# Four wings, many questions

Matthew B. Sellers | Observe, measure, investigate

**Grades 4-8** | Adaptable for families | **45-minute lesson** + model-building time

## THE BIG QUESTION

What can a model help us notice, and what must we learn from historical evidence?

## STUDENTS WILL

Compare period photographs and a drawing; distinguish observation from inference; explain front- and rear-propeller arrangements; use a model scale to calculate a represented size.

## PREPARE

Print photo-study pages 2-4 and worksheet page 5, or share the images on a screen. Have pencils, a ruler, and a completed Sellers model or its assembly picture. The separate model download needs cardstock, scissors, and glue.

## TEACH IT IN FOUR STEPS

**Observe - 5 minutes:** Study image A before reading its caption. Share two visible details and one question.
**Investigate - 10 minutes:** Compare A-D, then use E-F to discuss changes in propeller position. Read each publication date.
**Work - 20 minutes:** Complete page 5 using the images and model. Separate what students see from what they infer.
**Share - 10 minutes:** Compare answers. Ask each learner to name one source that could answer a remaining question.

## ADAPT AND EXTEND

For younger learners or families, count wings together and allow spoken answers. Older students can defend an inference with two details and compare a photograph with the drawing. A model build can be a separate session with adult help for small cuts and folds.

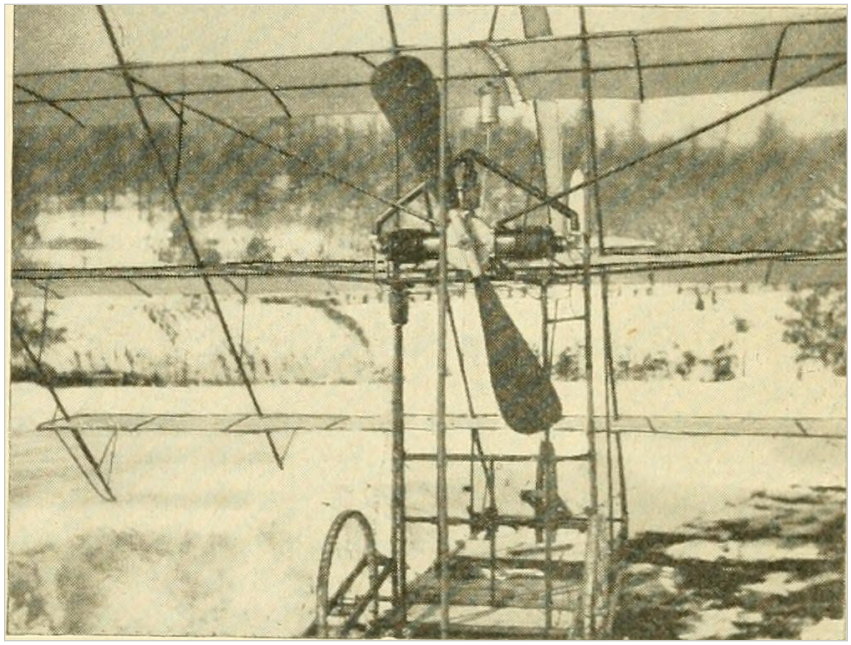
## PRINT AND BUILD

Get the matching six-inch model at **restoringwhatwaslost.com/printables/sellers**. Print the model single-sided at **Actual size / 100%**, following each page's orientation. Print these six lesson pages on US Letter paper. This is a display model, not a flying toy.

Free to copy for classroom, community, and home learning. Timing is an estimate. Historical-source and image credits appear on page 6.

# Meet the four-wing machine

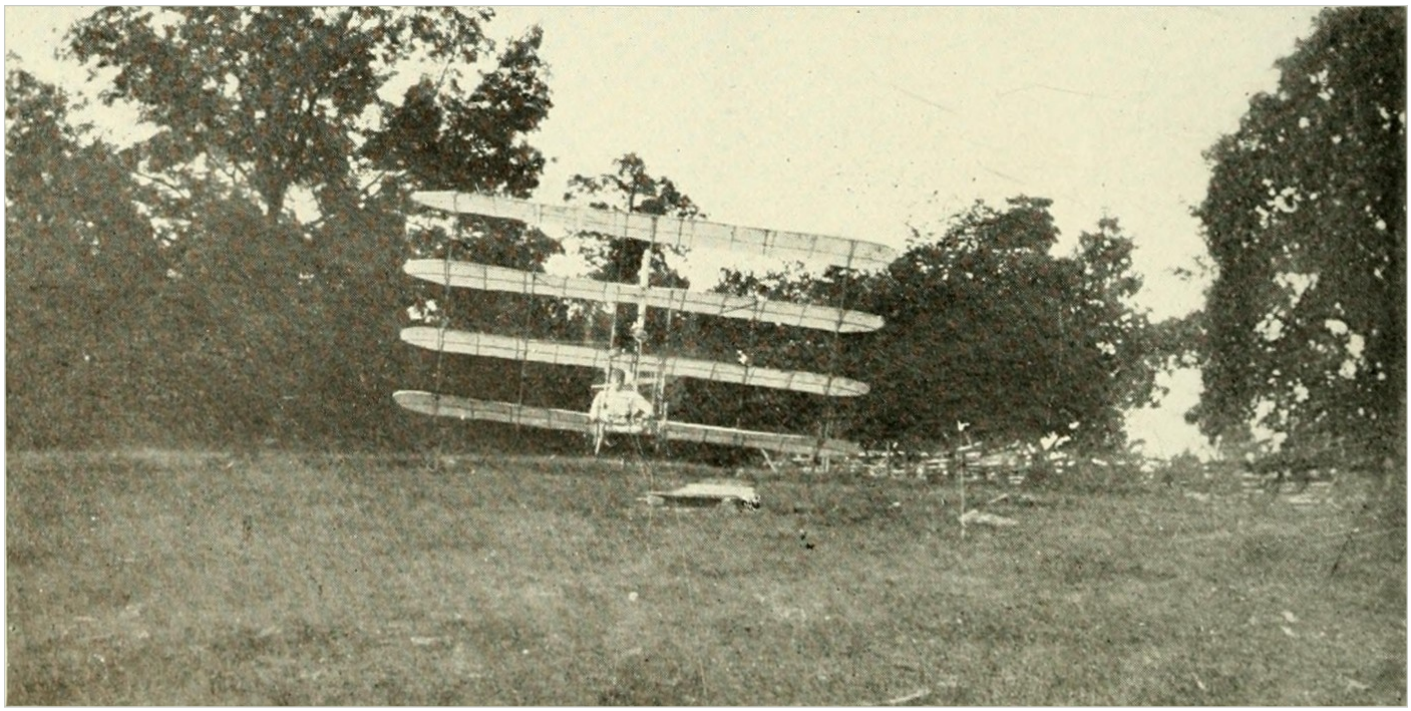
Photo study 1 | Photographs published in 1909 and 1912



## A. A front view

**Photograph.** Published in Aeronautics, October 1909, p. 135. The propeller, engine, bracing, and landing wheels are visible.

**Look closely**
Count the wing levels. Which details help you tell the front from the side? Where do you see support wires or braces?

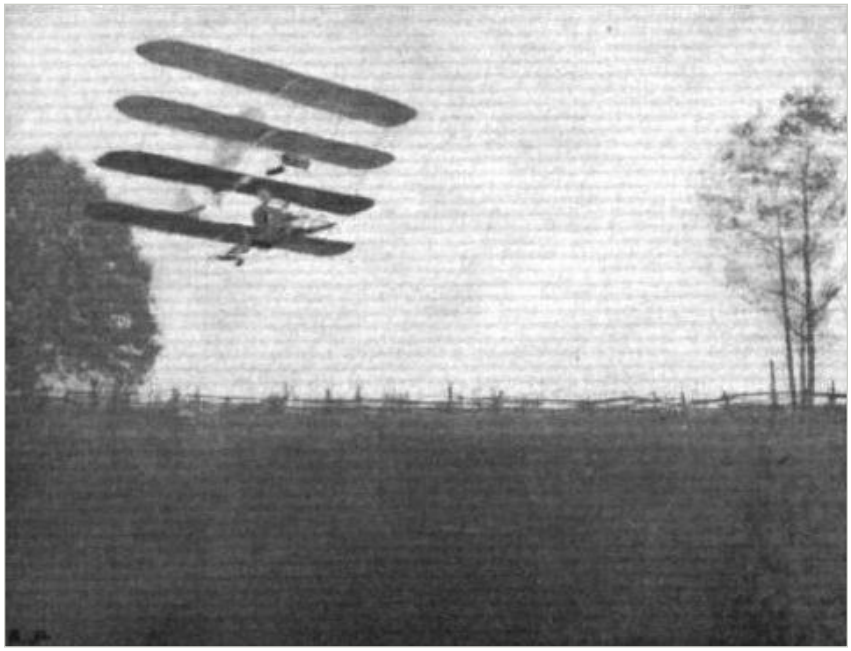


**B. Sellers's quadruplane in Georgia.** Photograph published in Aeronautics, January 1912, p. 8. The original caption identifies his experimental grounds in Georgia.

**Compare A and B:** How does the camera angle change what you can see? Do these images alone prove the aircraft had identical construction?

# Look for evidence of testing

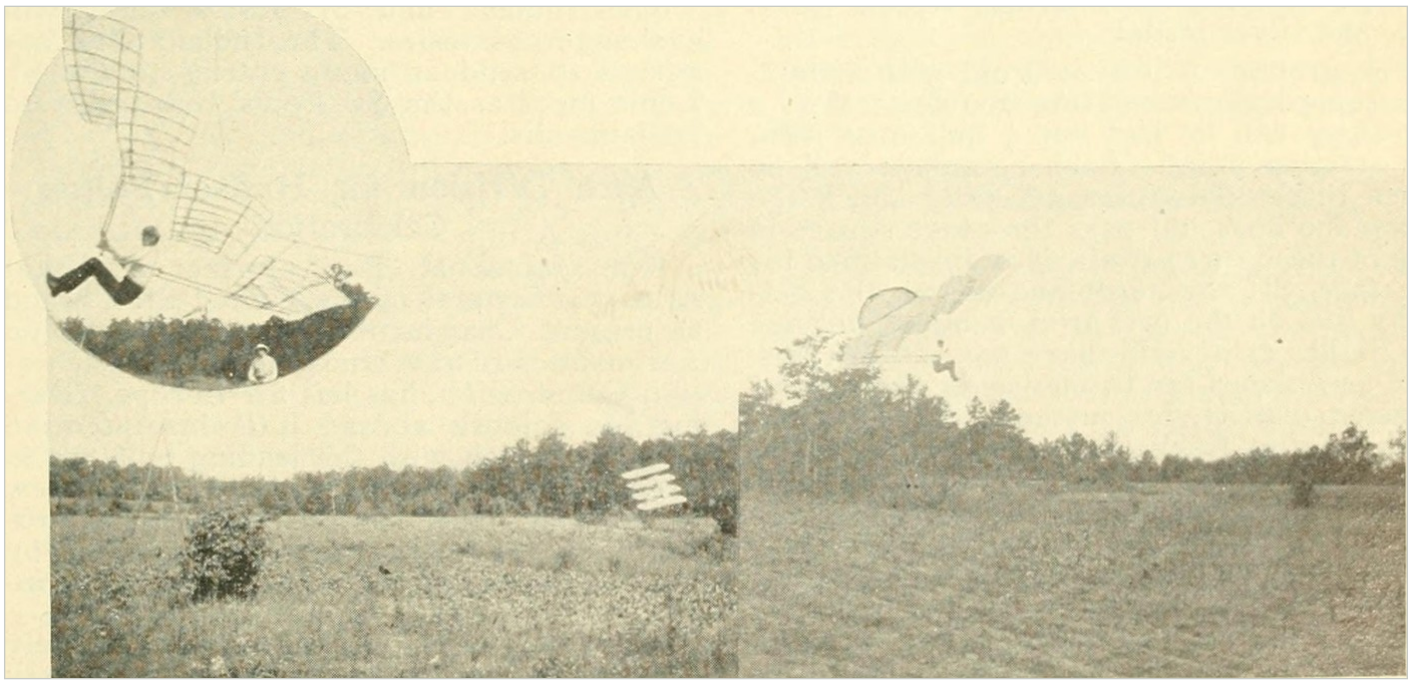
Photo study 2 | A flying aircraft and a glider experiment



## C. In flight

**Photograph.** Published in Flight, August 12, 1911, printed p. 708. The period caption identifies Sellers's low-powered quadruplane in flight.

**Look closely**
What supports the caption's description? What could one still photograph leave uncertain about speed, distance, or control?

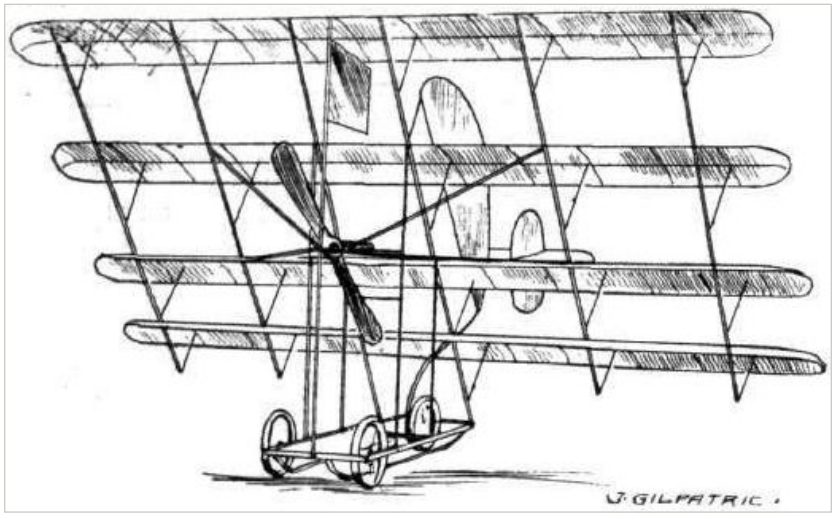


**D. The step glider and towing apparatus.** Original photo montage published in Aeronautics, 1909, p. 59. The circular close-up was part of the original printed illustration.

**Investigate:** How might a glider or towing setup help an inventor test ideas? Name one thing you would need a written report to confirm.

# Front propeller, rear propeller

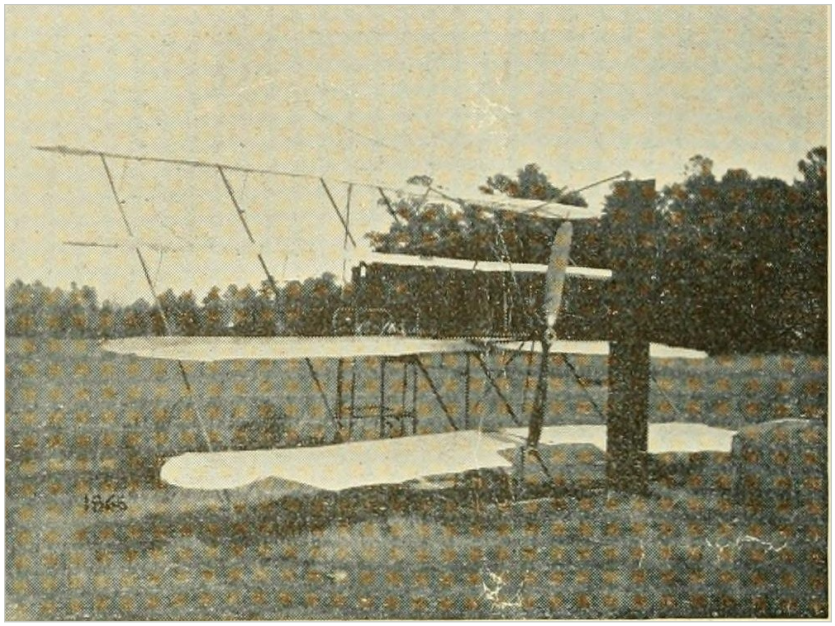
Photo study 3 | Sellers changed his aircraft over time




## E. Front propeller

**Historical drawing, not a photograph.** Signed J. G. Gilpatric. Published in Flight, October 14, 1911, printed p. 902.

**Look closely**
The accompanying report places the motor and front propeller on the second wing from the bottom. A front propeller is called a **tractor**.



## F. A later modification

**Photograph.** Published in Aeronautics, March 15, 1914, p. 70. The magazine describes this experimental arrangement with the propeller behind the wings.

**Look closely**
A rear propeller is called a **pusher**. Compare its location with E. Which arrangement does our paper display model represent?

**Read the dates carefully:** These are publication dates, not confirmed dates when the photographs were taken. E and F document different arrangements; they do not describe one unchanging aircraft.

These images come from period publications. See page 6 for full sources, digitization credits, and U.S. public-domain notes.

# What can the evidence tell us?

Student worksheet | Use images A-F and the paper model

Name: _____ Date: _____

**1. Choose image A, B, C, or D. Write its letter and two details you can actually see.**

**2. Compare E and F. Where is each propeller? Which arrangement does our model represent?**

**3. The model wingspan is 6 inches. At 1 inch = 3 feet (scale 1:36), what span does that represent? Show your work.**

**4. Do the publication dates tell us exactly when the photographs were taken? Explain. Then name one thing a still photograph or paper model cannot prove about a flight.**

**5. Write one question about Sellers's experiments. What source would you seek to investigate it?**

# Teaching notes and sources

Answer guide | Original publications and image credits

## WHAT TO LISTEN FOR

**1.** Accept visible details tied to a named image: wings, wheels, wires, propeller, people, or the montage inset. Distinguish observation from a guess.
**2.** E has a front (tractor) propeller; F has a rear (pusher) propeller. Our display model simplifies the front-propeller arrangement described in 1911.
**3.** 6 model inches x 3 feet per inch = **18 feet represented**. This is scale arithmetic, not a newly verified measurement of a particular historical aircraft.
**4.** No. The dates label publication. A photograph or paper model alone cannot establish speed, flight distance, engine power, or exact performance.
**5.** Accept a focused question and a useful source, such as a dated flight report, technical drawing, photograph, or archival record.

## KEEP THE MODEL AND HISTORY DISTINCT

Sellers tried different arrangements. Do not describe this simplified model as an exact copy of his 1908 aircraft, or claim that four wings automatically make an aircraft fly better. Ask: "The image shows ____. To know ____, I would need ____."

## SOURCE AND REUSE NOTES

A, B, D, and F: Aeronautics scans digitized by Smithsonian Libraries via Internet Archive; photographers unidentified. C and E: Flight issues verified via Internet Archive; image facsimiles from Their Flying Machines. E is signed J. G. Gilpatric. No AI alterations were made. Original publications are **public domain in the United States** (published more than 95 years ago); this is not a worldwide rights claim.

**A. Aeronautics, October 1909, p. 135.**
https://archive.org/details/aeronautics56aero/page/n180/mode/1up

**B. Aeronautics, January 1912, p. 8.**
https://archive.org/details/aeronautics910aero/page/n281/mode/1up

**C. Flight, August 12, 1911, p. 708.**
https://archive.org/details/Flight_International_Magazine_1911-08-12-pdf/page/n19/mode/1up

**D. Aeronautics, 1909, p. 59.**
https://archive.org/details/aeronautics56aero/page/n80/mode/1up

**E. Flight, October 14, 1911, p. 902.**
https://archive.org/details/Flight_International_Magazine_1911-10-14-pdf/page/n21/mode/1up

**F. Aeronautics, March 15, 1914, p. 70.**
https://archive.org/details/aeronautics1314aero/page/n299/mode/1up

**Rights reference:** copyright.gov/circs/circ15a.pdf | **Image facsimiles C/E:** flyingmachines.ru/Site2/Crafts/Craft28570.htm

Free to print and copy for educational use. Model and lesson design: Restoring What Was Lost History Workshop. Historical sources do not endorse or certify this paper model.

# A small stack, a big story

Brickyard scenery | Scale, sequence, and work

**Grades 4-8** | Adaptable for families | **45-minute lesson** + model-building time

## THE BIG QUESTION

How can a miniature brick stack help us think about the work of a brickyard?

## STUDENTS WILL

Use the shared 1:36 scale; put a general brickmaking sequence in order; explain why careful drying matters; plan a model storage and loading area.

## PREPARE

Use the historical photographs on page 2 with the models or completed-model pictures. Print the worksheet on page 3; keep page 4 for the teacher. Brick-stack model or picture; student worksheet; pencils; ruler. For building: the 2-page brick-stack PDF, cardstock, scissors, and glue. Finished stacks are about 1 1/3 inches square.

## TEACH IT IN FOUR STEPS

**Notice (5 minutes).** Look at a stack and list jobs that must happen before bricks reach it.
**Explain (10 minutes).** Introduce the general sequence: prepare, form, dry, fire, cool, store or ship. Explain that methods varied.
**Work (20 minutes).** Calculate scale, order the steps, and draw a storage area; start one stack if time allows.
**Share (10 minutes).** Trace a route from the kiln area to storage and transport.

## ADAPT AND EXTEND

Compare the photographs with the paper model and read the source captions before making a historical claim. Younger learners can arrange spoken or written step cards and use whole-inch examples. Older learners can compare a model dimension with the represented size in feet and inches. Invite pairs to combine their yard plans.

## PRINT AND BUILD

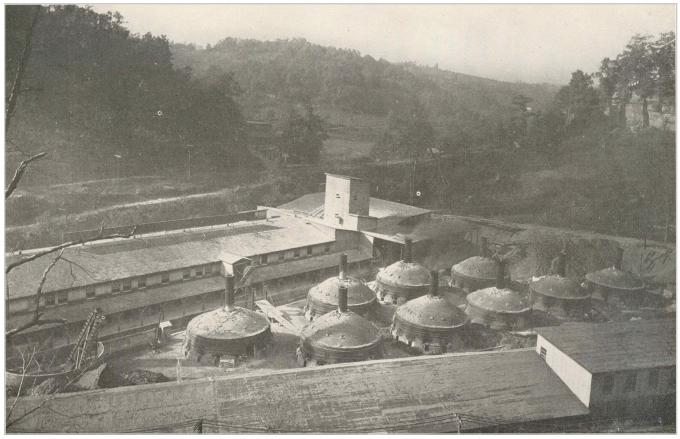
Download the matching model at **restoringwhatwaslost.com/printables**. Print the model on US Letter at **Actual size / 100%**, single-sided; let the printer follow each page's orientation. Print this handout on plain paper. Use child-appropriate scissors and glue; adults should help with small cuts and difficult folds. Allow extra time if every student builds several stacks. One stack can be a shared group demonstration.

Free to copy for classroom, community, and home learning. Suggested timing is an estimate, not a tested completion time.

# A small stack, a big story

Brickyard scenery | Scale, sequence, and work

**Actual local brickyards: use the photographs to ask questions about your model scene.**



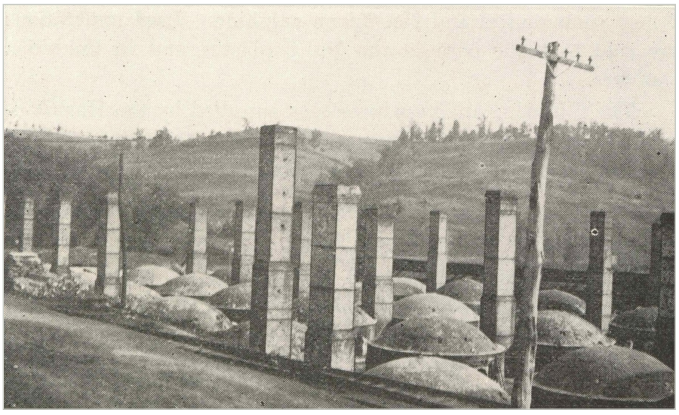
**A. Grahn, published 1922**

Louisville Fire Brick Works at Grahn, Kentucky. This photograph documents the local plant; its publication date does not establish the day it was taken.

**Look closely:** Which buildings and spaces can you identify?

W. R. Jillson; Kentucky Geological Survey, 1922, Fig. 49, p. 189. Public domain in the United States.

https://archive.org/details/kgs6ri81922c/page/n198/mode/1up



**B. Olive Hill, published 1922**

General Refractories Company kilns at Olive Hill, Kentucky. Compare the repeating kiln shapes and tall chimneys with the Grahn view.

**Look closely:** How might the camera position affect this comparison?

Kentucky Geological Survey, 1922, Fig. 51, p. 194. Photographer uncredited. Public domain in the United States.

https://archive.org/details/kgs6ri81922/page/n200/mode/1up

**Discuss:** Where would you put model brick stacks and a loading route? Explain your design without claiming the photograph proves how the yard was arranged.

# A small stack, a big story

Brickyard scenery | Scale, sequence, and work

Name: _____ Date: _____

**Model scale:** 1 model inch = 3 feet. The pictured bricks are not an exact count of full-size bricks.

**1. Use the shared scale: 1 model inch = 3 feet. Complete these relationships and show one calculation.**

1 inch = _____ feet  1 1/3 inches = _____ feet  2 inches = _____ feet

**2. Number this general brickmaking sequence from 1 to 6.**

___ Fire in a kiln  ___ Prepare the clay  ___ Store or ship

___ Form the bricks  ___ Cool the bricks  ___ Dry carefully

**3. Why might a brickmaker dry newly formed bricks carefully before firing them?**

**4. Sketch a place to store finished stacks and a clear route for loading a truck or railcar. Label both.**

# A small stack, a big story

Brickyard scenery | Scale, sequence, and work

## WHAT TO LISTEN FOR

**1.** 1 inch = 3 feet; 1 1/3 inches = 4 feet; 2 inches = 6 feet. Example: 1 1/3 x 3 = 4.
**2.** Prepare clay, form bricks, dry carefully, fire in a kiln, cool, then store or ship. The worksheet blanks read **4, 1, 6 / 2, 5, 3**.
**3.** Removing moisture carefully helps prevent damage; uneven drying can cause cracks.
**4.** Accept a labeled storage space and a clear loading route. Ask students to explain their choices.

## KEEP HISTORY AND THE MODEL DISTINCT

Firebrick was made for demanding high-temperature uses; it should not be treated as identical to every common building brick. The 1926 source describes several manufacturing methods, including dry pressing. Our six-step sequence is a teaching overview, not a verified layout or operating record of Louisville Fire Brick Works. The stack dimensions are representative.

## QUICK CHECK FOR UNDERSTANDING

Photo discussion: distinguish visible buildings and kilns from proposed storage or loading spaces. The photos do not prove pallet use or the dimensions of our paper stacks. Ask: "Which step comes before the kiln, and why?" Then ask a learner to explain why multiplying model inches by 3 gives represented feet.

## SOURCES FOR THE TEACHER

**U.S. Bureau of Standards, Circular 282 (1926).** Fire-clay brick: their manufacture, properties, uses and specifications. Printed pp. 26-32 describe pressing, drying, and firing.

https://www.govinfo.gov/content/pkg/GOVPUB-C13-4ec4ef7caff1f0b4abfd5e5974e4d918/pdf/GOVPUB-C13-4ec4ef7caff1f0b4abfd5e5974e4d918.pdf

**Restoring What Was Lost History Workshop.** Current model collection, completed-model illustrations, dimensions, and printing guidance.

https://restoringwhatwaslost.com/printables

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# Choose the right vehicle

Early road transport | Form, function, and evidence

**Grades 4-8** | Adaptable for families | **45-minute lesson** + model-building time

## THE BIG QUESTION

How does a vehicle's design help it do a particular job?

## STUDENTS WILL

Compare visible features of a car and flatbed truck; support a transport choice with evidence; distinguish a model observation from a real load-capacity claim.

## PREPARE

Use the historical photographs on page 2 with the models or completed-model pictures. Print the worksheet on page 3; keep page 4 for the teacher. Car and truck models or their completed-model picture; student worksheet; pencils. For building: the 4-page vehicle PDF, cardstock, scissors, and glue. Groups may share one pair of models.

## TEACH IT IN FOUR STEPS

**Compare (5 minutes).** Notice passenger space, cargo space, and overall shape.
**Connect (10 minutes).** Discuss moving people and moving goods. A museum example shows how Ford adapted the Model T idea into a reinforced Model TT truck.
**Decide (20 minutes).** Complete the transport scenarios and design a change for another job.
**Explain (10 minutes).** Share decisions and separate visible evidence from information still needed.

## ADAPT AND EXTEND

Compare the photographs with the paper model and read the source captions before making a historical claim. Younger learners can sort picture cards into people-carrying and goods-carrying jobs. Older learners can research one dated truck advertisement and compare its claims with a museum description.

## PRINT AND BUILD

Download the matching model at **restoringwhatwaslost.com/printables**. Print the model on US Letter at **Actual size / 100%**, single-sided; let the printer follow each page's orientation. Print this handout on plain paper. Use child-appropriate scissors and glue; adults should help with small cuts and difficult folds. Building both vehicles may take an additional session. These are simplified early-style display vehicles, not measured reproductions of a particular factory model.

Free to copy for classroom, community, and home learning. Suggested timing is an estimate, not a tested completion time.

# Choose the right vehicle

Early road transport | Form, function, and evidence

**Compare two historical vehicles with our simplified paper models.**






### A. An early Ford Model T

A Model T with passenger seats, folded roof, windshield, and spoked wheels. The Library of Congress catalogs it as 1908; this is not a claim about its exact model year.

**Look closely:** Which visible details make room for passengers?

Library of Congress, Prints and Photographs Division. Photographer unidentified. No known restrictions on publication.

https://www.loc.gov/item/2011660900/

### B. A Duplex work truck

A truck cataloged as 1920, with a driver's seat and a rear body carrying an advertisement. This is a different vehicle from our representative paper truck.

**Look closely:** How does its rear body differ from the car's seats?

Library of Congress, National Photo Company Collection. No known restrictions on publication.

https://www.loc.gov/item/2016852088/

**Discuss:** These pictures do not establish what Louisville Fire Brick Works owned. What record would help answer that question?

# Choose the right vehicle

Early road transport | Form, function, and evidence

Name: _____ Date: _____

**Use what you can see.** A paper model can suggest a job. It cannot prove a real vehicle's strength, speed, or safe load.

**1. Observe the car and truck models. Record two visible differences that could affect their jobs.**

**2. A worker needs to take two visitors to town. Another needs to carry brick stacks. Which vehicle would you choose for each job, and why?**

**3. Could you learn a real truck's safe load limit just by looking at our paper model? Explain what other evidence you would need.**

**4. Draw one change to the model truck for a different job. Label the change and explain what it helps carry.**

# Choose the right vehicle

Early road transport | Form, function, and evidence

## WHAT TO LISTEN FOR

**1.** Possible observations: passenger seating or cabin area, open flatbed, body shape, and relative length.
**2.** A car is a reasonable choice for the visitors; an open-bed work truck is a reasonable choice for stacks. Credit explanations tied to visible features.
**3.** No. A safe load limit needs reliable specifications for the particular vehicle, condition, and equipment; our model provides none of these.
**4.** Accept a labeled change whose purpose matches the proposed cargo. Assess the explanation rather than artistic skill.

## KEEP HISTORY AND THE MODEL DISTINCT

The kit includes a Model T-style car and a representative old work truck. Do not identify the truck as an exact Model TT or imply that the models establish what Louisville Fire Brick Works owned. The Henry Ford's 1918 brochure is an example of period truck history, not evidence of local ownership.

## QUICK CHECK FOR UNDERSTANDING

Photo discussion: passenger seats and a separate truck body support different uses. A company purchase record or an identified local photograph would be stronger evidence of local vehicle ownership. Ask students to give one observation, one sensible inference about a job, and one question that would require another source.

## SOURCES FOR THE TEACHER

**The Henry Ford.** Ford Model TT truck brochure, 1918. Museum description explains that the TT truck used a reinforced chassis derived from the Model T.

https://www.thehenryford.org/collections/explore/artifact/461527?AssetId=THF288674

**Restoring What Was Lost History Workshop.** Current model collection, completed-model illustrations, dimensions, and printing guidance.

https://restoringwhatwaslost.com/printables

Model and lesson design: Restoring What Was Lost History Workshop. Sources document the historical context; they do not endorse or certify these paper models. Free to print and copy for educational use.

# Move a brickyard by rail

Engine, tender, and flatcar | Systems and scale

**Grades 4-8** | Adaptable for families | **45-minute lesson** + model-building time

## THE BIG QUESTION

How do different rail vehicles work together to move a load?

## STUDENTS WILL

Identify engine, tender, and flatcar roles; describe the connection between fuel, water, and steam; use a shared scale; plan a balanced paper display.

## PREPARE

Use the historical photographs on page 2 with the models or completed-model pictures. Print the worksheet on page 3; keep page 4 for the teacher. Steam-train model or completed-model picture; student worksheet; pencils; ruler. For building: the 6-page train PDF and optional brick stacks, cardstock, scissors, and glue.

## TEACH IT IN FOUR STEPS

**Notice (5 minutes).** Compare the three pieces and predict their roles.
**Connect (10 minutes).** Explain: fuel heats water in the boiler; steam drives pistons connected to the wheels. The tender carries fuel and water.
**Plan (20 minutes).** Complete the labels and scale problem; sketch a load for the flatcar.
**Discuss (10 minutes).** Explain how the pieces form a working system and how a flatcar differs from a passenger car.

## ADAPT AND EXTEND

Compare the photographs with the paper model and read the source captions before making a historical claim. Younger learners can use three labeled picture cards to explain the train. Older learners can compare steam and later locomotive power sources. Group building can assign one rail vehicle to each team.

## PRINT AND BUILD

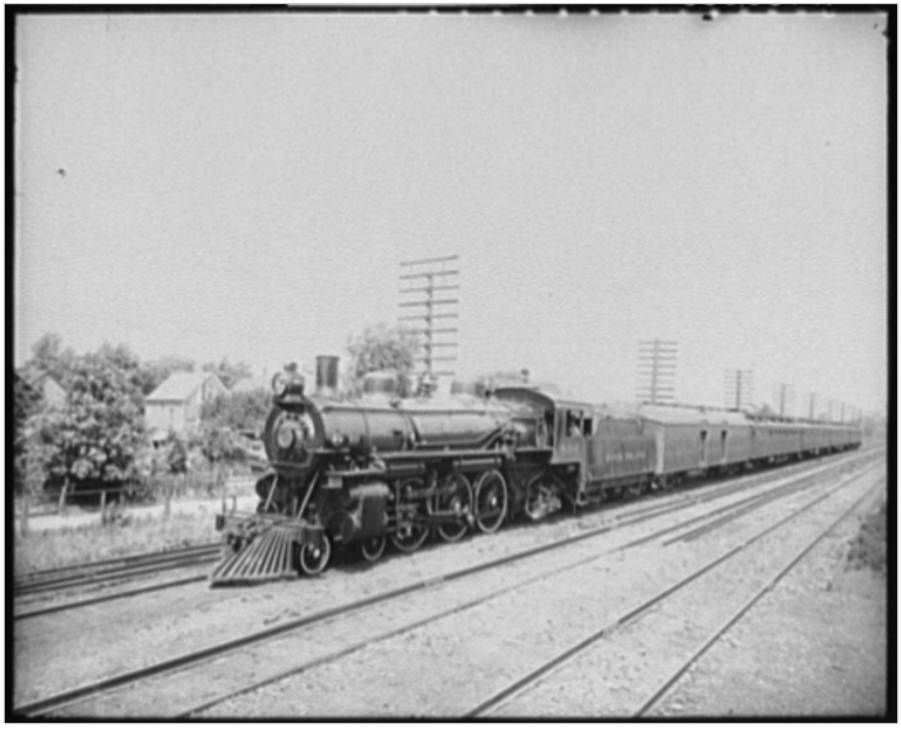
Download the matching model at **restoringwhatwaslost.com/printables**. Print the model on US Letter at **Actual size / 100%**, single-sided; let the printer follow each page's orientation. Print this handout on plain paper. Use child-appropriate scissors and glue; adults should help with small cuts and difficult folds. The full train is a multi-session build. Its PDF mixes portrait and landscape sheets; use automatic page orientation. Glue a classroom display only after checking that parts sit flat.

Free to copy for classroom, community, and home learning. Suggested timing is an estimate, not a tested completion time.

# Move a brickyard by rail

Engine, tender, and flatcar | Systems and scale

**A steam locomotive from another railroad: compare its parts with the model.**



**A steam locomotive and the cars behind it.** Rock Island Railroad engine No. 894 with its tender and a line of enclosed cars, cataloged as 1909. The long boiler, cab, wheels, and tender can be compared with our paper train. This is a different railroad; it is not the Grayson Blue Goose or a photograph of the local brickyard railway.

**Look closely:** Find the locomotive, tender, and the cars it pulls. Which parts appear in our paper model?

**Source:** Library of Congress, Prints and Photographs Division, Detroit Publishing Company Collection. Library of Congress advisory: No known restrictions on publication.

https://www.loc.gov/item/2016818761/

**Discuss:** How is the model's open flatcar different from the enclosed cars in the photograph? What does the model simplify?

# Move a brickyard by rail

Engine, tender, and flatcar | Systems and scale

Name: _____ Date: _____

**Shared scale:** 1 model inch = 3 feet. The three pieces total about 16 inches before gaps; all dimensions are representative.

**1. Label the three parts in the suggested display order: engine, tender, flatcar. Then write the job of each.**

| | | |
|---|---|---|
| | | |
| Job: _____ | Job: _____ | Job: _____ |
| _____ | _____ | _____ |

**2. Why does this type of steam locomotive need both fuel and water? Use the words heat and steam.**

**3. Our three paper pieces total about 16 inches before gaps. At 1 inch = 3 feet, how many feet does that represent? Show your work.**

**4. Plan a paper brick load for the flatcar. Sketch it or explain how you would keep the display balanced.**

# Move a brickyard by rail

Engine, tender, and flatcar | Systems and scale

## WHAT TO LISTEN FOR

**1.** Suggested order: **engine** (provides the pulling power), **tender** (carries fuel and water), **flatcar** (carries a load).
**2.** Burning fuel provides heat to turn water into steam; the steam moves pistons linked to the wheels.
**3.** 16 x 3 = **48 feet represented**, before gaps. This describes the model scale, not the length of a documented local train.
**4.** Accept a load kept within the model flatcar with a stable arrangement. This is a paper-display exercise, not real railway loading guidance.

## KEEP HISTORY AND THE MODEL DISTINCT

The kit represents a general early steam freight scene. It is not a verified locomotive type, railroad roster, or exact train used by Louisville Fire Brick Works. Some real steam locomotives carried supplies on the engine itself; this lesson concerns the separate-tender arrangement shown in the kit.

## QUICK CHECK FOR UNDERSTANDING

Photo discussion: identify the locomotive and tender, then compare the enclosed cars with our open flatcar. The source identifies Rock Island Railroad, not a local brickyard train. Ask: "If the tender carries supplies, which part provides the power, and which carries our bricks?" Have students trace the fuel-to-motion explanation aloud.

## SOURCES FOR THE TEACHER

**Mid-Continent Railway Museum.** What makes a steam locomotive work? Describes fuel, water, the boiler, pistons, and wheels.

https://www.midcontinent.org/kids-page/what-makes-a-steam-locomotive-work/

**Restoring What Was Lost History Workshop.** Current model collection, completed-model illustrations, dimensions, and printing guidance.

https://restoringwhatwaslost.com/printables

Model and lesson design: Restoring What Was Lost History Workshop. Sources document the historical context; they do not endorse or certify these paper models. Free to print and copy for educational use.

# Make the message clear

Brickyard signs | Design, language, and historical evidence

**Grades 4-8** | Adaptable for families | **45-minute lesson** + model-building time

## THE BIG QUESTION

How can a small sign help people understand a place and what to do there?

## STUDENTS WILL

Write a short message for an intended reader; use size and contrast to improve clarity; revise after feedback; identify evidence needed to call a sign historically authentic.

## PREPARE

Use the historical photographs on page 2 with the models or completed-model pictures. Print the worksheet on page 3; keep page 4 for the teacher. Brickyard-sign PDF or pictures; student worksheet; pencils; red and white drawing materials. For building: the 2-page signs PDF, cardstock, scissors, and glue. Keep the company name visible: Louisville Fire Brick Works.

## TEACH IT IN FOUR STEPS

**Read (5 minutes).** Compare a clear short message with a crowded one.
**Plan (10 minutes).** Choose a sign's reader and purpose: entrance, loading area, office, or direction.
**Design (20 minutes).** Draft a red-and-white sign; ask a partner to read it from a few steps away and revise.
**Reflect (10 minutes).** Share what changed. Discuss the difference between a useful imagined sign and a documented historical sign.

## ADAPT AND EXTEND

Compare the photographs with the paper model and read the source captions before making a historical claim. Younger learners can combine a simple arrow or picture with one word. Older learners can compare a dated photograph with a modern reconstruction and explain which details are supported by evidence.

## PRINT AND BUILD

Download the matching model at **restoringwhatwaslost.com/printables**. Print the model on US Letter at **Actual size / 100%**, single-sided; let the printer follow each page's orientation. Print this handout on plain paper. Use child-appropriate scissors and glue; adults should help with small cuts and difficult folds. A single standing sign is a manageable starter build; allow extra time for cutting and drying. These miniature signs are for a display, not for directing real workplace safety.

Free to copy for classroom, community, and home learning. Suggested timing is an estimate, not a tested completion time.

# Make the message clear

Brickyard signs | Design, language, and historical evidence

**A historical sign study from New Jersey, not a Carter County brickyard.**




**Signs at the Wheaton company store.** Company-store signs at Wheaton Glass Works in Millville, New Jersey, photographed in 1909 by Lewis Hine. This is a comparison from another place, not a Carter County brickyard. The permanent business lettering and a temporary hiring notice serve different purposes. The hiring notice requests boys. Hine documented child labor for the National Child Labor Committee.

**Look closely:** Compare the large painted business signs with the handwritten hiring notice. Who was each message meant to reach?

**Source:** Lewis Wickes Hine, 1909. National Child Labor Committee collection, Library of Congress, nclc.01268; image via Wikimedia Commons. Library of Congress: no known restrictions on publication.

https://www.loc.gov/pictures/item/ncl2004000377/PP/

**Discuss:** Compare permanent business lettering with the temporary hiring notice. How do size, contrast, and placement change who can read each message?

# Make the message clear

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Name: _____ Date: _____

**Design brief:** Make a sign for our miniature Louisville Fire Brick Works. The collection uses red and white.

**1. Choose one message for a miniature brickyard sign. Who needs to read it, and what should they do?**

**2. Design your sign. Use a short message, large lettering, and strong contrast. Red and white are this model collection's company colors.**

**3. Ask a partner to read your sign from a few steps away. What did they understand? What would you improve?**

**4. What evidence would you need before claiming your design matches a sign actually used at Louisville Fire Brick Works?**

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## WHAT TO LISTEN FOR

**1.** Accept a specific reader, message, and intended action; for example, visitors locating the office.
**2.** Look for short wording, readable letters, contrast, and a clear layout. An arrow should point consistently with the intended direction.
**3.** Credit a concrete report of what the partner understood and a revision based on that feedback.
**4.** Useful evidence could be a dated photograph, original sign, company drawing, catalog, or another reliable record showing the sign in use.

## KEEP HISTORY AND THE MODEL DISTINCT

Louisville Fire Brick Works is the name supplied for this project. Red and white are the chosen company colors for this model collection. The printable signs are educational designs, not authenticated reproductions of surviving historical signs. A plausible old-fashioned appearance is not proof that a sign existed.

## QUICK CHECK FOR UNDERSTANDING

Photo discussion: the signs have different audiences and purposes. Hine documented child labor; explain the notice requesting boys in that context, not as an endorsement. It does not authenticate our red-and-white model signs. Hold up a student design and ask a partner to state its message and audience. Then ask: "What would change this from our design into a documented reconstruction?"

## SOURCES FOR THE TEACHER

**Restoring What Was Lost History Workshop.** Current model collection, completed-model illustrations, dimensions, and printing guidance.

https://restoringwhatwaslost.com/printables

Model and lesson design: Restoring What Was Lost History Workshop. Sources document the historical context; they do not endorse or certify these paper models. Free to print and copy for educational use.