

Developing Informed Data Requests: How to Use Common Education Data Standards and Tools

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Session Overview

- Welcome & Objectives
- Common Education Data Standards (CEDS)
 - Data Elements
 - Align
- CEDS and Researchers
 - Connections
 - Reflection
- CEDS and Beyond (vision, big picture)

Download the Graphic Organizer we will be using today:

<https://ceds.grads360.org/api/ApplicationMedia/Download/102511>

Workshop Objectives

- Understanding the tools and supports available through the Common Education Data Standards
- Learn about available reports and research questions that could support your own research
- How to explore what's available in state data systems

CEDS Overview

History & Background

Explore Elements & Activity

Align Tool & Activity

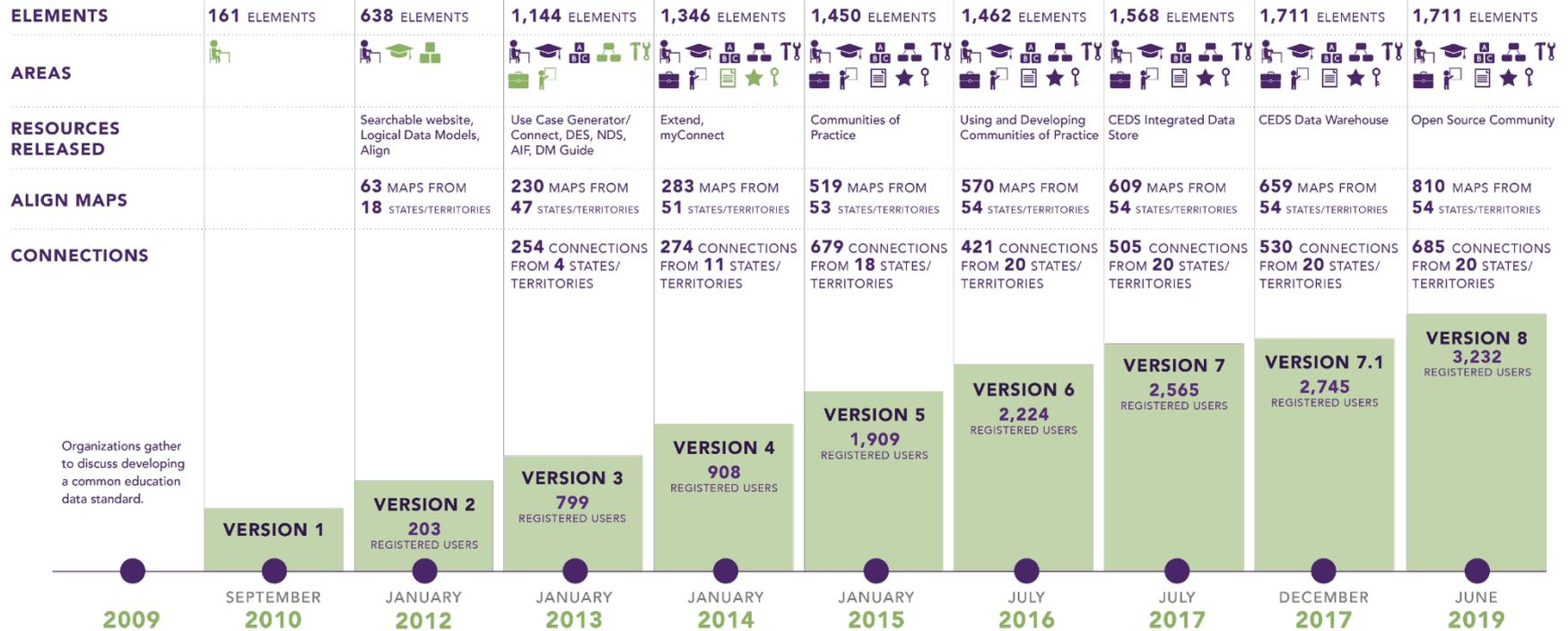
CEDS – The Basics

*A vocabulary that can be applied to data elements,
a data set, a data file, or a data system*

To speak the same language

To have a shared understanding

History of CEDS

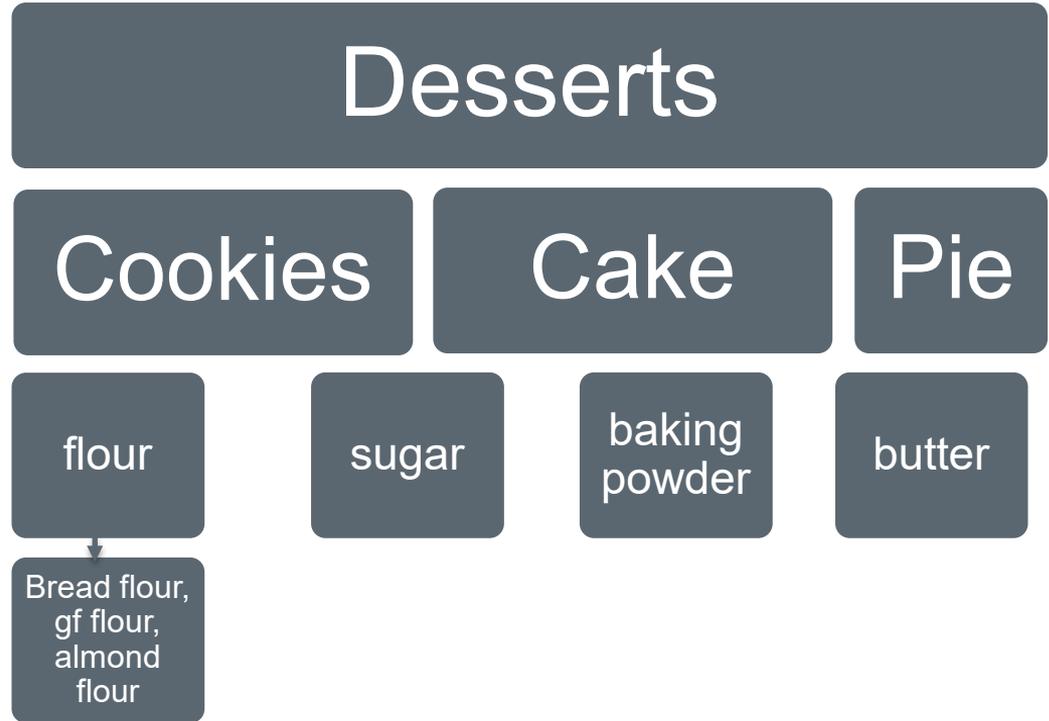


Why does CEDS matter?

- Translate between data requester and data owner
- Supports data set merging from multiple sources
- Eases burden of identifying element names and their accompanying definition
- Facilitates transparency of the data available within systems

Hierarchy of a dessert

- Dessert is the **domain**
- Cookie is the **entity** nested under dessert
- Flour is the **category** of ingredients
- Bread flour, gluten free flour and almond flour, etc are the ingredients or **elements**



Foundation of Data Elements – A baker's example

- Flour
- Sugar
- Salt
- Brown Sugar
- Butter or margarine
- Baking powder
- Chocolate chips
- Baking Soda
- Cinnamon
- Pecans
- Walnuts
- Raisins
- Coconut

Let's take a look!

- Access your graphic organizer to help guide you through our workshop.
- <https://ceds.grads360.org/api/ApplicationMedia/GetDownload/102511>
- Go to <https://ceds.ed.gov> to follow along!

Data Elements

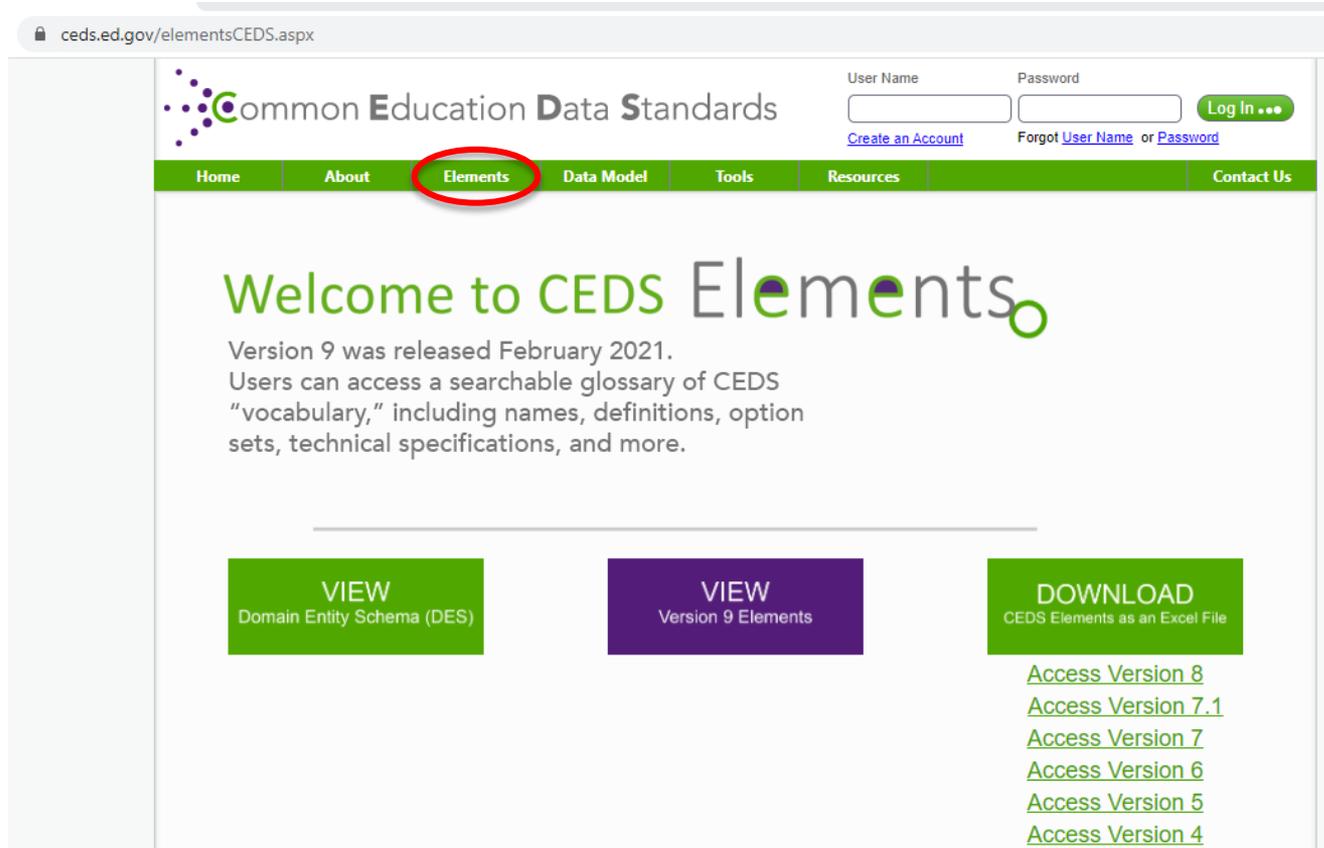
1. Go to **Section A** of your Graphic Organizer
 2. Search for a keyword of interest
 3. Review the element results by clicking on an element name
 4. Click “(More)” to see the full element details
 5. Review the components of an element and track it on your Graphic Organizer
 6. Post any questions in Q&A
- You’ll have **three minutes** to explore!

<https://ceds.ed.gov>

The screenshot shows a web browser window with the address bar displaying <https://ceds.ed.gov/Default.aspx>. The page features the Common Education Data Standards logo at the top, which consists of a cluster of purple dots and a green circle. Below the logo is a green navigation bar with the following menu items: Home, About, Elements, Data Model, Tools, and Resources. The main content area has a dark blue background with the text: "Select a role on the left or an activity on the right to understand its relationship to CEDS." On the left, there are four circular icons representing roles: IT Developers (computer icon), Data Stewards (bar chart icon), Researchers (magnifying glass icon), and CEDS Coordinators (handshake icon). On the right, there are four white buttons with rounded corners: "Explore CEDS", "The Mapping Toolkit", "Data Governance", and "Request Assistance".

Steps to take

1. Click on “Elements”
2. Click on “View Version 9 Elements”



The screenshot shows the website ceds.ed.gov/elementsCEDS.aspx. The page features a green navigation bar with the following menu items: Home, About, Elements (circled in red), Data Model, Tools, Resources, and Contact Us. The main content area displays the title "Welcome to CEDS Elements" and a sub-header "Version 9 was released February 2021." Below this, there is a paragraph: "Users can access a searchable glossary of CEDS 'vocabulary,' including names, definitions, option sets, technical specifications, and more." At the bottom of the page, there are three buttons: "VIEW Domain Entity Schema (DES)", "VIEW Version 9 Elements", and "DOWNLOAD CEDS Elements as an Excel File". To the right of the download button, there is a list of links for accessing previous versions: "Access Version 8", "Access Version 7.1", "Access Version 7", "Access Version 6", "Access Version 5", and "Access Version 4".

User Name

Password

[Log In ...](#)[Create an Account](#)Forgot [User Name](#) or [Password](#)[Home](#)[About](#)[Elements](#)[Data Model](#)[Tools](#)[Resources](#)[Contact Us](#)

CEDS Elements - Version 9

<p>Filter by Domain</p> <input type="text" value="All"/>	<p>Filter by Change Status</p> <ul style="list-style-type: none"><input checked="" type="radio"/> All CEDS Elements<input type="radio"/> All CEDS Elements plus Extend Elements<input type="radio"/> New CEDS Elements<input type="radio"/> Updated CEDS Elements<input type="radio"/> All Changed CEDS Elements	<p>Filter by Key Word</p> <input type="text" value="enrollment"/>  <input type="checkbox"/> Search Extend Elements Advanced Search	<p>Download CEDS Elements as an Excel file.</p> Downloads
<p>Filter by First Letter</p> All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z			

Using the features in the box above you can search for elements alphabetically, by Domain, by Key Word, or download as an Excel file. Make a selection to see the resulting CEDS elements.

CEDS Elements - Version 9

Filter by Domain:

Filter by Change Status:

- All CEDS Elements
- All CEDS Elements plus Extend Elements
- New CEDS Elements
- Updated CEDS Elements
- All Changed CEDS Elements

Filter by Key Word:

- Search Extend Elements
- [Advanced Search](#)

Download CEDS Elements as an Excel file.

Filter by First Letter: [All](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

[Expand All](#)

57 records for "enrollment" when searching Names or Definitions or Option Sets of CEDS Elements

- ▶ **Adult Education Postsecondary Transition Action**
- ▶ **Adult Education Special Program Type**
- ▶ **Advanced Placement Course Self Selection**
- ▶ **Review to Educating Homeless**

▶ **Enrollment in Postsecondary Award Type**

▼ **Enrollment Status**

Definition:

An indication as to whether a student's name was, is, or will be officially registered on the roll of a school or schools.

Option Set:

Description	Definition	Code
Concurrently enrolled	The student is concurrently enrolled.	01812
Currently enrolled	The student is currently enrolled.	01811
Previously enrolled	The student was previously enrolled.	01810
Transferring (will enroll)	The student is transferring (will enroll).	01813

Related Domains, Entities, and Categories:

[K12 -> K12 Student -> Enrollment](#)

[\(More\)](#)

▶ **Exit or Withdrawal Type** Updated

Components of an Element

1. Definition
2. Option Set
3. Related Domains, Entities and Categories
4. Related Topics
5. CEDS Element ID
6. Element Technical Name
7. URL

Other components may include:

1. Format
2. Usage Notes
3. Changes
4. Alternate Name

Element Details (press "ESC" key to close)

- 1 Definition**
An indication as to whether a student's name was, is, or will be officially registered on school or schools.
- 2 Option Set**

Description	Definition
Concurrently enrolled	The student is concurrently enrolled.
Currently enrolled	The student is currently enrolled.
Previously enrolled	The student was previously enrolled.
Transferring (will enroll)	The student is transferring (will enroll).
- 3 Related Domains, Entities and Categories**
K12 -> K12 Student -> Enrollment
- 4 Related Topics**
K-12 -> EDFacts
- 5 CEDS Element ID**
000094
- 6 Element Technical Name**
EnrollmentStatus
- 7 URL**
<https://ceds.ed.gov/CEDSElementDetails.aspx?TermId=17094> ([Email this link](#))

Align

CEDS Tools: Align



- Tool used to align data dictionaries to CEDS
- Benefits to Researchers:
 - Comparing multiple data sources easily
 - Learn what data is available **before** you submit a data request
 - Preparing for data linkage or integration once you receive data from multiple sources

recipe

prep time 15 min cook time 9-11 m

INGREDIENTS

All-Purpose Flour

Sugar

Sea Salt

Margarine

Dark Chocolate Chips

Baking Soda

Walnuts

Ingredients

Flour

Sugar

Salt

Fat & Oils

Chocolate Chips

Baking Soda

Spices

Nuts

recipe

INGREDIENTS

Almond Flour

Brown Sugar

Salt

Butter

Chocolate Chips

Baking Soda

Cinnamon

Walnuts

Let's take a look!

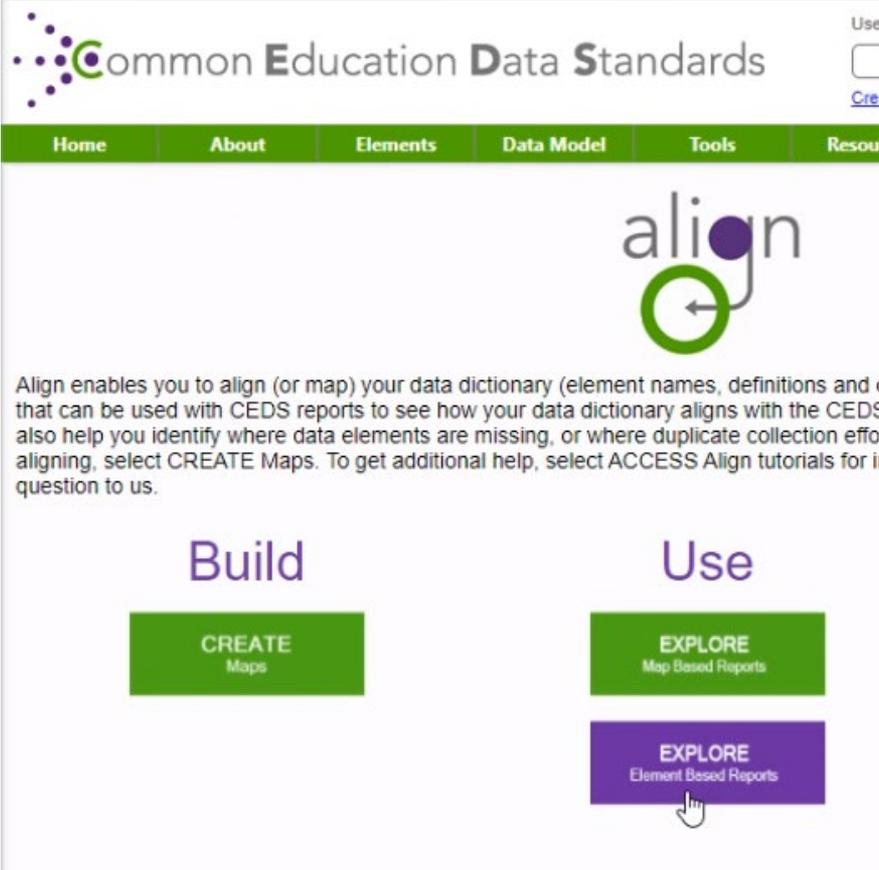
- Go back to <https://ceds.ed.gov> to follow along!
- Prepare to use your graphic organizer after the demo

Align

1. Go to **Section B** in your graphic organizer
2. Select Tools | Align
3. Under the “Use” column, select Explore Element Based Reports
4. Find your element and click Next
5. Expand to view the results
6. How many maps have aligned to your element?
 - Don’t see any? Go back and try again using “Enrollment Status”
7. Post any questions in Q&A

You’ll have **three** minutes to explore

- Select “Explore Element Based Reports”



The screenshot shows the website for the Common Education Data Standards. At the top, the logo features a cluster of purple dots next to the text "Common Education Data Standards". A green navigation bar contains links for "Home", "About", "Elements", "Data Model", "Tools", and "Resources". On the right side, there are links for "Use" and "Create".

The main content area features the "align" logo, which consists of the word "align" in a sans-serif font with a green circle and arrow graphic. Below the logo, a paragraph of text reads: "Align enables you to align (or map) your data dictionary (element names, definitions and...) that can be used with CEDS reports to see how your data dictionary aligns with the CEDS... also help you identify where data elements are missing, or where duplicate collection effort... aligning, select CREATE Maps. To get additional help, select ACCESS Align tutorials for... question to us."

Below the text, there are two main columns of buttons. The left column is under the heading "Build" and contains a green button labeled "CREATE Maps". The right column is under the heading "Use" and contains two buttons: a green button labeled "EXPLORE Map Based Reports" and a purple button labeled "EXPLORE Element Based Reports". A mouse cursor is pointing at the "EXPLORE Element Based Reports" button.

- Type your element into the Search bar

OR

- Use the domains to find and select your element.

align

Use CEDS Align to see how your data dictionary aligns with CEDS and others in the field.

Select one or more CEDS Element(s).

Step 1 Domain: All Search: **enrollment status** Filter Reset Filter

Select Element

- Early Learning
- K12
- Postsecondary
- Career and Technical
- Adult Education
- Workforce
- Assessments
- Credentials
- Competencies
- Learning Resources
- Facilities
- Implementation Variables
- Authentication and Authorization

Topic	Name
<input type="checkbox"/> K12 -> K12 Student -> Enrollment	Enrollment Status
<input type="checkbox"/> K12 -> Course Section -> Enrollment	Course Section Enrollment Status Start Date

Results

**Common Education Data Standards**

User Name Password [Log In ...](#)
[Create an Account](#) [Forgot User Name](#) or [Password](#)

[Home](#) [About](#) [Elements](#) [Data Model](#) [Tools](#) [Resources](#) [Contact Us](#)

Element Impact Analysis

 Options

+ Expand All

- **K12 > K12 Student > Enrollment > Enrollment Status**

Map Name	Affiliation Name	State	System Name Database Name Table Name	Element Name
Arkansas K12 Data System	Arkansas Department of Education	Arkansas	K12 N/A Student	enrolled
California Longitudinal Pupil Achievement Data System (CALPADS)12	California Department of Education	California	CALPADS CALPADS Student Enrollment	Enrollment Status Code
Georgia Data Collection	GaDOE	Georgia	SLDS Student Enrollment	STUDENT STATUS
Kansas Directory Data SY 2016-17	Kansas State Department of Education	Kansas	Directory Directory session_schedule	headct
Kansas Directory Data SY 2017-18	Kansas State Department of Education	Kansas	Directory Directory session_schedule	headct
Kansas Directory Data SY 2018-19	Kansas State Department of Education	Kansas	Directory Directory session_schedule	headct
Kansas Individual Data on Students (KIDS Collection) SY 2013-	Kansas State Department of Education	Kansas	Kansas Individual Data on Students KIDS Collection dbo_kcol_Record_STCO	Course_Status

CEDS & Researchers

Julia Bloom-Weltman

CEDS and Researchers

- How researchers extend the use of CEDS?
- Experience with CEDS as a researchers
- CEDS Connections

Experiences with CEDS as researchers: Examples



How Researchers extend the use of CEDS?

- Phase I: Developing Research Questions and Reviewing Existing Research
- Phase II: Operationalizing Research Questions
- Phase III: Analytic Plans
- Phase IV: Gathering Potential Data Sources

CEDS Tools: Connect



- Deconstruct reporting requirements, metrics, research questions
- Built using CEDS elements and/or user-defined elements
- Apply Align maps to a finished Connection to see which elements in own system would be used

CEDS Connections: Examples

- What percentage of referred children birth through age 5 were enrolled in the community service or program?
 - Source: Association of Maternal and Child Health Programs (AMCHP)
- Are students who graduate with test scores that deem them college and career ready less likely to take remedial courses in college?
 - Source: SLDS Community

recipe

INGREDIENTS

All-Purpose Flour

Sugar

Sea Salt

Margarine

Dark Chocolate Chips

Baking Soda

Walnuts

prep time 15 min cook time 9-11 min serves

DIRECTIONS

Preheat oven to 375° F. Combine flour, baking soda and sea salt in

Beat butter, granulated sugar and vanilla extra in large mixer bowl

eggs one at a time, beating well after each addition. Gradually beat

Stir in morsels and walnuts. Drop by rounded tablespoon onto greas

Bake for 9-11 minutes or until golden brown. Cool on baking sheets

remove to wire racks to cool completely.

Connections

1. Go to **Section C** in your graphic organizer
2. Select Tools | Connect
3. Under the “Use” column, select Utilize Reports and Analysis
4. Choose *Select Elements* | *See Connections*
5. Find your element and click Next
6. Expand to view the results
7. How many Connections have aligned to your element?
 - Don’t see any? Go back and try again using “Enrollment Status”
8. What are the parts of a Connection?
9. Post any questions in Q&A

You’ll have **three** minutes to explore

Connect

Common Education Data Standards

User Name

Create an Account

The screenshot shows the website's navigation bar with the following items: Home, About, Elements, Data Model, Tools, and Resources. The 'Tools' menu is open, displaying a dropdown with the following options: Align, Connect (highlighted in purple), myConnect, and Explore. The main content area features a dark blue background with the text: "Select a role on the left or an activity on the right to understand its relationship to CEDS." Below this text are four circular icons: a computer monitor labeled "Developers", a bar chart labeled "Data Stewards", a magnifying glass, and two hands shaking. To the right of these icons are three buttons: "Explore CEDS", "The Mapping Toolkit", and "Data Governance".

- Select “Utilize Reports and Analysis”

The screenshot shows the homepage of the 'Connect' tool. At the top, there is a navigation bar with links for Home, About, Elements, Data Model, Tools, and Resources. A user login field is located in the top right corner. The main content area features the 'Connect' logo and a descriptive paragraph. Below the text, there are two columns of action buttons: 'Build' and 'Use'. The 'Build' column contains 'CREATE a Connection' and 'SUGGEST a Connection'. The 'Use' column contains 'FIND Existing Connection' and 'UTILIZE Reports and Analysis'.

Common Education Data Standards

User Name

[Create an account](#)

Home About Elements Data Model Tools Resources

Connect

Connect allows stakeholders across the P20W spectrum to address, define, and calculate metrics for program enrollment, and academic outcomes. It allows you to define and analyze data used for an excellent tool for deconstructing policy or research questions. Connect gives you the ability to already, and includes reports designed to provide you with options for linking CEDS elements a Connection, select CREATE a Connection. To get additional help, select ACCESS Connect Tut

Build

CREATE
a Connection

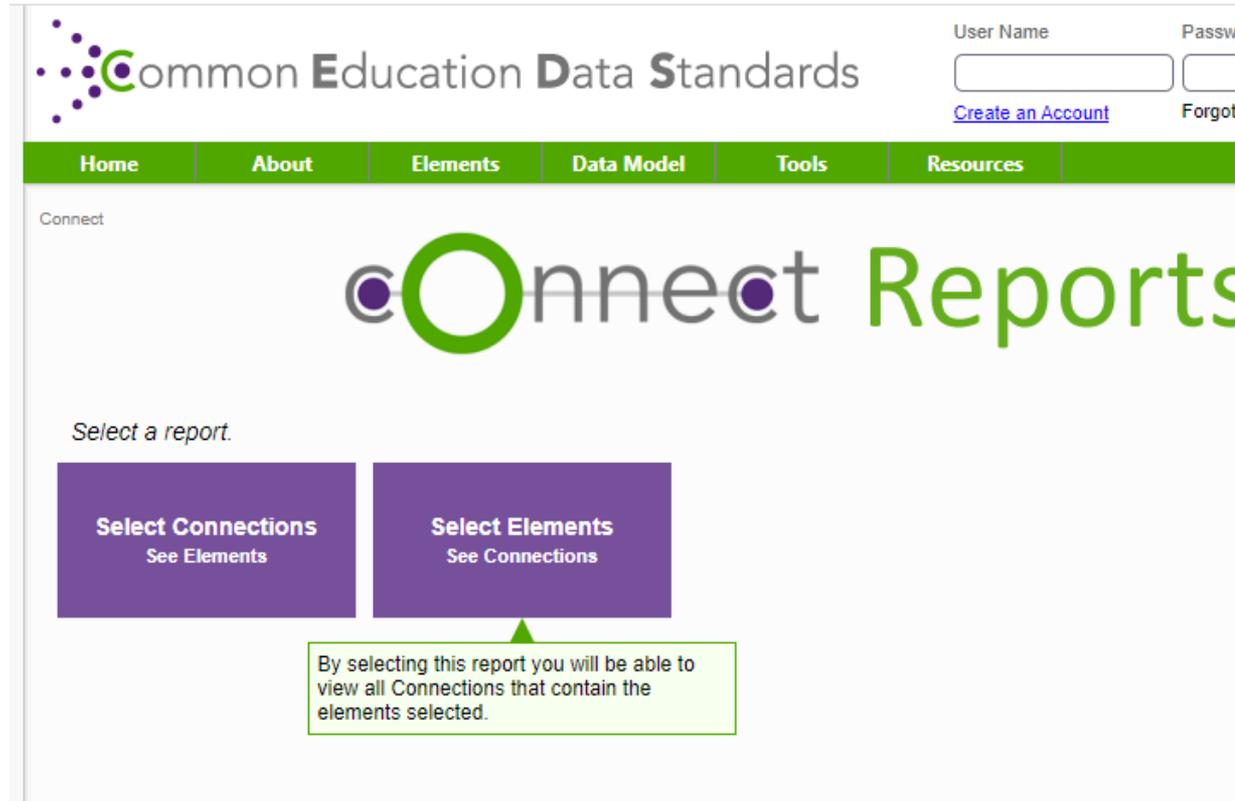
SUGGEST
a Connection

Use

FIND
Existing Connection

UTILIZE
Reports and Analysis

- Choose
Select Elements
See Connections



Common Education Data Standards

User Name Password
[Create an Account](#) [Forgot](#)

[Home](#) [About](#) [Elements](#) [Data Model](#) [Tools](#) [Resources](#)

Connect

Connect Reports

Select a report.

Select Connections
See Elements

Select Elements
See Connections

By selecting this report you will be able to view all Connections that contain the elements selected.

Type your element into the Search bar

OR

Use the domains to find and select your element.

Connect | Reports and Analysis

Connect 

This tool provides a selection of education data related components
Common Education Data Standards (CEDS)

Select one or more CEDS Element(s).

Search:

Step 1

-  Early Learning
-  K12
-  Postsecondary
-  Career and Technical
-  Adult Education
-  Workforce
-  Assessments
-  Credentials
-  Competencies
-  Learning Resources
-  Facilities
-  Implementation Variables
-  Authentication and Authorization

User Name

Password

Log In ...

[Create an Account](#)

Forgot [User Name](#) or [Password](#)

[Home](#)

[About](#)

[Elements](#)

[Data Model](#)

[Tools](#)

[Resources](#)

[Contact Us](#)

[Connect](#) | [Reports and Analysis](#) | [Select More Connections](#)

Select Elements | See Connections

 Options ▾

[+ Expand All](#)

- K12 > K12 Student > Enrollment > Enrollment Status

CEDS Connections	Description of CEDS Connection
What are the attendance patterns and proficiency levels of students who drop out by subgroup?	What are the attendance patterns and proficiency levels of students who drop out by subgroup?
To what extent does free and reduced price lunch enrollment drop off in high school?	To what extent does free and reduced price lunch enrollment drop off in high school?
What is the grade-to-grade progress of student subgroups on the state assessments in reading and mathematics, i.e., what percent of students initially below proficient reach proficiency and what percent either maintain or lose proficiency over time?	What is the grade-to-grade progress of student subgroups on the state assessments in reading and mathematics, i.e., what percent of students initially below proficient reach proficiency and what percent either maintain or lose proficiency over time?
What are the district and school enrollment trends at different grade levels by gender, ethnicity, and economic disadvantage, special education, ELL programs statuses, and combinations for each grade level compared to the overall	What are the district and school enrollment trends at different grade levels by gender, ethnicity, economic disadvantage status, students in special education, students in ELL programs, and combinations for each grade level compared to the overall state trends?

A Connection

Connection Details

CEDS Connect

Connection Title: What are the attendance patterns and proficiency levels of students who drop out by subgroup?

Selected Descriptors:

Educational Process: School Perspectives->Attendance Patterns
Disabilities->Disabilities
Individual in Social Context, The->Dropouts
Bias and Equity->Economically Disadvantaged
Educational Levels, Degrees, and Organizations->Elementary Education
Educational Levels, Degrees, and Organizations->Elementary Secondary Education
Students, Teachers, School Personnel->High School Students
Educational Levels, Degrees, and Organizations->Primary Education
Individual Development and Characteristics->Race
Measurement->Scores
Educational Levels, Degrees, and Organizations->Secondary Education
Disabilities->Special Education
Tests and Scales->Standardized Tests

Author: NORC and NCES

Location: Not Applicable

Source for CEDS Connection Information: SLDS Community

Description of CEDS Connection:

What are the attendance patterns and proficiency levels of students who drop out by subgroup?

CEDS and Beyond...

Nancy Sharkey

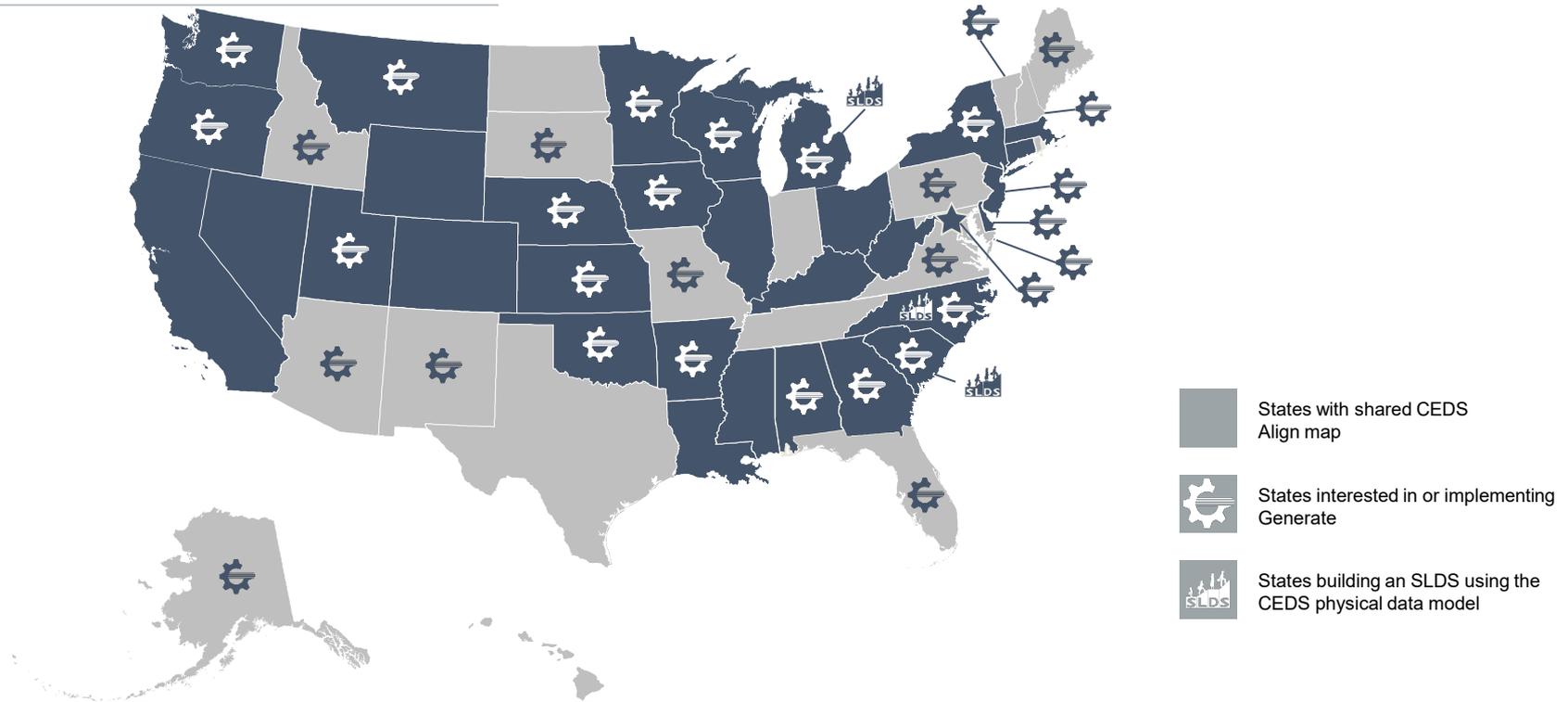
The Big Picture

- Scalability
- Validity
- Replicability
- Transparency
- Reduction of data request iterations
- Applicability

Vision for Data Use, Research

- CEDS and SLDS
- Prevalence of CEDS

CEDS and Generate State Footprint



Reflections

- Use Section D of your graphic organizer
- Reflect on ways you can use CEDS to help with your research
- Post any final questions in the Q&A

- You'll have **three** minutes to reflect

Resources

- <https://ceds.ed.gov>
- Use the “Contact us” for help getting started

thank you!

Questions?

Type your questions for the panelists into the Q&A feature on your screen.