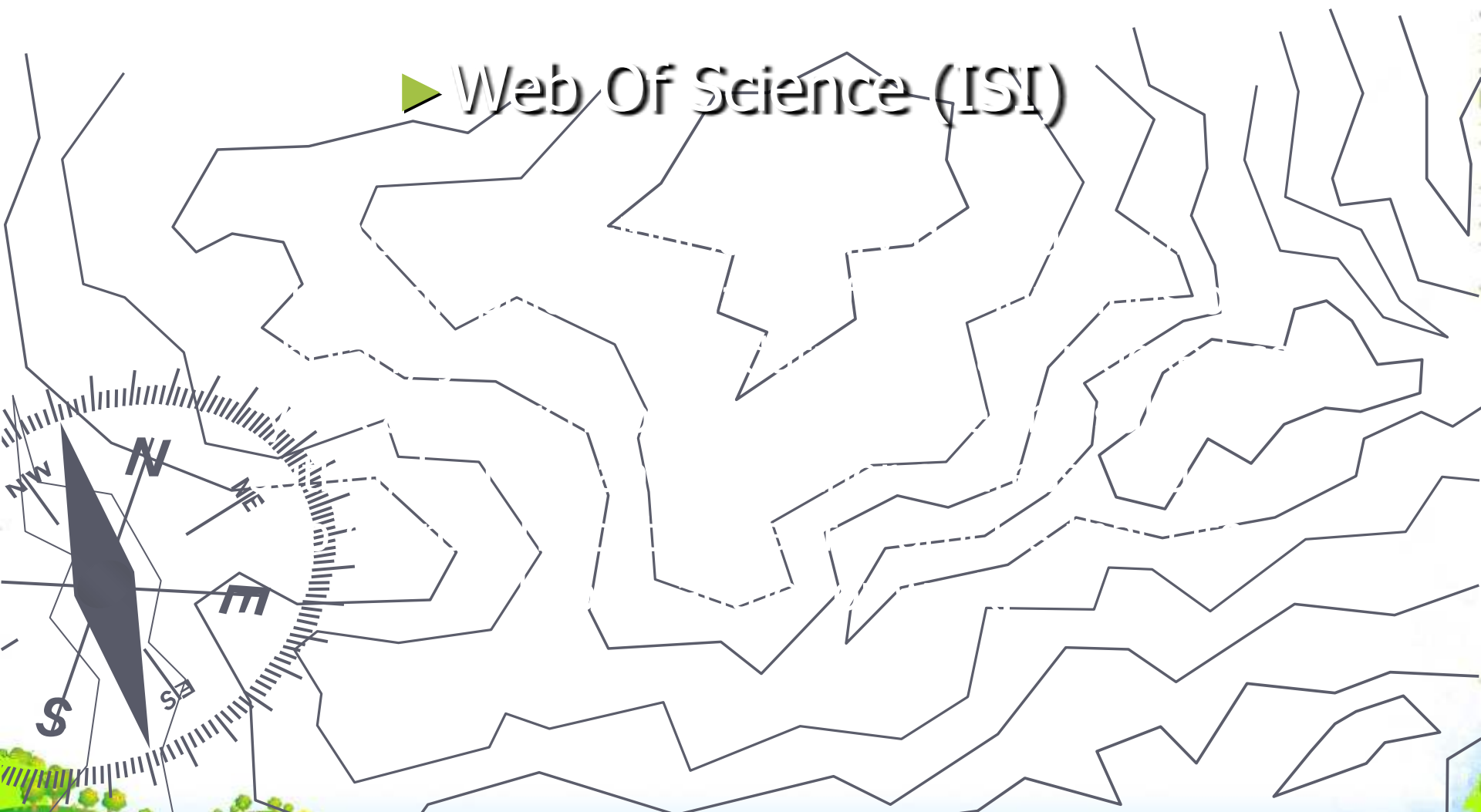
Major Databases in Chemical Engineering

► SciFinder Scholar (CAS)



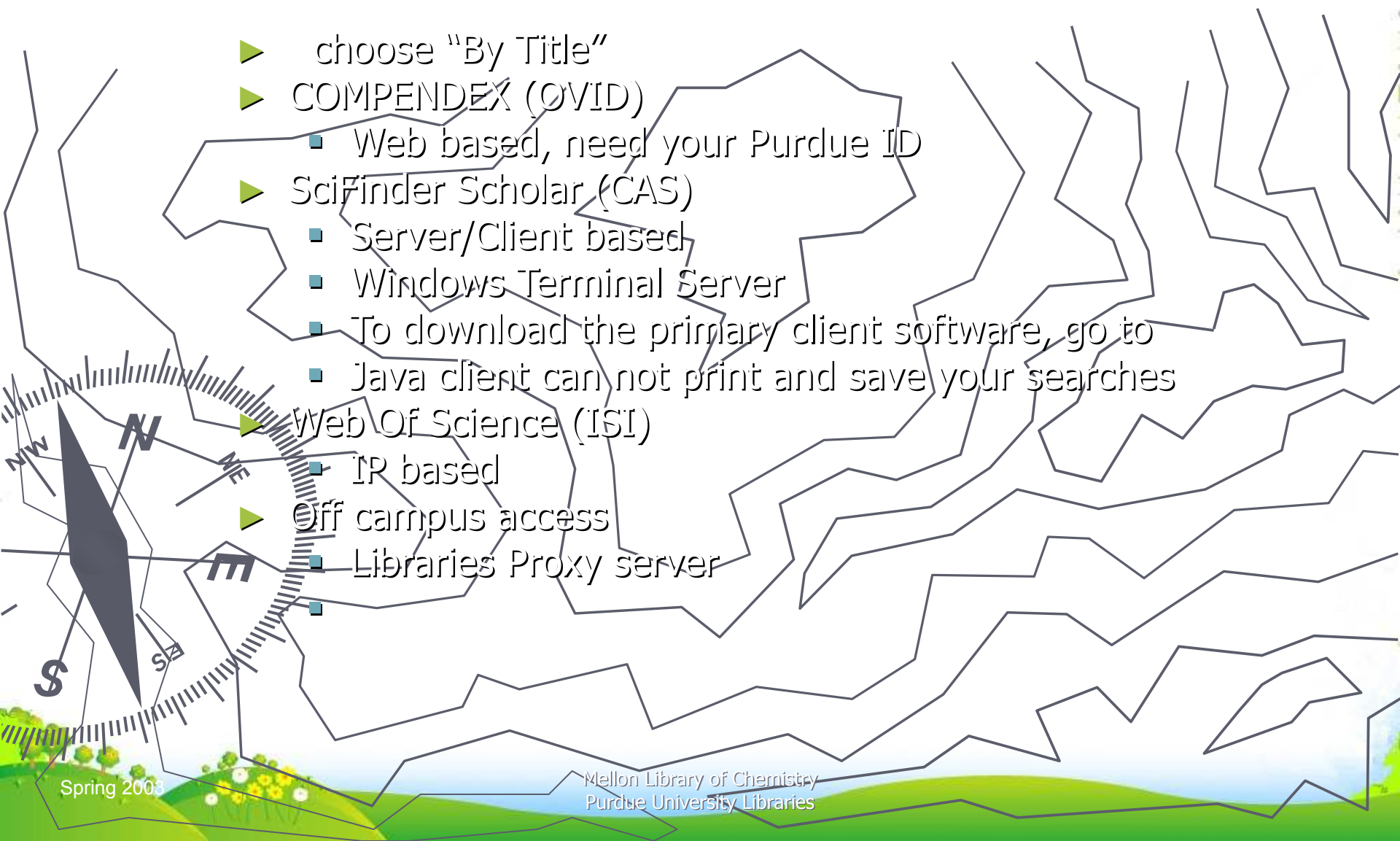
Major Databases in Chemical Engineering

▶ Web Of Science (ISI)



Access to the Databases

- ▶ choose "By Title"
- ▶ COMPENDEX (OVID)
 - Web based, need your Purdue ID
- ▶ SciFinder Scholar (CAS)
 - Server/Client based
 - Windows Terminal Server
 - To download the primary client software, go to
 - Java client can not print and save your searches
- ▶ Web Of Science (ISI)
 - IP based
- ▶ Off campus access
 - Libraries Proxy server



SciFinder Scholar

Coverage back to 1907 by one search!

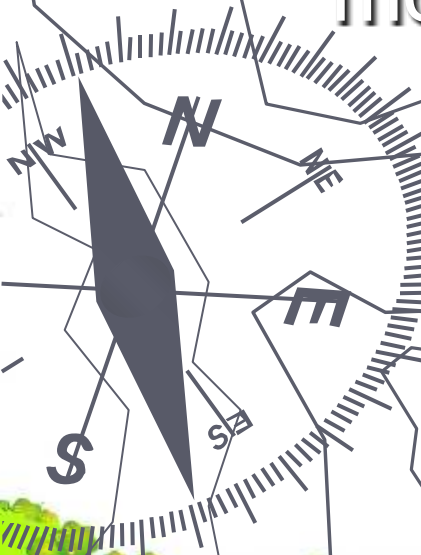
- **CAPLUS**. 1907 ~, +21.5 mil documents from +9000 journals-- Updated daily with new citations, weekly with indexed records
- **CASREACT**. 1974+, +6 mil single and multi-step reactions
- **CHEMGATS**. +5.3 mil Commercial chemicals
- **CHEMLIST**. over 227,000 Regulated chemicals
- **Registry**. 1965+, 20.3 mil substances, 21.8 mil biosequences
- **Medline**. 1958+, 11 mil biomedical citations (including **OLDMEDLINE**)

Web of Science

- ▶ 8,500 peer-reviewed journals in science, social science, arts and humanities worldwide
 - Science Citation Index (6014 Journal titles)
 - 230 Disciplines
 - 1350 in chemistry, 122 in chemical engineering
- ▶ Update weekly
- ▶ Purdue has access from 1977

Compendex

- ▶ Index +5000 journals world wide
- ▶ 1987 –
- ▶ Update every week by EI, updated monthly by OVID.



Example One

▶ Find the review articles written in English on *gold nanoparticles for catalysts*

■ SciFinder Scholar

▶ Topic search: *gold nanoparticles for catalyst*

▶ Refine by Document type, and Language

▶ Got 13 review articles

▶ Check the citing articles for Shipway, Andrew N., et al. Nanoparticles as structural and functional units in surface-confined architectures. -> 13

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