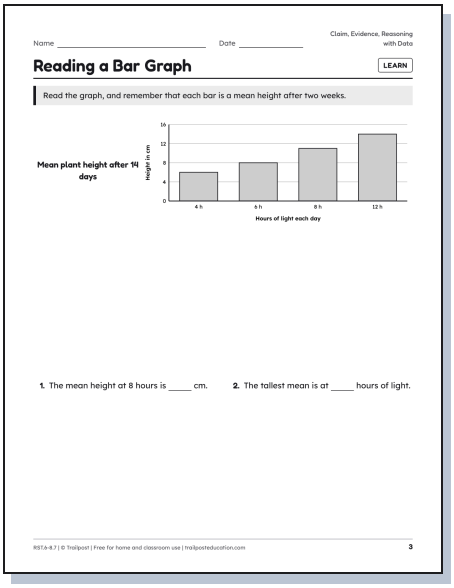
FREE TEACHER GUIDE AND INSTALL GUIDE

Claim, Evidence, Reasoning with Data

Read a table or a graph, write a claim, and tie the evidence to a science idea

Grades 6 to 9 | **Science** | **16 student pages** | **Full answer key**



Name _____ Date _____ Claim, Evidence, Reasoning with Data

Reading a Bar Graph LEARN

Read the graph, and remember that each bar is a mean height after two weeks.

Mean plant height after 14 days

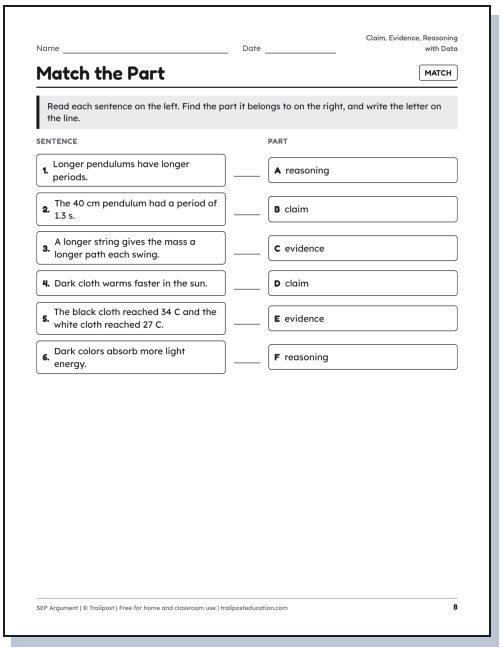
Height in cm: 0, 4, 8, 12, 16

4 h, 6 h, 8 h, 12 h

Hours of light each day

1. The mean height at 8 hours is ____ cm.
2. The tallest mean is at ____ hours of light.

RST.6-8.7 | © Trailpost | Free for home and classroom use | trailposteducation.com 3



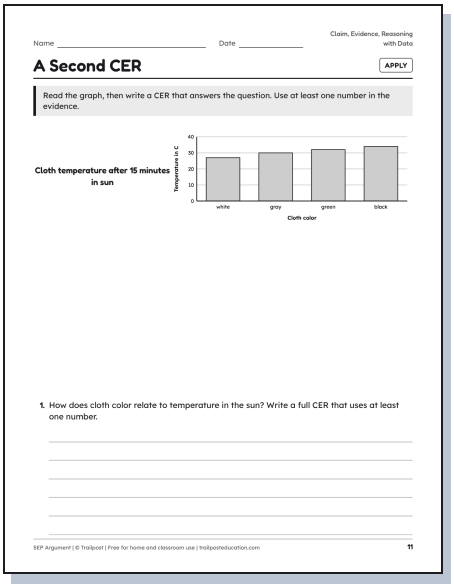
Name _____ Date _____ Claim, Evidence, Reasoning with Data

Match the Part MATCH

Read each sentence on the left. Find the part it belongs to on the right, and write the letter on the line.

SENTENCE		PART
1. Longer pendulums have longer periods.	____	A reasoning
2. The 40 cm pendulum had a period of 1.3 s.	____	B claim
3. A longer string gives the mass a longer path each swing.	____	C evidence
4. Dark cloth warms faster in the sun.	____	D claim
5. The black cloth reached 34 C and the white cloth reached 27 C.	____	E evidence
6. Dark colors absorb more light energy.	____	F reasoning

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Name _____ Date _____ Claim, Evidence, Reasoning with Data

A Second CER APPLY

Read the graph, then write a CER that answers the question. Use at least one number in the evidence.

Cloth temperature after 15 minutes in sun

Temperature in C: 0, 10, 20, 30, 40

white, gray, green, black

Cloth color

1. How does cloth color relate to temperature in the sun? Write a full CER that uses at least one number.

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STUDENTS WILL LEARN TO

- ✓ Tell a claim from evidence and from reasoning
- ✓ Read a table, a bar graph, and a line graph
- ✓ Write a CER paragraph that uses data
- ✓ Fix a CER that leaves the science idea out

A free resource from Trailpost

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Getting started

What is in your download

File	What it is
Student-Pages.pdf	The 16-page student packet, starting with a cover page that has a name line and a table of contents.
Answer-Key.pdf	The same pages with every answer filled in, so you can check work quickly or project a page to go over it together.
Teacher-Guide.pdf	This guide, which explains how to print the packet, how to pace it, and which standards it covers.

How to open the files

1. On a Chromebook, open the Files app, double-click the zip folder, and drag the three PDFs into Google Drive or onto the desktop.
2. On a Windows computer, right-click the zip folder and choose Extract All, then open the new folder that appears.
3. On a Mac, double-click the zip folder and a regular folder with the three PDFs will open next to it.
4. Open each PDF in your browser or in any PDF reader, and you are ready to print.

How to print

- Set the print scale to Actual Size or 100 percent so the boxes and lines stay the right size for student handwriting.
- Black and white printing works well, because every page uses black lines and light gray shading.
- Print pages 7 and 15 on one side only, because students cut those pages apart.
- The exit ticket page holds two copies of the same ticket, so one printed page covers two students.

One star and two stars

Pages marked with one star (5) give steady practice with friendly numbers and extra support. Pages marked with two stars (6, 12) ask for more steps and more explaining. Students who finish the one-star page with few mistakes can move straight to the two-star page, and students who need more time can do the one-star page twice with a partner.

Using the answer key

The answer key matches the student packet page for page, so page 6 of the key answers page 6 of the student packet. Written answers in the key are sample answers, and any answer that gives the same idea with good reasoning should earn credit.

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What is inside

Students learn what a claim, evidence, and reasoning are, then write CER paragraphs from original tables and graphs. The packet includes a sort, a match, a riddle, two full CER pages, error analysis, a review, exit tickets, and a self-check.

Page	Title	What students do
1	**Cover**	Students write their name and see a list of every page in the packet.
2	**Claim, Evidence, Reasoning** Learn | SEP Argument	Students learn the three parts of a CER and see a finished example about plant growth.
3	**Reading a Bar Graph** Learn | RST.6-8.7	Students read a bar graph of plant height and light, then pull one number from it.
4	**Pull Evidence from a Table** Guided Practice | SEP Analyzing Data	Students read a table of sleep and reaction time and write one claim and one evidence sentence.
5	**Read a Line Graph** Practice ★ | RST.6-8.7	Students read a line graph of ice melting with different insulators.
6	**Write the Reasoning** Practice ★★ | SEP Argument	Students add the reasoning step to two CER outlines.
7	**Sort the Sentences** Cut and Paste | SEP Argument	Students sort nine sentences into claim, evidence, and reasoning.
8	**Match the Part** Match | SEP Argument	Students match six sentences to claim, evidence, or reasoning.
9	**CER Riddle** Riddle | SEP Argument	Students name the missing science word and use the first letters to answer a riddle.
10	**Write a Full CER** Apply | SEP Argument	Students write a full CER from a pendulum table.
11	**A Second CER** Apply | SEP Argument	Students write a CER from a bar graph of cloth color and temperature.
12	**Find the Mistake** Error Analysis ★★ | SEP Argument	Students fix a CER that is missing numbers and a CER that is missing reasoning.
13	**Explain How You Choose** Write About It | RST.6-8.1	Students explain how they pick evidence from a graph and how reasoning is different from a claim.
14	**Mixed Review** Review | SEP Argument, RST.6-8.7	Students review reading a graph and writing a short CER.
15	**Exit Tickets** Check | SEP Argument	Two copies of a short exit ticket on each page so you can check understanding in about five minutes.
16	**How Did I Do?** Self-Check | SEP Argument	Students rate their own progress on each skill and set one goal for practice.

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Pacing and standards

A suggested plan

Day	Pages	What to do
Day 1	2 to 4	Read the two Learn pages together and talk through each graph, then have partners finish the guided page.
Day 2	5 to 6	Students start with the one-star page and move to the two-star page when they finish with few mistakes.
Day 3	7 to 10	Use the sort, the match, the riddle, and the first CER writing page as centers or a lab wrap-up.
Day 4	11 to 13	Students write a second CER, fix a weak one, and explain how they choose evidence.
Day 5	14 to 16	Give the review page as a quiz, use the exit ticket the next morning, and finish with the self-check.

Standards

Code	Standard
SEP Analyzing Data	Analyze and interpret data to provide evidence for phenomena.
SEP Argument	Engage in argument from evidence to support or refute an explanation or a model for a phenomenon.
RST.6-8.1	Cite specific textual evidence to support analysis of science and technical texts.
RST.6-8.7	Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

Teaching tips

- Require a number from the table or graph in every evidence sentence, because a CER without a number is usually only an opinion.
- The sort checks itself, because a reasoning sentence that lands in the claim column will look like an explanation instead of a statement.
- On the writing pages, let students talk the claim out loud with a partner before they write, so the paragraph starts with a clear sentence.

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Thank you for downloading this packet

I made this packet for families and teachers who need solid practice pages that are ready to print tonight, and I hope it saves you some planning time this week.

Hear about the next free packet

I give away free resources from time to time, and people on the Trailpost email list hear about each one first.

To join the list, open trailposteducation.com/free and enter your email address at the bottom of the page.

Something look wrong?

If you find a mistake on a page or in the answer key, please email support@trailposteducation.com. I read every message, and I will fix the file and post the new version for everyone.

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More free Trailpost packets

These packets are also free on the Trailpost website, and each one comes with an answer key and a teacher guide like this one.

- **Addition and Subtraction Within 20** | Math, grades 1 to 2
- **CVC Words and Short Vowels** | ELA, grades K to 1
- **Ecosystems and Food Webs** | Science, grades 4 to 6
- **One-Step and Two-Step Equations** | Math, grades 6 to 8
- **Figurative Language** | ELA, grades 4 to 6
- **Equivalent Fractions and Number Lines** | Math, grades 3 to 5
- **Main Idea and Key Details** | ELA, grades 3 to 5
- **Map Skills** | Social Studies, grades 3 to 5
- **Multiplication Fact Strategies** | Math, grades 3 to 4
- **Citing Text Evidence** | ELA, grades 5 to 8
- **Telling Time and Counting Money** | Math, grades 2 to 3

More from Trailpost

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Sleep and the Teenage Brain

GRADES 6 TO 8 | NARRATED SLIDE COURSE

Students learn how much sleep teens need and build a one-week sleep plan of their own.

See it in the shop



The Water Cycle

GRADES 3 TO 5 | INTERACTIVE COURSE

Students follow a vanishing puddle through evaporation, clouds, precipitation, and runoff.

See it in the shop



Shifting Ground: Plates and Earthquakes

GRADES 6 TO 8 | INTERACTIVE COURSE

Students learn about the layers of the Earth, plate boundaries, and earthquakes in a narrated course.

See it in the shop



Is This Post True?

GRADES 6 TO 8 | INTERACTIVE COURSE

Students check a viral post with lateral reading and reverse image search before they share it.

See it in the shop



The Gradebook Problem

GRADES 6 TO 10 | PUZZLE GAME

Students use clues to fill a seven-person deduction grid and find out who changed the grades.

See it in the shop



Code the Farmer

GRADES 2 TO 5 | DIGITAL LESSON

Students learn if and else statements by programming a farmer to finish chores in an offline app.

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