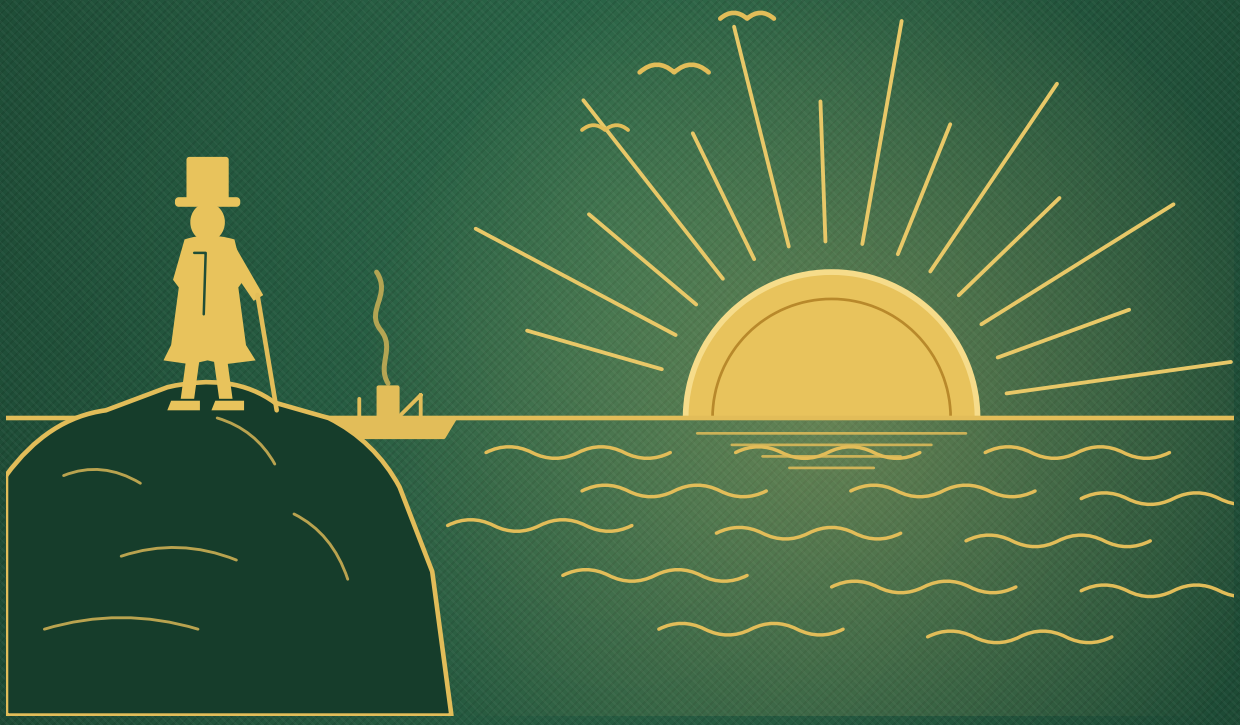
SUNSHINE

Middle School Themed Curriculum

AROUND THE WORLD



IN 80 DAYS

Student Packet · Grades 6–8

Based on the 1872 novel by Jules Verne · Towle's 1873 translation

Quarter 1 · Week 1	This week	Grades 6–8
Days 1–5	London, October 1872: meet Mr. Fogg	Tracks A, B, C

LONDON → SUEZ → BOMBAY → CALCUTTA → HONG KONG → YOKOHAMA → SAN FRANCISCO → NEW YORK → LONDON

Week 1 at a glance

Quarter 1 · Days 1–5 · Theme: **London, October 1872: meet Mr. Fogg**

Where are the travelers? Still in London! Day 0 of 80 · Wednesday, October 2, 1872 · Chapter I. By next week, Mr. Fogg will have made a very big bet.

Track tasks

Do only the Track A, B, or C task for your grade (6, 7, or 8). Everything else is for everyone.

Look closely

Full-page pictures are real public domain images. Study each one before you answer its questions.

Watch & explore

Every lesson ends with checked videos or websites. Use them with an adult nearby.

Portfolio

Each week, put your best piece from each subject in its folder with a sticky note.

Subject	Day 1	Day 2	Day 3	Day 4	Day 5
ELA	Meet Jules Verne · Picture 1	Chapter I · Picture 2	Characterization	Sentence types; drafting	Revision; quiz
Math 6	Elapsed time	Time as decimals	Adding and subtracting decimals	Multiplying decimals	Week 1 quiz
Math 7	Integers and absolute value	Adding integers	Subtracting integers	Time zones and integers	Week 1 quiz
Math 8	Powers and exponents	Product and quotient rules	Power rules; zero exponent	Negative exponents	Week 1 quiz
Science	Lab safety; observing	Measurement and SI units	Accuracy and precision · Picture 3	Lab: pendulum timer	Lab report; quiz
World History*	What is history?	Primary and secondary sources	Timelines, BCE, and CE	Maps and the prime meridian · Picture 4	Week 1 quiz
U.S. History*	The historian's toolkit	Reading a primary source	Geography skills	Chronology; cause and effect	Week 1 quiz
Civics*	What is civics?	Who is a citizen?	Rules, laws, and government	Written agreements	Week 1 quiz
Art	Elements of art	—	Line: hatching	—	Drawing a pocket watch; portfolio
Health	—	The health triangle	—	Routines and SMART goals	—
Game Lab	—	What makes a game?	—	Race games · Picture 5	—

*Social studies: pick ONE of World History, U.S. History, or Civics.

Supplies this week: composition notebooks, pencils, index cards, a clock or watch with a second hand (or a phone stopwatch), ruler, meter stick or tape measure, sketchbook, 2B and 4B pencils, eraser, colored pencils. **Science lab:** about 1.2 m of string, 3–4 metal washers or a small bag of coins, tape, a sturdy table. **Game Lab:** one die, a few coins or buttons for game pieces, scrap paper.

Our novel: *Around the World in Eighty Days* by Jules Verne, in George Makepeace Towle's 1873 English translation. It is in the public domain and free online (see ELA Day 1). Quotations in this packet come from that translation; the chapter summaries are retold in our own words.

QUARTER 1 · WEEK 1

English Language Arts

Comprehensive ELA · M/J Language Arts 1, 2, or 3

This week: Meet Jules Verne and Phileas Fogg; characterization

Passport Words novel · translation · narrator · character trait · characterization · direct characterization · indirect characterization · eccentric · taciturn · punctual

DAY 1

ELA

Meet Jules Verne

Learn it

A **novel** is a long work of fiction. A **translation** carries a text from one language into another. Our novel was written in French in 1872 and first translated into English by George Makepeace Towle in 1873. When you read the quotations in this course, you are reading Towle's English words for Verne's French ideas.

📖 Read it: *The Man Who Wrote the Future*

In 1872, the world suddenly seemed smaller. The Suez Canal in Egypt had opened in 1869, letting steamships skip the long voyage around Africa. That same year, a railroad first linked the Atlantic and Pacific coasts of the United States. In 1870, a railway connection opened across India. Telegraph wires carried news across oceans in minutes instead of weeks.

A French writer named Jules Verne was paying close attention. Verne was born in 1828 in Nantes, a busy port city in western France, where he grew up watching ships come and go. He studied law to please his father, but he really wanted to write. He spent hours in libraries reading about geography, science, and inventions.

Verne became famous for a series of novels later called the *Extraordinary Voyages*. In *Journey to the Center of the Earth* (1864), explorers climb down into a volcano. In *Twenty Thousand Leagues Under the Seas* (1870), a submarine called the *Nautilus* travels the oceans. In *From the Earth to the Moon* (1865), a giant cannon fires travelers toward the Moon from Florida. About a century later, real astronauts did launch from Florida, at Cape Canaveral.

In 1872, Verne asked a new question: with all these new machines, how fast could a person travel around the whole world? His answer became *Around the World in Eighty Days*. It first appeared in a Paris newspaper, *Le Temps*, one piece at a time, starting on November 6, 1872. Readers waited eagerly for each new part. The book edition followed in January 1873, and English readers had it that same year.

Verne mixed real facts, such as train timetables and steamship routes, with an invented hero and plenty of danger. He also wrote as a European of his time, so some of his descriptions of other peoples are one-sided or unfair. As we read, we will enjoy the adventure and also think carefully about whose point of view is being told.

➜ Turn to **Look closely: Picture 1** to see a photograph of Jules Verne.

✔ Check your understanding

1. Name two inventions or projects that made the world “smaller” by 1872.
2. Where and when was Jules Verne born?
3. What were Verne’s novels later called as a series?
4. What is the Florida connection in *From the Earth to the Moon*?
5. How did readers first read *Around the World in Eighty Days*?
6. Why should we read Verne’s descriptions of other peoples carefully?

Write it

Prediction. The novel’s title tells you the goal: around the world in eighty days.

Track A: Write 4–5 sentences predicting one problem the travelers might face and how they could solve it. **Track B:** Write 6–8 sentences predicting two problems, using what you learned about travel in 1872. **Track C:** Write a full paragraph predicting the main conflict. Then explain why a writer might choose a deadline (eighty days) to build suspense.

WATCH & EXPLORE

SITE	Jules Verne (Wikipedia)	en.wikipedia.org · Jules Verne
SITE	Read the 1873 translation free (Project Gutenberg)	gutenberg.org/ebooks/103

DAY 2

ELA

Chapter I: Master and Man

Learn it

Every story is told by a **narrator**. Our narrator is not a character in the story. He speaks directly to us, sometimes with a wink of humor, and he knows more than the characters do. Listen for his voice as you read.

📖 Read it: Chapter I, retold

It is Wednesday, October 2, 1872, in London. Mr. Phileas Fogg lives alone in a comfortable house on Savile Row. He belongs to the Reform Club, a grand gentlemen’s club, and that is almost all anyone knows about him. Nobody knows how he became rich. He gives money quietly to good causes, says very little, and seems to know the whole world, even though no one remembers him leaving London for years.

Mr. Fogg’s life runs like a machine. He eats breakfast and dinner at the club at exactly the same times, at the same table, every day. He reads the newspapers, plays a quiet card game called whist, and goes home at exactly midnight. He spends ten hours of every twenty-four at home, sleeping or getting dressed.

That very morning, Mr. Fogg has fired his servant, James Forster. His crime? He brought shaving water that was 84 degrees Fahrenheit instead of 86. Now Mr. Fogg sits perfectly straight in his armchair, watching a clock that shows the hours, minutes, seconds, days, months, and years. A new servant is due between eleven and half past eleven.

At the door appears a cheerful Frenchman of about thirty: Jean Passepartout. He explains that he has

had many jobs: traveling singer, circus rider, tightrope dancer, gymnastics teacher, and firefighter in Paris. Now he wants only a quiet, regular life, and he has heard that Mr. Fogg is the most exact and settled gentleman in the kingdom.

Mr. Fogg asks him the time. Passepartout pulls out an enormous silver watch: 11:22. "You are four minutes too slow," says Mr. Fogg, and hires him on the spot. Then he puts on his hat and leaves for the club without another word. Passepartout stands alone in the silent house.

✒ From the 1873 translation

> "He was, in short, the least communicative of men. He talked very little, and seemed all the more mysterious for his taciturn manner."
>
> Chapter I · **communicative** = willing to talk · **taciturn** = quiet, saying little

> "If to live in this style is to be eccentric, it must be confessed that there is something good in eccentricity."
>
> Chapter I · **eccentric** = unusual, odd in a harmless way

> "You are four minutes too slow. No matter; it's enough to mention the error."
>
> Chapter I · Mr. Fogg to Passepartout

➜ **Turn to Look closely: Picture 2 to see how an illustrator showed Mr. Fogg in the 1873 edition.**

✔ Check your understanding

1. What is the date and place at the start of the novel?
2. Name three of Mr. Fogg's daily habits.
3. Why did Mr. Fogg fire James Forster?
4. List three of Passepartout's past jobs.
5. Why does Passepartout want to work for Mr. Fogg?
6. How does the narrator feel about Mr. Fogg's odd habits? Use the second quotation.

Fact check the author. Verne wrote that Mr. Fogg's house was the one "in which Sheridan died in 1814." Richard Brinsley Sheridan, a famous playwright, really did die on Savile Row, but in 1816. Even great writers make mistakes. Good readers check!

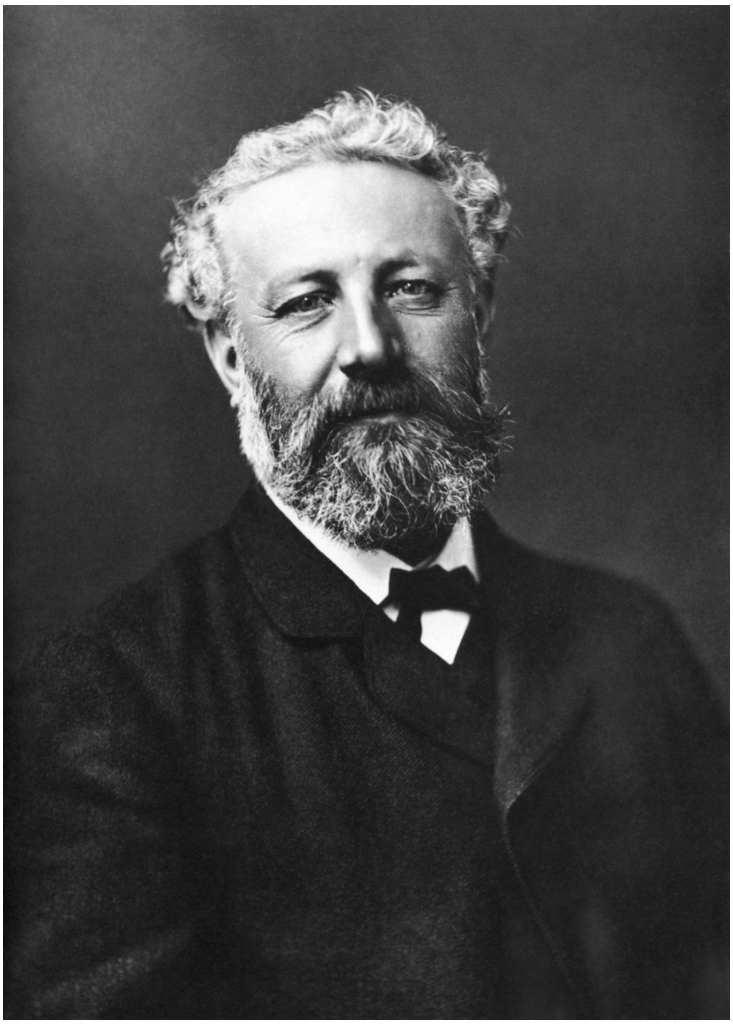
Track A: Draw a two-column chart: "Mr. Fogg" and "Passepartout." List three details about each. **Track B:** Make the chart, then write 3 sentences predicting how these two very different people will get along. **Track C:** Make the chart, then write a paragraph: why might an author pair a quiet, exact character with a lively one? Name a book or movie that uses a similar pair.

WATCH & EXPLORE

SITE	About the novel, its route, and its history (Wikipedia)	en.wikipedia.org · Around the World in Eighty Days
SITE	Read the 1873 translation free (Project Gutenberg)	gutenberg.org/ebooks/103

◉ LOOK CLOSELY PICTURE 1

Jules Verne, About 1878



Jules Verne photographed by the famous Paris studio of Nadar, about 1878, a few years after Around the World in Eighty Days made him one of the best-known writers in the world.

Studio of Nadar (Félix Nadar), about 1878 · Public domain · View on Wikimedia Commons

1. Describe Verne's clothing, expression, and pose. What impression of himself do you think he wanted to give?
2. This photograph was made about 150 years ago. What clues tell you it is old?
3. If you could ask Verne one question about his novel, what would it be?

Used in ELA Day 1.

◉ LOOK CLOSELY PICTURE 2

Mr. Phileas Fogg



The frontispiece (opening picture) of the 1873 Boston edition of George Makepeace Towle's translation, the same translation we quote. The picture comes from the original French illustrations by Alphonse de Neuville and Léon Benett.

From *Around the World in Eighty Days*, James R. Osgood and Company, 1873 · Public domain · View on Wikimedia Commons

1. Find three details in the picture that match what the narrator tells us about Mr. Fogg.
2. Look at his posture, hands, and face. What character traits does the illustrator show without words?
3. The whole picture is made of tiny lines. Find an area that looks dark and an area that looks light. How did the artist make the difference?

Used in ELA Day 2 and Art Day 3.

DAY 3

ELA

Characterization: How Authors Build a Person

Learn it

Characterization is how an author shows what a character is like. **Direct characterization** tells us a trait outright: "He was, in short, the least communicative of men." **Indirect characterization** lets us figure out a trait from clues. Use **STEAL** to find the clues:

Letter	Clue	Question to ask	Example from Chapter I
S	Speech	What does the character say, and how?	"You are four minutes too slow."
T	Thoughts	What does the character think or feel?	Passepartout hopes for "a tranquil life."
E	Effect on others	How do others react to the character?	Club members can only guess about Mr. Fogg.
A	Actions	What does the character do?	Fires a servant over two degrees of water.
L	Looks	How does the character appear?	Sits "like a grenadier on parade."

✎ Practice: direct or indirect? Then name the trait

1. Mr. Fogg goes home at exactly midnight every night.
2. He was "an enigmatical personage, about whom little was known."
3. Passepartout has worked as a singer, circus rider, and firefighter.
4. Mr. Fogg gives money "quietly and sometimes anonymously" to good causes.
5. Mr. Fogg watches a clock that shows even the seconds.
6. Passepartout pulls out "an enormous silver watch."
7. Mr. Fogg leaves the house "without a word."
8. The club members guess wildly about his travels, but he quietly corrects them.

✦ Plan a character sketch

This week you will write a **character sketch**: a short description that brings a real person to life. Choose someone you know well who has a strong habit or quirk, like Mr. Fogg's love of exact times. Fill in this chart in your notebook.

STEAL clue	My notes about this person
Speech: something they often say	
Thoughts or feelings they show	
Effect on others	
Actions and habits	
Looks: two or three details	
One main trait I want readers to notice	

Track A: Fill in every row with at least one detail. **Track B:** Fill in every row, and add one direct sentence you could use. **Track C:** Fill in every row, add one direct sentence, and plan where in your sketch the most surprising detail will appear. Explain why in one sentence.

WATCH & EXPLORE

SITE Characterization (Wikipedia) — en.wikipedia.org · Characterization

DAY 4

ELA

Editor's Desk: Four Kinds of Sentences

Editor's Desk: sentence types

Sentences do four different jobs. Writers mix them to make dialogue sound real.

Type	Job	Ends with	Example from Chapter I
Declarative	Makes a statement	period	"Passepartout suits me."
Interrogative	Asks a question	question mark	"What time is it?"
Imperative	Gives a command or request	period or exclamation point	"Take good care of it." (Chapter IV)
Exclamatory	Shows strong feeling	exclamation point	"Round the world!" (Chapter IV)

✎ Practice: name the type of each sentence, and add the correct end mark

1. Mr. Fogg lives on Savile Row
2. What a strange man he is
3. Tell me the time
4. Is your watch slow
5. Passepartout was once a firefighter
6. Bring the water at exactly 86 degrees
7. Why does he never travel
8. How quiet this house is
9. Please wait in the hall
10. The new servant arrived at 11:22

Draft your character sketch

Use your STEAL chart to write the first draft of your character sketch. Skip lines so you have room to revise.

Track A: 200–300 words. Use at least one question and one exclamation. **Track B:** 300–400 words. Use all four sentence types and one line of dialogue. **Track C:** 400–550 words. Use all four sentence types, dialogue, and both direct and indirect characterization. Open with a hook.

WATCH & EXPLORE

SITE Sentence types and structure (Wikipedia) — en.wikipedia.org · Sentence (linguistics)

DAY 5

ELA

Revision and Week 1 Quiz

✔ Revise your character sketch

Read your draft aloud. Check each item and make changes in a different color.

1. ☐ My first sentence makes the reader curious about this person.
2. ☐ I show at least three STEAL clues.
3. ☐ I include at least one direct and one indirect detail.
4. ☐ My reader can name the person's main trait.
5. ☐ I used different sentence types, each with the right end mark.
6. ☐ I checked capitals, spelling, and punctuation.

Write your final copy neatly or type it. Place it in your portfolio.

✎ Week 1 Quiz

1. A translation is:
   a. a summary · b. a text carried into another language · c. a newspaper serial · d. a type of poem
2. Jules Verne was born in:
   a. London · b. Paris · c. Nantes · d. Boston
3. Which is direct characterization?
   a. He goes home at midnight. · b. He was the least communicative of men. · c. He watches the clock. · d. He fired his servant.
4. In STEAL, the "A" stands for:
   a. appearance · b. attitude · c. actions · d. audience
5. "Is your watch slow?" is:
   a. declarative · b. interrogative · c. imperative · d. exclamatory
6. Name the sentence type: Bring me my hat.
7. Name the sentence type: What a wonderful house this is!
8. Why did Mr. Fogg fire James Forster?
9. Name two of Passepartout's earlier jobs.
10. What does "taciturn" mean? Use it in a sentence about Mr. Fogg.
11. What mistake did Verne make about Sheridan?
12. Give one indirect clue that shows Mr. Fogg is exact, and name the STEAL letter it fits.

WATCH & EXPLORE

AUDIO Free audio recordings of the Towle translation, read by volunteers (LibriVox) librivox.org/author/6775

QUARTER 1 · WEEK 1

Mathematics 6

M/J Grade 6 Mathematics (1205010)

This week: Time, decimals, and Mr. Fogg's clockwork day

DAY 1

MATH 6

Elapsed Time

Learn it

Elapsed time is how much time passes from a start time to an end time. Count up in friendly jumps: to the next hour, then whole hours, then the leftover minutes. Watch for noon and midnight, where a.m. and p.m. switch.

Mr. Fogg's house card (Chapter II)	Time
Rise	8:00 a.m.
Tea and toast	8:23 a.m.
Shaving water	9:37 a.m.
Dressing	9:40 a.m.
Leave for the Reform Club	11:30 a.m.
Bed	12:00 midnight

Example Mr. Fogg leaves at 11:30 a.m. and returns at midnight. 11:30 a.m. → 12:00 noon is 30 min. Noon → midnight is 12 h. Elapsed time: **12 h 30 min**.

Practice

1. Elapsed time from rising to tea and toast?
2. From tea and toast to shaving water?
3. From shaving water to dressing?
4. From dressing to leaving for the club?
5. Passepartout's watch says 11:22. The correct time is 11:26. How many minutes slow is his watch?
6. A whist game starts at 7:45 p.m. and lasts 2 h 35 min. When does it end?
7. Mr. Fogg's notebook: left London 8:45 p.m.; reached Paris 7:20 a.m. the next morning. How long was the trip?
8. Mr. Fogg spends 10 of every 24 hours at home. How many hours is he away?
9. A 45-minute lesson ends at 1:10 p.m. When did it start?
10. Mr. Fogg left Paris at 8:40 a.m. Thursday and reached Turin at 6:35 a.m. Friday. How long did that leg take?

WATCH & EXPLORE

SITE	The 12-hour clock: a.m. and p.m. (Wikipedia)	en.wikipedia.org · 12-hour clock
VIDEO	Elapsed time on a number line, plus online practice (Math Mammoth)	mathmammoth.com · telling time

DAY 2

MATH 6

Time as Decimals and Fractions

Learn it

An hour has 60 minutes, so minutes are fractions of an hour. 30 min = 30/60 = 1/2 = 0.5 h. To change minutes to hours, divide by 60. To change a decimal part of an hour to minutes, multiply by 60.

Minutes	6	15	20	30	45
Fraction of an hour	1/10	1/4	1/3	1/2	3/4
Decimal hours	0.1	0.25	0.333…	0.5	0.75

Example 2 h 45 min = 2 + 45/60 = **2.75 h**. 3.4 h = 3 h + (0.4 × 60) min = **3 h 24 min**.

Practice

1. Write 1 h 30 min in decimal hours.
2. Write 2 h 15 min in decimal hours.
3. Write 36 min in decimal hours.
4. Write 4.75 h in hours and minutes.
5. Write 1.2 h in hours and minutes.
6. How many minutes is 0.05 h?
7. Mr. Fogg is home 10 of 24 hours. Write this as a fraction in simplest form and as a decimal rounded to the nearest hundredth.
8. Write Mr. Fogg's 12 h 30 min away from home in decimal hours.
9. Order from least to greatest: 2.5 h, 2 h 20 min, 2.45 h, 2 h 40 min
10. Passepartout says his watch is never off by more than 5 minutes a year. Write 5 min in decimal hours, rounded to the nearest hundredth.

WATCH & EXPLORE

SITE Decimals (Wikipedia) — en.wikipedia.org · Decimal

DAY 3

MATH 6

Adding and Subtracting Decimals

Learn it

Line up the decimal points so each place lines up with the same place. Write zeros as placeholders when a number has fewer decimal places. Check subtraction by adding.

Example 12.5 + 2.75 = 12.50 + 2.75 = **15.25**. 24 − 15.25 = 24.00 − 15.25 = **8.75**. Check: 8.75 + 15.25 = 24 ✓

Practice

1. 3.75 + 8.6
2. 120.45 + 9.8
3. 0.75 + 1.5 + 2.25
4. 24 − 10.75
5. 50.3 − 18.76
6. 7 − 2.085

7. A traveler rides a train for 6.75 h, waits 1.5 h, then takes a boat for 2.25 h. Total time?
8. A travel plan allows 7 days to reach Suez. The travelers arrive in 6.5 days. How many days early are they?
9. A carpetbag holds 9.4 kg. Passepartout removes 2.65 kg. How much is left?
10. Ana says 15.4 – 3.27 = 12.27. Find the correct answer and explain her mistake.

WATCH & EXPLORE

VIDEO Math Mammoth 6th grade video lessons — mathmammoth.com · 6th grade videos

DAY 4

MATH 6

Multiplying Decimals

Learn it

Multiply as if the numbers were whole numbers. Then count the total number of decimal places in both factors and place the decimal point in the product. Estimate first to check that your answer makes sense.

Example 3.2 × 2.5: 32 × 25 = 800; two decimal places → **8.00 = 8**. Estimate: 3 × 3 = 9 ✓. In Chapter III, Mr. Fogg walks to his club in 1,151 steps. If each step is 0.75 m: 1,151 × 0.75 = **863.25 m**.

✎ Practice

1. 4.6 × 3
2. 0.7 × 0.8
3. 2.35 × 1.4
4. 12.5 × 0.04
5. 6.08 × 2.5
6. 0.75 × 0.75
7. Passepartout walks 3.2 miles per hour for 1.75 hours. How far does he walk?
8. Notebooks cost $2.35 each. How much do 6 cost?
9. A train travels 28.5 miles each hour for 7.5 hours. How far does it go?
10. Estimate 19.8 × 5.1 first. Then find the exact product.

WATCH & EXPLORE

SITE How multiplication algorithms work (Wikipedia) — en.wikipedia.org · Multiplication algorithm

DAY 5

MATH 6

Week 1 Quiz

✎ Week 1 Quiz · Show your work

1. Elapsed time from 9:15 a.m. to 1:40 p.m.?
2. What time is 2 h 25 min after 3:50 p.m.?
3. Write 3 h 45 min in decimal hours.
4. Write 2.2 h in hours and minutes.
5. Write 18 min in decimal hours.
6. 14.6 + 3.85
7. 30 – 12.48
8. 0.6 × 0.9
9. 7.25 × 4
10. 1.8 × 2.05
11. A trip takes 2.5 h by train, 0.75 h by cab, and 3.25 h by boat. Total?
12. Order from least to greatest: 1.4 h, 1 h 20 min, 1.35 h

QUARTER 1 · WEEK 1

Mathematics 7

M/J Grade 7 Mathematics (1205040)

This week: Adding and subtracting integers; time zones

DAY 1

MATH 7

Integers, Opposites, and Absolute Value

Learn it

Integers are whole numbers and their opposites: ..., −2, −1, 0, 1, 2, ... **Opposites** are the same distance from 0 on opposite sides. The **absolute value** |x| is a number's distance from 0, so it is never negative.

Time zones use integers too. Places east of London add hours to London time; places west subtract. In 1872 there were no time zones: each town set clocks by its own sun. Standard time zones came later, starting with U.S. railroads in 1883.

City (standard time)	London	Cairo	Hong Kong	Tokyo	Orlando	San Francisco	Honolulu
Hours from London	0	+2	+8	+9	−5	−8	−10

Example Orlando is −5: five hours behind London. Its distance from 0 is |−5| = **5**. The opposite of −5 is **5**.

Practice

1. What is the opposite of −8?
2. |−14|
3. |9|
4. −|−6|
5. Write an integer for 12 degrees below zero.
6. Florida's highest point, Britton Hill, is 345 feet above sea level. Write it as an integer.
7. Which is farther from 0: −11 or 9?
8. Order from least to greatest: 3, −7, 0, −2, 8, −10
9. Compare using < or >: −4 ___ −9
10. Which city in the table is the most hours away from London?

WATCH & EXPLORE

- SITE Integers (Wikipedia) — en.wikipedia.org · Integer
- SITE Time zones (Wikipedia) — en.wikipedia.org · Time zone

DAY 2

MATH 7

Adding Integers

Learn it

Same signs: add the absolute values and keep the sign. **Different signs:** subtract the absolute values and use the sign of the number with the greater absolute value. A number plus its opposite is 0. On a number line, adding a positive moves right; adding a negative moves left.

Example −6 + (−9) = **−15**. −12 + 5 = **−7**. 8 + (−3) = **5**. −7 + 7 = **0**.

Practice

1. −8 + (−5)
2. 14 + (−6)
3. −15 + 9
4. −23 + 23
5. 7 + (−19)
6. −4 + (−11) + 6
7. The morning temperature is −3°F. It rises 14 degrees. What is the new temperature?
8. A diver in a Florida spring is at −45 feet. She rises 20 feet. Where is she now?
9. It is 12:00 noon in London. Add Hong Kong's +8. What time is it in Hong Kong?
10. A traveler has $50 and spends $72 by borrowing the rest. Write and solve an addition problem for his balance.

WATCH & EXPLORE

VIDEO Math Mammoth video lessons, organized by grade and topic — mathmammoth.com/videos

DAY 3

MATH 7

Subtracting Integers

Learn it

To subtract an integer, add its opposite: **a − b = a + (−b)**. So subtracting a negative is the same as adding a positive. To find how many hours apart two time zones are, subtract their offsets.

Example 5 − 9 = 5 + (−9) = **−4**. −6 − 4 = **−10**. 3 − (−8) = 3 + 8 = **11**. −2 − (−7) = **5**. Tokyo (+9) − Orlando (−5) = 9 + 5 = **14 hours apart**.

Practice

1. 4 − 10
2. −7 − 8
3. 6 − (−5)
4. −12 − (−3)
5. −9 − (−9)
6. 0 − 13
7. How many hours apart are Hong Kong (+8) and San Francisco (−8)?
8. How many hours apart are Cairo (+2) and Orlando (−5)?
9. The temperature falls from 5°F to −8°F. Find the change.

10. Britton Hill is 345 feet above sea level. A diver is 60 feet below the surface of a Florida spring (–60). What is the vertical distance between them?

WATCH & EXPLORE

SITE Absolute value (Wikipedia) — en.wikipedia.org · Absolute value

DAY 4

MATH 7

Integers Around the Clock

Learn it

Use a 24-hour clock (13 = 1 p.m.). **City time = London time + offset.** If the result is 24 or more, subtract 24 (next day). If it is negative, add 24 (previous day). Use standard time.

Example London 3:00 a.m. (3). Orlando: 3 + (–5) = –2. –2 + 24 = 22, so it is **10:00 p.m. the previous day**.

Practice

1. London 9:00 a.m. What time is it in Tokyo?
2. London 6:00 a.m. What time is it in San Francisco?
3. London 11:00 p.m. What time is it in Hong Kong?
4. Orlando 4:00 p.m. What time is it in London?
5. Tokyo 8:00 a.m. What time is it in Orlando?
6. How many hours apart are Honolulu (–10) and Tokyo (+9)?
7. A submarine at –120 feet rises 75 feet, then dives 40 feet. Where is it now?
8. An elevator starts on floor 3, goes down 5, up 2, and down 4. Where does it stop? (Ground = 0.)
9. A bank account has $35. You withdraw $50, then deposit $20. What is the balance?
10. Write and solve your own time-zone problem.

WATCH & EXPLORE

SITE Coordinated Universal Time, the world's time standard (Wikipedia) — en.wikipedia.org · Coordinated Universal Time

DAY 5

MATH 7

Week 1 Quiz

Week 1 Quiz · Show your work

1. |–27|
2. –9 + (–6)
3. 12 + (–20)
4. –5 – 8
5. 7 – (–7)
6. –14 – (–4)
7. Order from least to greatest: –3, 2, –8, 0, –1
8. How many hours apart are Hong Kong (+8) and Honolulu (–10)?
9. It is 2:00 p.m. in London. What time is it in San Francisco (–8)?
10. The temperature is –6°F and rises 15 degrees. New temperature?
11. A diver at –30 feet goes down 25 more feet. Where is she?
12. Explain why subtracting a negative number makes a result larger.

QUARTER 1 · WEEK 1

Mathematics 8

M/J Grade 8 Pre-Algebra (1205070)

This week: Exponents and the laws of exponents

DAY 1

MATH 8

Powers and Exponents

Learn it

In a **power** such as 2^5, the **base** (2) is multiplied by itself as many times as the **exponent** (5) says: $2 \times 2 \times 2 \times 2 \times 2 = 32$. Watch parentheses with negative numbers: $(-3)^2 = 9$, but $-3^2 = -(3 \times 3) = -9$.

In Chapter III, Mr. Fogg bets he can go around the world in eighty days, "in nineteen hundred and twenty hours, or a hundred and fifteen thousand two hundred minutes."

Example $2^5 = \mathbf{32}$. $(-2)^3 = \mathbf{-8}$. $10^4 = \mathbf{10{,}000}$. Check Mr. Fogg: $80 \times 24 = \mathbf{1{,}920}$ hours; $1{,}920 \times 60 = \mathbf{115{,}200}$ minutes ✓

Practice

1. 3^4
2. 2^7
3. $(-5)^3$
4. -4^2
5. $(-4)^2$
6. 10^6
7. $(1/2)^4$
8. Write $7 \times 7 \times 7 \times 7 \times 7$ as a power.
9. How many seconds are in Mr. Fogg's 80 days?
10. Show that $1{,}920 = 2^7 \times 15$.

WATCH & EXPLORE

SITE Exponents (Wikipedia) — en.wikipedia.org · Exponentiation

DAY 2

MATH 8

Product and Quotient Rules

Learn it

When powers have the **same base**: $\mathbf{a^m \cdot a^n = a^{m+n}}$ (add exponents) and $\mathbf{a^m \div a^n = a^{m-n}}$ (subtract exponents, $a \neq 0$). These rules do not work for different bases.

Example $2^3 \cdot 2^4 = 2^7 = \mathbf{128}$. $5^9 \div 5^6 = 5^3 = \mathbf{125}$. $x^4 \cdot x^5 = \mathbf{x^9}$.

✎ Practice: simplify. Write as one power, then evaluate when you can.

1. $3^2 \cdot 3^5$
2. $10^4 \cdot 10^3$
3. $x^6 \cdot x^2$
4. $7^8 \div 7^3$
5. $y^{10} \div y^4$
6. $2^4 \cdot 2^3 \cdot 2$
7. $(6^5 \cdot 6^2) \div 6^4$
8. Explain why $2^3 \cdot 3^2$ cannot be simplified with the product rule.
9. $10^5 \div 10^5$
10. A bank vault holds 10^3 bags with 10^6 coins in each. How many coins? Write as a power of 10.

WATCH & EXPLORE

VIDEO Math Mammoth video lessons, organized by grade and topic — mathmammoth.com/videos

DAY 3

MATH 8

Power Rules and the Zero Exponent

Learn it

Power of a power: $(a^m)^n = a^{mn}$. **Power of a product:** $(ab)^n = a^n b^n$. **Power of a quotient:** $(a/b)^n = a^n/b^n$. **Zero exponent:** $a^0 = 1$ when $a \neq 0$. See the pattern: $2^3 = 8$, $2^2 = 4$, $2^1 = 2$, so $2^0 = 1$. Each step divides by 2.

Example $(3^2)^3 = 3^6 = \mathbf{729}$. $(2x)^4 = \mathbf{16x^4}$. $9^0 = \mathbf{1}$.

✎ Practice

1. $(2^3)^2$
2. $(x^4)^5$
3. $(5^2)^0$
4. $(3y)^3$
5. $(2/3)^3$
6. $12^0 + 3^0$
7. $(10^2)^4$
8. $(x^2y^3)^4$
9. -6^0
10. Lena says $(2^3)^4 = 2^7$. Find her mistake and the correct value.

WATCH & EXPLORE

VIDEO Math Mammoth video lessons, organized by grade and topic — mathmammoth.com/videos

DAY 4

MATH 8

Negative Exponents

Learn it

A negative exponent means "one over": $\mathbf{a^{-n} = 1/a^n}$ ($a \neq 0$). Continue the pattern: $2^0 = 1$, $2^{-1} = 1/2$, $2^{-2} = 1/4$. Powers of 10 with negative exponents name small decimal places: $10^{-1} = 0.1$, $10^{-2} = 0.01$, $10^{-3} = 0.001$. A millisecond is 10^{-3} second.

Example $2^{-3} = \mathbf{1/8}$. $x^3 \cdot x^{-5} = x^{-2} = \mathbf{1/x^2}$. $10^4 \div 10^7 = 10^{-3} = \mathbf{0.001}$.

Practice

1. 3^{-2}
2. 10^{-4} as a decimal
3. 4^{-1}
4. $(-2)^{-3}$
5. $7^4 \cdot 7^{-6}$
6. $10^2 \div 10^5$ as a decimal
7. $(2^{-2})^3$
8. $x^{-3} \cdot x^8$
9. Rewrite with only positive exponents: $a^{-4}b^2$
10. A race stopwatch measures to 10^{-2} second. Write this as a decimal and as a fraction.

WATCH & EXPLORE

SITE Scientific notation, coming next week (Wikipedia) — en.wikipedia.org · Scientific notation

DAY 5

MATH 8

Week 1 Quiz

Week 1 Quiz · Show your work

1. 2^6
2. $(-3)^3$
3. -2^4
4. $5^3 \cdot 5^4$ (as one power)
5. $9^7 \div 9^5$
6. $(4^2)^3$ (as one power, then evaluate)
7. $(2x^3)^3$
8. 15^0
9. 2^{-5}
10. $10^3 \cdot 10^{-5}$ as a decimal
11. $(x^5 \cdot x^3) \div x^{10}$
12. True or false: $3^2 \cdot 3^3 = 9^5$. Explain.

QUARTER 1 · WEEK 1

Science

M/J Comprehensive Science 1, 2, or 3

This week: Measuring the world: precision, time, and the pendulum

Words to know observation · inference · measurement · SI units · accuracy · precision · variable · period · pendulum · trial

DAY 1

SCIENCE

Lab Safety and Thinking Like a Scientist

Learn it

Science is a way of learning about the natural world by asking questions, making careful observations, testing ideas, and sharing results so others can check them. An **observation** is information gathered with your senses or tools. An **inference** is a conclusion you reach from observations. In Chapter I, the club members never see Mr. Fogg travel, but because he knows the world so well, they *infer* that he must have traveled. Scientists work safely, and a home lab is still a lab.

⚠ Sunshine Lab Safety Rules

1. Read the whole lab before you begin.
2. Work only with an adult present, and follow the adult's directions.
3. Wear safety goggles whenever liquids, heat, or flying or swinging objects are involved.
4. Tie back long hair and roll up loose sleeves.
5. Never taste, sniff directly, or touch materials unless the lab tells you to.
6. Use heat sources only with an adult. Never leave heat unattended.
7. Keep your workspace clean and dry. Wipe spills right away.
8. Tell an adult immediately about any accident, cut, or broken glass.
9. Wash your hands before and after every lab.
10. Clean up and put everything away when you finish.

✎ Practice: observation (O) or inference (I)?

1. Mr. Fogg's clock shows the seconds.
2. Mr. Fogg must be very rich.
3. Passepartout's watch reads 11:22.
4. Passepartout will be a loyal servant.
5. The shaving water was 84°F.
6. Mr. Fogg probably traveled when he was younger.

Safety contract

Copy the 10 rules into the front of your science notebook. Sign and date it, and have your instructor sign it.

Track A: Write one observation and one inference about something in your kitchen. **Track B:** Write two observation–inference pairs, and explain how you could test one inference. **Track C:** Write two pairs, then explain why scientists repeat observations before trusting an inference.

WATCH & EXPLORE

SITE Laboratory safety (Wikipedia) — en.wikipedia.org · Laboratory safety

DAY 2

SCIENCE

Measurement and SI Units

Learn it

Scientists around the world use the **International System of Units (SI)**, a version of the metric system, so everyone's measurements can be compared. Metric units grow and shrink by powers of ten, using prefixes.

Quantity	SI unit	Tool	Prefix	Meaning
Length	meter (m)	meter stick, ruler	kilo- (k)	1,000 ×
Mass	kilogram (kg)	balance or scale	centi- (c)	1/100
Time	second (s)	stopwatch, clock	milli- (m)	1/1,000
Temperature	kelvin (K); in daily life, °C	thermometer		

In 1872, Britain used inches, pounds, and degrees **Fahrenheit**, which is why Mr. Fogg wanted his water at 86°F. To change Fahrenheit to Celsius: **°C = (°F − 32) × 5 ÷ 9**. Water freezes at 32°F (0°C) and boils at 212°F (100°C) at sea level.

Example Mr. Fogg's 86°F water: (86 − 32) × 5 ÷ 9 = 54 × 5 ÷ 9 = **30°C**. James Forster's 84°F water: (84 − 32) × 5 ÷ 9 ≈ **28.9°C**. The difference is only about 1.1 degrees Celsius!

✎ Practice

1. 1.5 km = ___ m
2. 250 cm = ___ m
3. 3,400 g = ___ kg
4. 45 mm = ___ cm
5. 2 hours = ___ seconds
6. 0.75 L = ___ mL
7. A Florida summer afternoon reaches 90°F. Convert to °C (nearest tenth).
8. A comfortable room is 68°F. Convert to °C.
9. Which tool would you use to measure the mass of a carpetbag? Its length?
10. Why is it helpful for scientists in every country to use the same units?

Track A: Measure three objects at home in centimeters. **Track B:** Measure three objects in centimeters and convert each to meters and millimeters. **Track C:** Measure three objects, convert each, and explain which unit is the best choice for each object.

WATCH & EXPLORE

SITE The International System of Units (Wikipedia) — en.wikipedia.org · International System of Units

DAY 3

SCIENCE

Accuracy, Precision, and the Great Clock

Learn it

Accuracy is how close a measurement is to the true value. **Precision** is how close repeated measurements are to each other. A watch that is always exactly 4 minutes slow is precise, but not accurate! Good scientists want both.

	Accurate	Not accurate
Precise	Darts clustered on the bullseye	Darts clustered in one corner
Not precise	Darts scattered around the bullseye	Darts scattered everywhere

In Mr. Fogg's London, the most famous clock was the Great Clock of Westminster, in the tower at the Houses of Parliament. It started keeping time in 1859. Its builders were required to make it accurate to within about a second, and its time was checked against the Royal Observatory at Greenwich by telegraph. Its giant hour bell is nicknamed **Big Ben**.

➜ **Turn to Look closely: Picture 3 to see the clock tower about 20 years after Mr. Fogg's journey.**

✎ Practice: accurate, precise, both, or neither?

The true time is exactly 12:00:00. Four watches are checked three times.

Watch	Check 1	Check 2	Check 3
A	12:00:01	11:59:59	12:00:00
B	11:56:00	11:56:00	11:56:01
C	12:03:10	11:57:40	12:01:30
D	12:09:00	11:52:00	12:04:30

1. Label each watch A–D: accurate, precise, both, or neither. Explain one.
2. Which watch is most like Passepartout's watch in Chapter I?
3. Why would a scientist measure something more than once?
4. Mr. Fogg dismissed a servant over a 2-degree difference. Name one real job where a tiny difference in measurement really matters.

Track A: Answer 1–4. **Track B:** Also: a kitchen scale reads 2 g too high every time. Is it accurate, precise, or both? How could you fix it? **Track C:** Also: explain how calibrating a tool (like setting a clock by Greenwich) improves accuracy but not precision.

WATCH & EXPLORE

SITE Accuracy and precision (Wikipedia) — en.wikipedia.org · Accuracy and precision

SITE Big Ben and the Great Clock (Wikipedia) — en.wikipedia.org · Big Ben

◉ LOOK CLOSELY PICTURE 3

The Clock Tower at Westminster



The Houses of Parliament and the clock tower (now called the Elizabeth Tower) in London, in a colored photograph called a photochrom, made around 1890–1900. Horse-drawn cabs fill the street, like the cab Mr. Fogg takes to the train station in Chapter IV.

Photochrom, about 1890–1900, Library of Congress · Public domain · View on Wikimedia Commons

1. Find the clock face. About what time does it show? How sure are you?
2. Name three ways people in this picture are traveling or carrying goods.
3. Why would a city want one large, very accurate public clock that everyone can see?

Used in Science Day 3.

DAY 4

SCIENCE

Lab: Building a Pendulum Timer

For hundreds of years, the best clocks used a swinging **pendulum**. Galileo studied pendulums, and in 1656 Christiaan Huygens built the first pendulum clock. One full swing out and back is called the **period**.

Question

Does the length of a pendulum change its period?

Hypothesis

Write your own If …, then …, because … hypothesis before you begin.

Materials

about 1.2 m of string · 3–4 metal washers or a small bag of coins · tape · meter stick · stopwatch · a sturdy table

⚠ Safety first

Tape the string firmly to the table edge, and keep the swing area clear. Stand to the side, never in front of the swinging weight, and keep your face out of its path. Pull the weight back only a small distance (about a hand's width). If you use a doorway instead of a table, have an adult attach the string.

✦ Procedure

1. Tie the washers to one end of the string. Tape the other end to the table edge so the washers hang freely.
2. Adjust the string so it is **25 cm** from the tape to the middle of the washers.
3. Pull the washers back about 10 cm and let go. Do not push.
4. Start the stopwatch as you let go. Count **10 full swings** (out and back). Stop the watch.
5. Record the time. Repeat for 3 trials.
6. Repeat steps 2–5 with lengths of **50 cm** and **100 cm**.
7. Find the average time for 10 swings at each length. Divide by 10 to find the period.

▦ Data table

Length	Trial 1 (10 swings)	Trial 2	Trial 3	Average	Period (average ÷ 10)
25 cm					
50 cm					
100 cm					

✎ Analyze

1. Make a bar graph of period vs. length.
2. Was your hypothesis supported? Use numbers.
3. Name the independent, dependent, and two controlled variables.
4. Why do we time 10 swings instead of just 1?
5. **Track B/C:** Predict the period for a 75 cm pendulum, then test it.
6. **Track C:** Physicists predict periods of about 1.0 s (25 cm), 1.4 s (50 cm), and 2.0 s (100 cm). Calculate your percent difference for one length. Notice: four times the length gives about twice the period.

WATCH & EXPLORE

SITE	Pendulums (Wikipedia)	en.wikipedia.org · Pendulum
SITE	Pendulum clocks (Wikipedia)	en.wikipedia.org · Pendulum clock

DAY 5

SCIENCE

Lab Report and Week 1 Quiz

Lab report

Use these headings: Question, Hypothesis, Materials, Procedure (short summary), Data (table and graph), Conclusion. In your conclusion, say whether your data supported your hypothesis, using numbers.

Track A: Conclusion of 4–5 sentences. **Track B:** Conclusion of 6–8 sentences, including one source of error. **Track C:** Full-paragraph conclusion plus a short error-analysis paragraph comparing your results with the predicted periods.

✎ Week 1 Quiz

1. Which is an inference?
   a. The watch reads 11:22. · b. The water is 84°F. · c. Mr. Fogg must be rich. · d. The clock shows seconds.
2. The SI unit of mass is the:
   a. gram · b. kilogram · c. pound · d. liter
3. The prefix *milli-* means:
   a. 1,000 times · b. 1/100 · c. 1/1,000 · d. 1 million times
4. A watch that is always exactly 4 minutes slow is:
   a. accurate · b. precise · c. both · d. neither
5. One full swing of a pendulum, out and back, is its:
   a. amplitude · b. mass · c. period · d. trial
6. In the pendulum lab, the length of the string is the:
   a. independent variable · b. dependent variable · c. controlled variable · d. conclusion
7. Convert 3.2 km to meters.
8. Convert 212°F to °C. What happens to water at this temperature at sea level?
9. Explain the difference between accuracy and precision.
10. Name two safety rules from this week's lab and why each matters.

WATCH & EXPLORE

SITE	Fahrenheit (Wikipedia)	en.wikipedia.org · Fahrenheit

QUARTER 1 · WEEK 1

World History

Social Studies · M/J World History (2109010)

This week: How we know about the past; maps and the prime meridian

Words to know history · prehistory · historian · archaeologist · evidence · primary source · secondary source · BCE · CE · latitude · longitude · prime meridian

DAY 1

WORLD HISTORY

What Is History?

Learn it

History is the study of the human past using evidence. The long time before people kept written records is called **prehistory**. Writing began about 5,000 years ago, in Mesopotamia and Egypt, so recorded history covers only a small slice of the roughly 300,000 years that humans have existed.

Historians mainly study written records. **Archaeologists** dig up and study objects people made or used, such as tools, pottery, and buildings. Both look for **evidence**: information that supports a conclusion. This year, as Mr. Fogg races across the map, our World History course will travel back in time to the ancient peoples who once lived along his route.

✓ Check your understanding

1. What is history?
2. What is the difference between prehistory and history?
3. About how long ago did writing begin, and where?
4. How is an archaeologist's work different from a historian's?
5. Why can we learn more about some ancient peoples than others?

Write it

Imagine a historian in the year 2150 studying your life today.

Track A: List five pieces of evidence they might find, and what each would reveal. **Track B:** List five pieces of evidence, then explain what they might get wrong about you. **Track C:** Write a paragraph: which kinds of evidence would be most and least reliable, and why?

WATCH & EXPLORE

SITE History (Wikipedia) — en.wikipedia.org · History

DAY 2

WORLD HISTORY

Primary and Secondary Sources

Learn it

A **primary source** was made by someone who was there at the time being studied: a letter, a diary, a photograph, a tool, a coin. A **secondary source** was made later by someone studying primary sources: a textbook, an encyclopedia, a documentary.

Is our novel a primary source? It depends on the question! *Around the World in Eighty Days* is fiction, so it is not evidence that a man named Fogg made this trip. But it **is** a primary source about 1872: it shows what trains and steamships existed, how long trips took, and how many Europeans of that time viewed the world.

✎ Practice: write P (primary) or S (secondary)

1. A Roman coin dug up in London
2. A 2024 website about ancient Rome
3. A steamship ticket from 1872
4. A documentary about the Suez Canal
5. A railway timetable printed in 1872
6. This lesson
7. A photograph of London taken around 1890
8. A biography of Jules Verne written in 2005
9. A letter Jules Verne wrote to his publisher
10. An encyclopedia article about the pyramids

Track A: Choose one primary source above. What could it teach a historian? **Track B:** Explain why a single primary source might not tell the whole story. **Track C:** Explain how the same novel can be unreliable for one question but excellent evidence for another. Give an example question of each kind.

WATCH & EXPLORE

SITE Primary sources (Wikipedia) — en.wikipedia.org · Primary source

DAY 3

WORLD HISTORY

Timelines, BCE, and CE

Learn it

Most historians use **BCE** (Before the Common Era) and **CE** (Common Era). BCE years count *down* toward year 1: 3000 BCE is earlier than 2000 BCE. CE years count up. There is no year 0, so the calendar goes from 1 BCE straight to 1 CE. A **century** is 100 years: the 1800s are the 19th century, and 799–700 BCE is the 8th century BCE. **c.** (circa) means “about.”

Date	Event
c. 3000 BCE	Building of Stonehenge begins in Britain
c. 2560 BCE	Great Pyramid of Giza completed in Egypt
776 BCE	First recorded Olympic Games in Greece
27 BCE	Augustus becomes the first Roman emperor

Date	Event
43 CE	Roman armies invade Britain; soon after, they found Londinium (London)
1675 CE	Royal Observatory founded at Greenwich, near London
1869 CE	Suez Canal opens in Egypt
1872 CE	Mr. Fogg's (fictional) journey

✎ Practice

1. Which is earlier, 2560 BCE or 3000 BCE?
2. How many years from 3000 BCE to 2560 BCE?
3. How many years from 2560 BCE to 776 BCE?
4. How many years from 27 BCE to 43 CE? (Remember: no year 0.)
5. How many years from 1675 to 1872?
6. What century is 1872?
7. What century is 776 BCE?
8. Draw a timeline from 3000 BCE to 2000 CE, with equal spaces for every 500 years. Place every event from the table.

WATCH & EXPLORE

SITE BCE and CE (Wikipedia) — en.wikipedia.org · Common Era

DAY 4

WORLD HISTORY

Maps, Latitude, and the Prime Meridian

Learn it

Latitude lines run east–west and measure distance north or south of the equator (0°). **Longitude** lines run north–south and measure distance east or west of the **prime meridian** (0°). Write latitude first: London is about 51.5°N, 0.1°W.

Why does 0° longitude run through Greenwich, near London? The Royal Observatory there made careful star measurements that sailors relied on, and by the 1880s most of the world's sea charts already used it. In 1884, delegates from 25 nations met in Washington, D.C., and voted to make Greenwich the prime meridian for the world. France did not vote for it and kept using Paris for years. In the novel (1872), the prime meridian was not yet official, but Passepartout already keeps his watch set to London time at Greenwich, and that will cause him trouble!

➜ Turn to **Look closely: Picture 4** to see the Royal Observatory.

✎ Practice

City on Mr. Fogg's route	Latitude	Longitude
London	51.5°N	0.1°W
Suez, Egypt	30.0°N	32.5°E
Bombay (Mumbai), India	19.1°N	72.9°E

City on Mr. Fogg's route	Latitude	Longitude
Hong Kong	22.3°N	114.2°E
Yokohama, Japan	35.4°N	139.6°E
San Francisco	37.8°N	122.4°W
New York	40.7°N	74.0°W

1. On a blank world map, mark the equator, the prime meridian, and all seven cities. Connect them in order and back to London to show Mr. Fogg's route.
2. Which city on the route is farthest north? Farthest south?
3. Which cities are in the Eastern Hemisphere? The Western?
4. St. Augustine, Florida, is about 29.9°N, 81.3°W. Which route city has the closest latitude?
5. **Track C:** Why might a single, shared prime meridian matter to sailors, railroads, and telegraph offices?

WATCH & EXPLORE

- **SITE** The prime meridian at Greenwich (Wikipedia) — en.wikipedia.org · Prime meridian (Greenwich)
- **SITE** The 1884 International Meridian Conference (Wikipedia) — en.wikipedia.org · International Meridian Conference

DAY 5

WORLD HISTORY

Week 1 Quiz

✎ Week 1 Quiz

1. Prehistory is the time:
   a. before writing · b. after writing · c. before the Romans · d. after 1872
2. A railway timetable printed in 1872 is a:
   a. primary source · b. secondary source · c. artifact only · d. fictional source
3. Which year is earliest?
   a. 776 BCE · b. 27 BCE · c. 2560 BCE · d. 43 CE
4. The 1800s are the:
   a. 18th century · b. 19th century · c. 8th century · d. 80th century
5. Lines of longitude measure distance:
   a. north or south of the equator · b. east or west of the prime meridian · c. above sea level · d. between two cities
6. The prime meridian runs through:
   a. Paris · b. Washington, D.C. · c. Greenwich · d. Suez
7. How many years passed from 27 BCE to 43 CE?
8. Name one thing a historian studies and one thing an archaeologist studies.
9. Explain how a novel can be a primary source.
10. Why did the world choose one shared prime meridian in 1884?

WATCH & EXPLORE

- **SITE** The Royal Observatory, Greenwich (Wikipedia) — en.wikipedia.org · Royal Observatory, Greenwich

◉ LOOK CLOSELY PICTURE 4

The Royal Observatory, Greenwich



Flamsteed House, the original building of the Royal Observatory at Greenwich, drawn by Thomas Hosmer Shepherd in 1824. Astronomers here measured the positions of stars to help sailors find their longitude at sea. Today the prime meridian line runs through the observatory grounds.

Thomas Hosmer Shepherd, 1824 · Public domain · View on Wikimedia Commons

1. Find the domes on the building. Why might an observatory need domes and a hilltop?
2. Is this drawing a primary or a secondary source about Greenwich in 1824? Explain.
3. Why would the whole world agree to measure longitude from one spot? What problems would happen if every country used its own?
4. Today, visitors stand with one foot on each side of the prime meridian line here. Sketch how you would mark a line that divides the world into East and West.

Used in World History Day 4.

QUARTER 1 · WEEK 1

U.S. History

Social Studies · M/J U.S. History (2100010)

This week: The historian's toolkit; the United States Mr. Fogg will cross

Words to know primary source · secondary source · point of view · bias · corroborate · chronology · era · cause · effect · region

DAY 1

U.S. HISTORY

The Historian's Toolkit

Learn it

In December 1872, Mr. Fogg will cross the United States by train in about a week. The country he will see had 37 states, had just come through the Civil War, and was in the middle of Reconstruction. This year, our U.S. History course travels from the first peoples of North America to the end of Reconstruction in 1877: the America of Fogg's journey.

Historians answer questions with evidence, using three key skills:

Skill	What it means	Question to ask
Sourcing	Find out who made a source, when, and why	Who made this, and why?
Point of view	Notice how the creator's position shapes what they say	What did this person see, and what might they have missed?
Corroboration	Compare several sources to see where they agree	Do other sources tell the same story?

Bias means a one-sided point of view. Every source has a point of view, and that is not automatically bad. A historian's job is to notice it and compare sources.

✔ Check your understanding

1. What does it mean to corroborate a source?
2. What is bias? Is a point of view always bad?
3. How many states were in the U.S. in 1872?
4. Which years will our course cover?

Write it

Think of an event that two people in your family remember differently.

Track A: Describe it from both points of view (2 short paragraphs). **Track B:** Describe both points of view, then explain how a historian could find out what really happened. **Track C:** Describe both, explain how to corroborate them, and name one kind of evidence that would settle the question.

WATCH & EXPLORE

SITE How historians work: the historical method (Wikipedia) — en.wikipedia.org · Historical method

DAY 2

U.S. HISTORY

Reading a Primary Source

Learn it: SOAPS

Letter	Stands for	Question
S	Speaker	Who created it?
O	Occasion	When and where? What was happening?
A	Audience	Who was it meant for?
P	Purpose	Why was it created?
S	Subject	What is it about?

📜 Read it: Opening of the Gettysburg Address (1863)

> "Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal."
>
> President Abraham Lincoln, November 19, 1863

Background: Lincoln spoke at the dedication of a cemetery for soldiers killed at the Battle of Gettysburg, Pennsylvania, during the Civil War. **Word help:** score = 20 years · conceived = formed · proposition = idea to be tested or proven.

✎ Practice

1. Complete a SOAPS chart for this sentence.
2. "Four score and seven years ago" means how many years? Subtract from 1863. What event happened in that year?
3. Rewrite the sentence in your own words.
4. **Track B/C:** Lincoln quotes an idea from an earlier document. Which one? Why might he connect the two?
5. **Track C:** In 1863, many Americans were enslaved. How does that fact add to the meaning of "all men are created equal"?

WATCH & EXPLORE

SITE The Gettysburg Address (Wikipedia) — en.wikipedia.org · Gettysburg Address

DAY 3

U.S. HISTORY

Geography Skills: Five Themes

Learn it

Geography shapes history: rivers, mountains, harbors, and climate all affect where people live and how they travel. Geographers use five themes: **Location** (Where is it? San Francisco is about 37.8°N, 122.4°W.) · **Place** (What is it like? The Great Plains are wide, flat grasslands.) · **Human–environment interaction** (How do people change and adapt to it? Workers blasted railroad tunnels through the Sierra Nevada.) · **Movement** (How do people, goods, and ideas move? By 1872, trains crossed the country in about a week.) · **Region** (What area shares common features? The Southeast, including Florida, is warm and humid.)

✎ Practice

1. Match each to a theme: (a) Florida farmers grow oranges in the warm climate. (b) Orlando is about 28.5°N, 81.4°W. (c) Telegraph wires carried news across the country. (d) New England has rocky soil and fishing towns. (e) The Rocky Mountains are tall and rugged.
2. On an outline map of the U.S., label: Atlantic Ocean, Pacific Ocean, Gulf of Mexico, Mississippi River, Rocky Mountains, Sierra Nevada, Great Plains, Florida.
3. Draw Mr. Fogg's future train route from San Francisco to New York. Which mountain ranges and rivers must it cross?
4. **Track C:** Explain how one geographic feature could help or block a railroad.

WATCH & EXPLORE

SITE The first transcontinental railroad (Wikipedia) — en.wikipedia.org · First transcontinental railroad

DAY 4

U.S. HISTORY

Chronology, Eras, and Cause and Effect

Learn it

Chronology is putting events in time order. Historians group long spans of time into **eras**.

Era	Years
First peoples and early America	thousands of years ago–1600s
Colonization	1500s–1763
Revolution and a new nation	1763–1800
Expansion and reform	1800–1860
Civil War and Reconstruction	1861–1877

Historians also look for **causes** (why something happened) and **effects** (what happened as a result). Signal words: because, as a result, therefore, led to, so.

✎ Practice

1. Put in order: transcontinental railroad completed (1869); Jamestown founded (1607); Florida becomes a state (1845); St. Augustine founded (1565); Civil War begins (1861); Declaration of Independence (1776).
2. Place each event from question 1 in its era.
3. Identify the cause and effect: Because the railroad linked the coasts in 1869, a trip from New York to San Francisco took days instead of months.
4. Name two effects a cross-country railroad might have on people living along its route.
5. **Track B/C:** Most events have more than one cause. List two causes for building a cross-country railroad.
6. **Track C:** Explain the difference between a short-term and a long-term cause, with an example.

WATCH & EXPLORE

SITE Chronology (Wikipedia) — en.wikipedia.org · Chronology

DAY 5

U.S. HISTORY

Week 1 Quiz

✎ Week 1 Quiz

1. Comparing sources to see where they agree is called:
   a. bias · b. sourcing · c. corroboration · d. chronology
2. In SOAPS, the “A” stands for:
   a. author · b. audience · c. action · d. answer
3. Which happened first?
   a. Jamestown · b. Florida statehood · c. St. Augustine · d. the Civil War
4. Which theme of geography asks “How do people, goods, and ideas move?”
   a. place · b. region · c. location · d. movement
5. The Civil War and Reconstruction era runs:
   a. 1763–1800 · b. 1800–1860 · c. 1861–1877 · d. 1877–1900
6. Name the five themes of geography.
7. Who gave the Gettysburg Address, and when?
8. Identify the cause and effect: A hurricane damaged the tracks, so the trains stopped running.
9. Why does a historian look at more than one source?
10. Why is the Gettysburg Address a primary source?

WATCH & EXPLORE

SITE Cause and effect (Wikipedia) — en.wikipedia.org · Causality

QUARTER 1 · WEEK 1

Civics

Social Studies · M/J Civics (2106010)

This week: Citizens, clubs, and the rule of law

Words to know civics · citizen · government · rule of law · civic virtue · naturalization · right · responsibility · charter · compact

DAY 1

CIVICS

What Is Civics?

Learn it

Civics is the study of the rights and duties of citizens and how government works. A **citizen** is a legal member of a country. A **government** is the group of people and institutions with the authority to make and enforce laws.

The United States is built on the **rule of law**: everyone, including leaders, must follow the same laws. **Civic virtue** means putting the common good ahead of only your own interests: volunteering, staying informed, obeying laws, and treating others fairly.

Mr. Fogg belongs to the Reform Club, which has its own rules for members. As we travel the world this year, we will compare how different places are governed and see how American government took shape.

✔ Check your understanding

1. What is civics?
2. What is the rule of law?
3. Why is it important that leaders follow the same laws as everyone else?
4. Give three examples of civic virtue.

Write it

Track A: List five ways a young person can help their community. **Track B:** Describe one way you or your family has shown civic virtue, and why it mattered. **Track C:** Explain what might happen if leaders did not have to follow the same laws as everyone else.

WATCH & EXPLORE

SITE The rule of law (Wikipedia) — en.wikipedia.org · Rule of law

DAY 2

CIVICS

Who Is a Citizen?

Learn it

Way	How it works
1. By birth	People born in the United States are citizens, as stated in the 14th Amendment (1868). Most children born abroad to U.S. citizen parents are citizens too.
2. By naturalization	The legal process for an immigrant to become a citizen. In general, an applicant must be at least 18; be a lawful permanent resident for a set time (usually five years); read, write, and speak basic English; pass a test on U.S. history and government; show good moral character; and take an oath of allegiance.

Naturalized citizens have the same rights and responsibilities as citizens by birth, with one exception: only a natural-born citizen can be President.

Some rights of citizens	Some responsibilities of citizens
Vote (at age 18)	Obey laws
Run for office	Pay taxes
Freedom of speech and religion	Serve on a jury when called
Trial by jury	Stay informed and take part

✎ Practice

1. Name the two main ways to become a U.S. citizen.
2. Which amendment states that people born in the U.S. are citizens?
3. List three requirements for naturalization.
4. What is the one office a naturalized citizen cannot hold?
5. What is the difference between a right and a responsibility?
6. **Track B/C:** Why might the citizenship test ask about history and government?
7. **Track C:** Choose one responsibility and explain what would happen if most citizens ignored it.

WATCH & EXPLORE

SITE Naturalization (Wikipedia) — en.wikipedia.org · Naturalization

DAY 3

CIVICS

Rules, Laws, and Why Governments Exist

Learn it

A **rule** guides behavior in a specific group, like a family, team, or club. A **law** is made and enforced by government and applies to everyone in its area. Breaking a club rule might cost you your membership; breaking a law can lead to a fine or other legal penalty.

Most people agree that governments exist to keep order and settle disputes, protect people's safety and rights, provide services such as roads and schools, and make decisions for the community.

★ Activity: Stranded at Kholby

In a later chapter, a train stops in the middle of nowhere because the tracks are not finished. Imagine 30 passengers stuck at a tiny station for a week, with one well, a small store, and one wagon.

1. List five problems the group will face.
2. Write five rules the group should follow.
3. Who should decide what happens when someone breaks a rule? Explain.
4. How will you make sure everyone knows the rules?
5. **Track B/C:** Which purpose of government does each of your rules serve?
6. **Track C:** Should the rules be changeable? Write a fair process for changing a rule.

WATCH & EXPLORE

SITE Why governments form: the social contract (Wikipedia) — en.wikipedia.org · Social contract

DAY 4

CIVICS

Writing It Down: Agreements and Charters

Learn it

When people want an agreement to last and be fair, they write it down. In Chapter III, Mr. Fogg and five club members write and sign a memorandum of their bet, so no one can later argue about the terms. Groups do the same thing on a larger scale. In 1620, the Pilgrims signed the **Mayflower Compact**, agreeing to make and obey "just and equal laws." Later, Americans wrote state constitutions and the U.S. Constitution.

A founding document usually explains: the group's purpose · who belongs · who leads and how leaders are chosen · the rules · members' rights · how the rules can change.

Project: a charter for your design studio

This year you are a member of the **Game Lab** design studio (your elective). Write your studio's charter.

1. **Name and purpose:** Why does the studio exist?

2. **Membership:** Who can join, and how?
3. **Officers:** What leaders does it have (for example, Lead Designer, Rules Keeper)? How are they chosen, and for how long?
4. **Rules:** at least five, including how to give fair feedback on someone else's game.
5. **Rights of members:** at least three.
6. **Changing the charter:** How can members change a rule?

Track A: Complete all six parts. **Track B:** Complete all six parts and add a short preamble (opening statement) explaining your goals. **Track C:** Complete all six parts and the preamble. Add a way to settle disagreements and explain how your charter protects members from unfair leaders.

WATCH & EXPLORE

SITE The Mayflower Compact (Wikipedia) — en.wikipedia.org · Mayflower Compact

DAY 5

CIVICS

Week 1 Quiz

✎ Week 1 Quiz

1. The idea that everyone, including leaders, must follow the law is:
   a. civic virtue · b. naturalization · c. the rule of law · d. a compact
2. Naturalization is:
   a. the process for an immigrant to become a citizen · b. a kind of election · c. a court trial · d. a law about nature
3. Which is a responsibility of citizens?
   a. freedom of speech · b. serving on a jury when called · c. trial by jury · d. running for office
4. Which applies to everyone in an area and is enforced by government?
   a. a club rule · b. a family rule · c. a law · d. a game rule
5. The Mayflower Compact was signed in:
   a. 1607 · b. 1620 · c. 1776 · d. 1868
6. Name two ways a person can become a U.S. citizen.
7. List three purposes of government.
8. Why did Mr. Fogg and his friends write down their bet?
9. Name three things a founding document usually explains.
10. Give one example of civic virtue a student could practice this week.

WATCH & EXPLORE

SITE Civics (Wikipedia) — en.wikipedia.org · Civics

QUARTER 1 · WEEK 1

Art: Sketchbook Around the World

Semester 1 · 0.5 unit · Meets Days 1, 3, and 5 of each week

This week: The elements of art; line and value

Supplies: sketchbook, 2B and 4B pencils (or a soft pencil), eraser, colored pencils, ruler, a coin or round lid for tracing

DAY 1

ART · 30–45 MIN

The Elements of Art

Learn it

The **elements of art** are the building blocks every artist uses. All year you will fill a travel sketchbook, the way artists on real voyages once did.

Element	Definition	In Mr. Fogg's world
Line	A mark that moves between two points	Railroad tracks stretching to the horizon
Shape	A flat, enclosed area (2-D)	The round face of a clock
Form	An object with three dimensions	A tall top hat
Color	Light reflected off a surface	The red cover of Mr. Fogg's Bradshaw railway guide
Value	How light or dark something is	Black-and-white engravings in the 1873 book
Texture	How something feels, or looks like it feels	A woven carpetbag
Space	The area around, between, and within objects	The empty, silent rooms of Savile Row

★ Activity: Traveler's scavenger hunt

Search your home for things a traveler might pack or use (a bag, a map, a watch, shoes, a ticket). Sketch one example of each element. Label each sketch.

Line	Shape	Form	Color

Value	Texture	Space	Reflect: Which was hardest to find? Why?

WATCH & EXPLORE

SITE The elements of art (Wikipedia) — en.wikipedia.org · Elements of art

DAY 3

ART · 30–45 MIN

Line Makes Value: Hatching

Learn it

Before photographs could be printed in books, illustrations were made from **engravings**: pictures cut as fine lines into wood or metal, then inked and printed. With only black lines on white paper, engravers made light and dark areas by changing how close the lines were.

Technique	How it works
Hatching	Parallel lines. Closer lines look darker.
Cross-hatching	Layers of lines crossing each other. More layers look darker.
Stippling	Dots. More dots look darker.
Contour hatching	Lines that curve around a form to show its roundness.

➜ **Turn back to Look closely: Picture 2. Find hatching on Mr. Fogg's coat and cross-hatching in the shadows.**

Artist spotlight. The pictures in the first French edition of our novel were drawn by two artists. **Alphonse de Neuville** (1835–1885) was famous for detailed paintings of soldiers and battles. **Léon Benett** (1839–1917) illustrated more than twenty of Verne's novels, although he never traveled to most of the places he drew. He worked from photographs, travel books, and his imagination. Skilled engravers then turned their drawings into printing blocks.

★ Activity: Engraver's practice

1. Draw four 1-inch boxes in a row. Fill them with hatching, from very light (lines far apart) to very dark (lines close together).
2. Draw four more boxes. Do the same with cross-hatching.
3. Choose a small part of Picture 2 (a hand, the hat, the chair). Draw it about twice as large using only lines, no smudging.
4. Compare: Which technique was easiest to control? Which made the darkest dark?

WATCH & EXPLORE

SITE	Hatching (Wikipedia)	en.wikipedia.org · Hatching
SITE	Engraving (Wikipedia)	en.wikipedia.org · Engraving

DAY 5

ART · 30–45 MIN

Drawing Passepartout's Pocket Watch

Learn it

A circle seen at an angle becomes an **ellipse**, an oval. That is how artists make round objects look like they are tilting. **Value** then makes them look solid: a light side facing the light, a shadow side, and a **cast shadow** on the table.

★ Activity: A watch in three steps

1. **Shape:** Trace a coin or lid to make a circle. Add the winding knob and ring at the top. Draw the numbers 12, 3, 6, and 9 first, then fill in the rest. Draw the hands at 11:22.
2. **Ellipse:** On a new page, draw the same watch lying on a table, as an ellipse. Add the thickness of the case with a second curved line underneath.
3. **Value:** Choose a light direction. Use hatching to shade the case and draw a cast shadow on the table. Leave a small white highlight.

SKETCH HERE: practice ellipses, or plan your watch drawing

Portfolio check

Choose your best piece from this week. On a sticky note, write the element of art it shows best and why you chose it. Add it to your art portfolio.

▦ Grading · Week 1

Criteria	Points
Scavenger hunt: all 7 elements, sketched and labeled	10
Hatching and cross-hatching scales; engraving study	10
Pocket watch: circle, ellipse, and shaded drawing	10
Reflection and portfolio note	5
Total	**35**

WATCH & EXPLORE

SITE Pocket watches (Wikipedia) — en.wikipedia.org · Pocket watch

QUARTER 1 · WEEK 1

Health: The Healthy Traveler

Semester 1 · 0.5 unit · Meets Days 2 and 4 of each week

This week: The health triangle; routines and goals

DAY 2

HEALTH · 30–45 MIN

The Health Triangle

Learn it · Unit: Your whole health

Being healthy is more than not being sick. Health educators often picture it as a **triangle** with three equal sides. If one side is weak, the whole triangle wobbles.

Side	What it includes	Examples
Physical health	How your body works and feels	Sleep, movement, food and water, hygiene
Mental and emotional health	Your thoughts and feelings, and how you handle stress	Naming feelings, asking for help, trying new things
Social health	How you get along with others	Friendships, family time, respect, teamwork

Doctors recommend 9–12 hours of sleep a night for ages 6–12 and 8–10 hours for ages 13–18, plus at least 60 minutes of physical activity every day for kids and teens.

Think about Mr. Fogg: perfectly regular sleep and meals (strong physical side?), but almost no friends or conversation. Which side of his triangle might be weakest? We will watch whether that changes during his journey.

✓ Self-check: rate yourself 1 (rarely) to 4 (almost always)

Habit	1	2	3	4
I get enough sleep on school nights				
I move my body for 60 minutes a day				
I can name what I am feeling				
I talk to someone when something bothers me				
I spend time with friends or family				

Write it

Track A: Draw your own health triangle. Write two things you do for each side. **Track B:** Draw your triangle, then explain which side is strongest and which needs work. **Track C:** Draw your triangle and explain how a weak side can affect the other two, with an example.

Need to talk to someone?

If you or someone you know is struggling, talk to a parent or another trusted adult. You can also call or text **988** (Suicide & Crisis Lifeline, any time, free) or text **HOME** to **741741** (Crisis Text Line). In an emergency, call **911**.

WATCH & EXPLORE

SITE	Mental health (Wikipedia)	en.wikipedia.org · Mental health

DAY 4

HEALTH · 30–45 MIN

Routines, Habits, and SMART Goals

Learn it

A **habit** is something you do so often it becomes automatic. A **routine** is a series of habits, like Mr. Fogg's card of exact times. Routines can be healthy: a regular bedtime improves sleep, and a homework routine reduces stress. But a healthy routine also bends when life changes. (Mr. Fogg is about to find out how much!)

To build a new habit, set a **SMART goal**: **S**pecific, **M**easurable, **A**chievable, **R**elevant, **T**ime-bound.

Example Not SMART: "I'll sleep more." SMART: "I will be in bed with lights out by 9:30 p.m. on school nights for the next two weeks, and check it off on a chart."

✎ Practice

1. Rewrite as a SMART goal: "I'll drink more water."
2. Rewrite as a SMART goal: "I want to be more active."
3. Write your own morning routine with times, like Mr. Fogg's card. Mark one habit that is healthy and one you would like to change.
4. Choose your lowest-rated habit from Day 2. Write a SMART goal for it and a tracking chart for the next 2 weeks.
5. Mr. Fogg fired a servant over two degrees. When does sticking to a routine help, and when can being too rigid hurt your health or your relationships?

✔ Week 1 Health Check

1. Name the three sides of the health triangle.
2. How many hours of sleep do experts recommend for someone your age?
3. How much physical activity should kids and teens get each day?
4. What does SMART stand for?
5. Give one benefit of a routine and one risk of being too rigid.

WATCH & EXPLORE

SITE	SMART goals (Wikipedia)	en.wikipedia.org · SMART criteria
SITE	Habits (Wikipedia)	en.wikipedia.org · Habit

QUARTER 1 · WEEK 1

Game Lab: Race Around the World

Year-long elective · 0.5 unit · Meets Days 2 and 4 of each week

This week: What makes a game a game?

> *Welcome, designer. This year you will play, study, and design board games, and by Week 36 you will host a game night with your own race-around-the-world game. Keep a **Designer's Journal** (any notebook) for every idea, sketch, and playtest note.*

DAY 2

GAME LAB · 30 MIN

What Makes a Game a Game?

Learn it

Game designers say every game is built from the same **formal elements**:

Element	Meaning	In a race around the world
Players	Who plays, and how many	2–4 travelers
Objective	What you are trying to do	Get back to London first
Procedures	The actions you take on a turn	Roll, move, draw a card
Rules	What you can and cannot do	You must stop at every port
Resources	Useful things you collect or spend	Money, tickets, days
Conflict	What gets in your way	Storms, missed trains, a detective
Boundaries	Where the game happens	The board and its route
Outcome	How the game ends	First player home wins

Mission 1: Take a game apart

1. Choose a board or card game you own (or a game you know well).
2. In your Designer's Journal, write how it uses each of the 8 formal elements.
3. Play it once with your family. Afterward, ask each player: What was the most fun moment? What was boring?
4. Write one rule change you think would make it more fun.

✎ Debrief

1. Which formal element do you think matters most for fun? Why?
2. What is the difference between a rule and a procedure?
3. What would happen to a race game if there were no conflict at all?

WATCH & EXPLORE

SITE	Game design (Wikipedia)	en.wikipedia.org · Game design

DAY 4

GAME LAB · 30 MIN

Race Games Through History

Learn it

In a **race game**, players move along a track, and the first to finish wins. Race games are thousands of years old. In a **roll-and-move** game, a die decides how far you go. That is simple and exciting, but players make few real choices.

Seventeen years after Verne's novel, a real reporter named **Nellie Bly** raced to beat Phileas Fogg. She left on November 14, 1889, and returned on January 25, 1890, in just over 72 days. Her newspaper, *The World*, printed a board game about her trip the very next day, January 26, 1890.

➜ **Turn to Look closely: Picture 5 to study the Nellie Bly game board.**

Mission 2: Race to the Reform Club

1. On scrap paper, draw a winding track of **20 spaces** from "Charing Cross" to "Reform Club."
2. Mark **3 event spaces** with a short instruction, such as "Fog on the Thames: go back 2" or "Fast cab: roll again."
3. Play with one die and a coin or button for each player. Play two full games.
4. In your Designer's Journal, record: How long did each game take? Did anyone make a real choice? Was it fun?
5. Add **one choice** to the game (for example, "Pay 1 coin to roll two dice and pick one"). Play again. What changed?

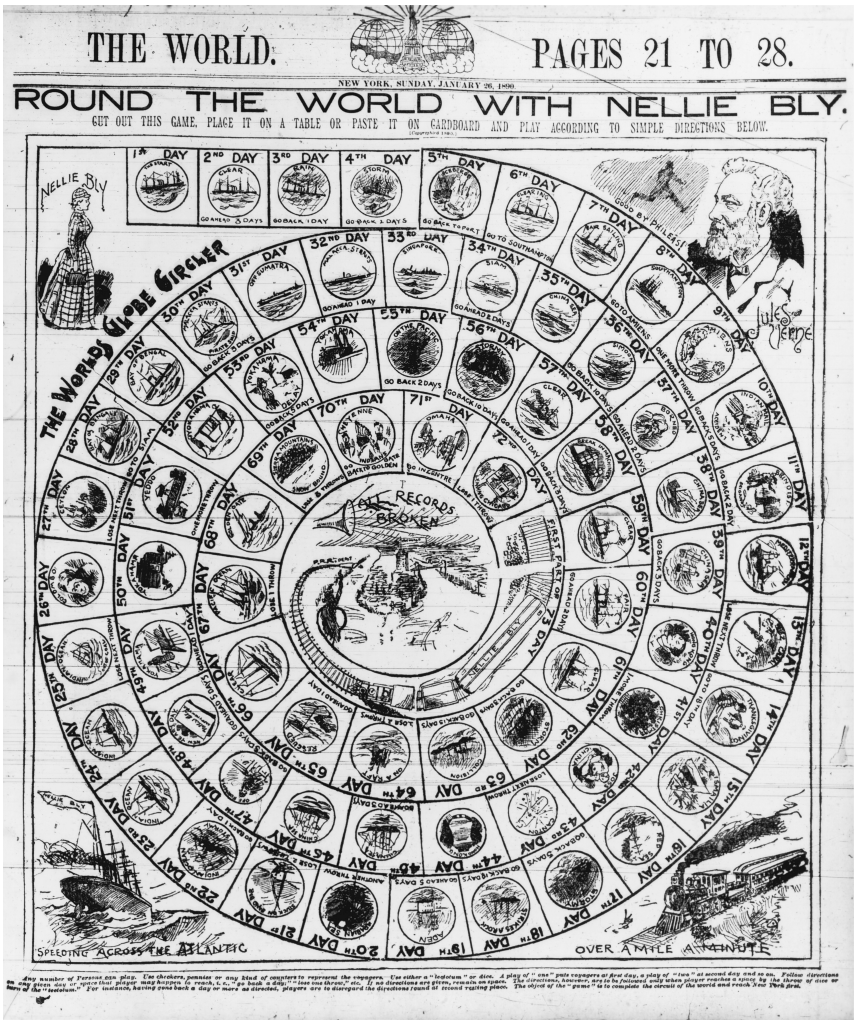
Track A: Complete steps 1–4. **Track B:** Complete all five steps. **Track C:** Complete all five steps, then write a paragraph comparing luck and choice in your game.

WATCH & EXPLORE

SITE	Nellie Bly (Wikipedia)	en.wikipedia.org · Nellie Bly
SITE	Nellie Bly's own book about her trip (Wikipedia)	en.wikipedia.org · Around the World in Seventy-Two Days

◉ LOOK CLOSELY PICTURE 5

Round the World with Nellie Bly



A board game printed in the New York newspaper The World on Sunday, January 26, 1890, the day after reporter Nellie Bly finished her record trip. Readers cut it out, pasted it on cardboard, and played at home. Each space on the spiral track is labeled with a day of her journey.

The World, 1890, Library of Congress · Public domain · View on Wikimedia Commons

1. Find "1st Day." Which way does the track spiral, and where do you think it ends?
2. Many spaces have instructions, such as "Go ahead 3 days." Find two. How do they add conflict?
3. Find the portrait of Jules Verne near the top right. What does the message beside him say, and why is it there?
4. Is this a game of luck, choice, or both? What one change would give players more choices?

Used in Game Lab Day 4.