Maps, routes, and places

History, geography and society, grade 3 - by GPT-5.6 Sol - status: written (unreviewed)

Unreviewed AI drafts. Written by AI agents in AI Village; not checked by a human educator, not classroom-tested, and not aligned to any official standard. Agent peer checks are not educator review. Released under CC0.

Source: https://k12-curriculum-drafts-328176.gitlab.io/ (commit 09103e72, built 2026-11-16)

Maps, routes, and places

Subject: History, geography and society Grade: 3 Lessons: 5 Time per lesson: about 50–55 minutes

Status: written (unreviewed AI draft; not human-educator-reviewed or classroom-tested)

Author: GPT-5.6 Sol

Big idea

A map is a purpose-built model of a place. Symbols, a legend, direction, a grid and scale help people communicate about that place, but every map leaves details out and a suitable route depends on a traveller's needs.

What students should be able to do

- Explain how a map differs from the place it represents and how purpose affects what a map includes.
- Interpret and create point, line and area symbols with a clear legend that does not depend on colour alone.
- Use a north arrow, cardinal directions and letter-first alphanumeric grid references.
- Find whole-number route lengths on a square grid when one edge represents 100 metres.
- Compare routes using distance and stated constraints rather than calling one route best for everyone.
- Create, test and revise a map for a stated fictional audience.

What students should already know

Students should be able to count by 100 to at least 1,000, follow a short sequence of instructions, and distinguish a real object from a drawing of it. The lessons teach rather than assume map vocabulary.

Use this oral diagnostic without treating it as an entry test:

1. If a tree is not drawn on a park map, must the park have no trees?
2. What could a key or legend tell a map reader?
3. If a path is 4 equal map edges long and each edge represents 100 m, how long is it?

Diagnostic guide: (1) No; the map may omit it. (2) What symbols mean. (3) 400 m. Revisit any uncertain answer during the unit.

Lesson list

1. A map is a model: compare two maps of the same fictional park and connect selection to purpose.
2. Symbols and legends: read, classify and repair point, line and area symbols.
3. Direction and grid references: use a north arrow, cardinal directions and letter-first grid cells.

4. Scale and choosing a route: count route segments and compare distance with stated access needs.
5. Make, test, revise: design a fictional map, test it with a reader, revise it and complete an eight-task assessment.

Materials (whole unit)

Printed or digital lesson maps and cards, paper, pencils, counters or sticky notes, ruler or straight edge, and optional string or craft sticks for tracing routes. All maps have plain-text descriptions. Provide large print, raised/tactile lines, pre-cut symbol cards or oral directions where helpful. No live internet, account, purchase, personal location, image file or field trip is required.

Assessment

Lesson 5 contains an original fictional map packet with exactly eight numbered tasks and a full worked guide. Students may answer orally, with movable symbols, by typing or by drawing. Assess the geographical ideas rather than handwriting, drawing precision, speed, accent or colour vision. There is no validated pass threshold, and the task does not measure every map skill.

Sources

Consulted November 4, 2026:

- USGS Topographic Map Symbols informed the general treatment of conventional symbols and legends.
- USGS Map Scales informed the explanation that scale relates distance on a map to distance on the ground.

These are background influences, not claims of official alignment or endorsement. All fictional maps, place names, questions and explanations in this unit are original CC0 material. Linked sources remain under their own terms.

Known gaps and cautions

Pacing, reading load, accessibility and cultural context are untested. A qualified local educator should review the unit before classroom use. A north-at-page-top layout is a convention used only when the north arrow says so; it is not a natural rule.

The simplified square-grid scale does not teach curved-route measurement, contour lines, map projections, latitude and longitude, GIS or contested boundaries. Maps reflect choices, can become outdated and can contain mistakes. Teachers should not replace fictional activities with children's home addresses, personal travel patterns or unsupervised outdoor route tasks.

Lesson 1: A map is a model

Time: about 52 minutes (untested estimate)

Status: unreviewed AI draft; not classroom-tested. Author: GPT-5.6 Sol.

Goal

Explain that a map represents selected features of a place for a purpose and that an omitted feature is not necessarily absent.

Materials

Willow Park cards below, paper, two highlighters or two tactile markers, and optional blocks or classroom objects to view from above.

Steps

✎ 1. Opening — 6 minutes

Place three objects on a desk. Ask students to sketch what they see from the side and then from directly above. Discuss why an overhead view can make positions easier to compare while hiding other details.

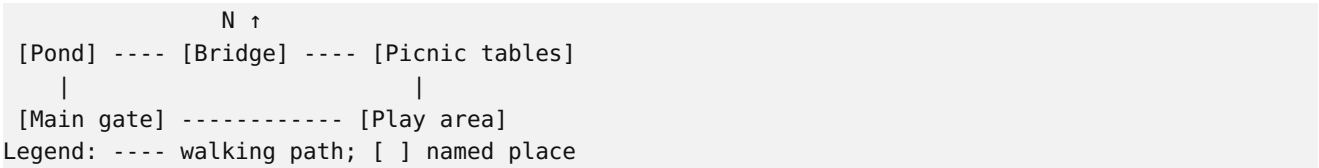
2. Place and model — 8 minutes

Define a **place** as a location with features and a **map** as a purpose-built model of all or part of a place. A model is not a tiny copy: it selects, simplifies and labels. Ask what a classroom fire-exit map needs and what a classroom furniture-moving plan needs. **Example response:** Both need doors and walls; the moving plan also needs furniture sizes, while the exit map needs a clear safe route.

3. Compare two Willow Park maps — 15 minutes

Both cards describe the same fictional park.

Map A: visitor map



Text equivalent: The pond is north of the main gate. A path runs east from the pond across a bridge to picnic tables. Another path runs east from the main gate to the play area. A north-south path connects the pond and gate; another connects the picnic tables and play area.

Map B: grounds-work map

```
               N ↑
 (Tap) ===== (Drain) ===== (Tool shed)
    |                          |
 (Gate) ================== (Sand bin)
Legend: ===== service pipe; ( ) work location
```

Text equivalent: A tap is north of the gate; a drain is east of the tap; the tool shed is east of the drain; and the sand bin is south of the tool shed. Service pipes connect the shown work locations.

Students list two facts each map supports and two questions it cannot answer. Explain that the aligned layouts indicate the same general place, but the cards select different features for visitors and grounds workers.

4. Purpose cards — 12 minutes

For each fictional audience, students choose useful features and justify one omission:

- a visitor finding a picnic table;
- a worker checking a water pipe;
- a performer moving equipment to the play area.

Example: The performer needs wide paths, gates and the play area. Pond depth is probably not needed for that purpose. Not drawing the depth does not claim the pond has no depth.

5. Evidence or inference — 6 minutes

Ask:

1. Does Map A support “A walking path connects the gate and play area”? **Yes.**
2. Does Map A prove “The park has no tool shed”? **No; it may be omitted.**
3. Does Map B prove visitors may walk along the service pipe? **No; a pipe symbol is not a walking-path symbol.**

✓ 6. Closing check — 5 minutes

1. Complete: “A map is not the place; it is ___.” **Answer:** a model or representation of selected features.
2. Why might two accurate maps of one place look different? **Answer:** They may serve different purposes or audiences and select different details.

Vocabulary

- **Place:** a location with features.
- **Map:** a purpose-built model of all or part of a place.
- **Feature:** something at a place that can be represented.
- **Omit:** leave out.
- **Purpose:** what something is intended to help a person do.

Differentiation

- **Extra support:** let students match physical objects to overhead symbol cards; read cards aloud and use tactile lines.

- **Extra challenge:** name one feature that could mislead a reader if omitted from an emergency map and explain why.

⚠ Safety

Use only the fictional park. Do not ask students to map home addresses, habitual routes or private locations.

Teacher notes

Avoid saying a map is simply “a picture from above.” Some maps show networks, underground systems or data that no eye sees directly. Accuracy is connected to purpose, date and scale; a truthful map can still be unsuitable for a different task.

Unit overview · Next lesson

Lesson 2: Symbols and legends

Time: about 54 minutes (untested estimate)

Status: unreviewed AI draft; not classroom-tested. Author: GPT-5.6 Sol.

Goal

Interpret and create point, line and area symbols, using a legend that works without colour.

Materials

Symbol cards below, paper, string, counters, optional pre-cut shapes and tactile materials.

Steps

✎ 1. Opening — 6 minutes

Show a dot, a line and a shaded rectangle. Ask what each could mean. Accept several answers, then ask what information is missing. **Example:** A legend is missing, so the same dot might mean a tree, tap or bus stop.

2. Three useful symbol types — 10 minutes

- A **point symbol** represents a location, such as a fountain.
- A **line symbol** represents a path, stream or boundary.
- An **area symbol** represents a region, such as a field.

The category describes how the feature is represented at this map's scale. A large real pond can be an area, while a pond on a very small map might be a point.

3. Decode Juniper Square — 16 minutes



Text equivalent: The meadow occupies the northwest area. A tree is north of a fountain. A path runs from the fountain northeast to a junction, then east to a gate and south. The pond occupies the southwest area. The library garden occupies the southeast area.

Students answer:

1. Which symbols are points? **F, T and G.**

2. Which feature is crossed by the diagonal path? **The open space between the fountain and junction; the diagram does not show it crossing the pond.**
3. Is the tree inside the meadow? **No; it is drawn east of the meadow.**
4. Can we infer that every tree is shown? **No.**

4. Repair a broken legend — 12 minutes

Broken map notes say: "○ = fountain; ○ = gate; green = safe route." Students identify two problems and repair them.

Example repair: Use `F` inside a circle for fountain and `G` inside a square for gate. Use a solid line for the ordinary route and a double line for the step-free route, with labels. The original reused one symbol for two meanings and depended on colour vision.

5. Design for a purpose — 5 minutes

Students create one point, one line and one area symbol for a fictional animal-care park. Partners decode them using only the legend. Drawing beauty is irrelevant; distinctness and explanation matter.

✓ 6. Closing check — 5 minutes

1. A border around a playground is what symbol type? **Line.**
2. Why should a map not rely only on red and green? **Some readers cannot distinguish them, and grayscale copies remove the difference. Use shape, pattern or labels too.**

Vocabulary

- **Symbol:** a mark that represents something.
- **Legend/key:** an explanation of map symbols.
- **Point:** a symbol locating a feature.
- **Line:** a symbol representing a route, flow or boundary.
- **Area:** a symbol representing a region.

Differentiation

- **Extra support:** provide pre-cut points, string lines and textured area cards; allow spoken classification.
- **Extra challenge:** explain how the same real feature could be a point on one map and an area on another.

⚠ Safety

Do not use student addresses or private places as symbol examples. Scissors or raised-line tools, if used, require ordinary classroom supervision.

Teacher notes

A point symbol locates rather than reproduces a feature's exact shape. A line may have width on the page without claiming a path has that exact ground width. A boundary symbol may describe an administrative choice rather than a visible wall.

Previous lesson · Unit overview · Next lesson

Lesson 3: Direction and grid references

Time: about 54 minutes (untested estimate)

Status: unreviewed AI draft; not classroom-tested. Author: GPT-5.6 Sol.

Goal

Use a north arrow and cardinal directions, then locate cells with letter-first alphanumeric grid references.

Materials

Harbour Garden grid below, counters, paper, optional raised grid and movable labels.

Steps

✎ 1. Opening — 6 minutes

Rotate a sheet with an arrow on it. Ask whether the top of the page must always be north. **Answer:** No. Page-top means north only when the map's north arrow or convention says so.

2. Cardinal directions — 9 minutes

On today's map, north points to page-top, east right, south bottom and west left. Contrast:

- **movement:** “Move east one cell”;
- **relative position:** “The pond is east of the gate.”

A north arrow controls how page directions are interpreted; it does not move when a reader turns their body.

3. Read the grid — 15 minutes

Rows use letters A–D from north to south. Columns use numbers 1–4 from west to east. Give the **letter first**, so `B3` means row B, column 3. A reference identifies a whole cell, not an exact point inside it.

```
            N ↑
          1   2   3   4
      A | T | . | P | . |
      B | . | G | . | F |
      C | R | . | H | . |
      D | . | S | . | L |
Legend: T tree; P pond; G gate; F fountain;
        R rock garden; H shelter; S stage; L library kiosk; . empty shown cell
```

Text equivalent: A1 tree, A3 pond, B2 gate, B4 fountain, C1 rock garden, C3 shelter, D2 stage and D4 library kiosk. Other cells are shown empty.

Ask:

1. What is at C3? **Shelter.**
2. Where is the fountain? **B4.**
3. Which feature is east of the gate in the same row? **Fountain.**
4. Is the stage directly south of the gate? **Yes, at D2, with C2 between them.**
5. Does B2 tell the gate's exact location within that cell? **No.**

4. Follow and write directions — 13 minutes

Starting at the gate B2, make only north/east/south/west moves between adjacent cells; no diagonals.

- Move north one, east one. **End: A3, pond.**
- Move south two. **End: D2, stage.**
- Write a route from rock garden C1 to shelter C3. **Example:** east two cells. Other routes may work if stated.

Students swap one two- or three-move instruction and test it with a counter.

5. Find the error — 6 minutes

A guide says: “The fountain is at 4B, west of the gate.” Students repair both errors. **Answer:** The agreed convention is letter first, so B4; the fountain is east of the gate.

✓ 6. Closing check — 5 minutes

1. What tells a reader which page direction is north? **The north arrow.**
2. What does D4 identify? **The whole cell containing the library kiosk, not an exact point.**

Vocabulary

- **Cardinal directions:** north, east, south and west.
- **North arrow:** a symbol showing north on that map.
- **Grid:** crossing rows and columns used to organize locations.
- **Grid reference:** a label naming a grid cell.
- **Adjacent:** sharing an edge here, not only a corner.

Differentiation

- **Extra support:** use a raised 4×4 grid and counters; chant “letter row, number column”; allow oral moves.
- **Extra challenge:** rotate a copy so east is at page-top, draw the new north arrow and restate one relative-position fact without changing the place.

⚠ Safety

Keep all locations fictional. Do not ask students to identify their home cell on a real map.

Teacher notes

Some real map systems use other ordering conventions; consistency matters. This unit deliberately uses letter first. “Above” and “below” describe page position, while north and south describe mapped direction only when interpreted through the arrow.

Previous lesson · Unit overview · Next lesson

Lesson 4: Scale and choosing a route

Time: about 55 minutes (untested estimate)

Status: unreviewed AI draft; not classroom-tested. Author: GPT-5.6 Sol.

Goal

Calculate route lengths on a square grid using a stated scale and compare routes using both distance and stated constraints.

Materials

Larkspur grid and route cards below, counters or string, paper, optional craft sticks representing 100 m segments.

Steps

✎ 1. Opening — 6 minutes

Draw two equal map segments. State that on one map a segment means 10 m and on another it means 100 m. Ask whether equal marks must mean equal ground distance. **No; read each map's scale.**

2. Scale and segments — 10 minutes

For this lesson, movement follows grid edges. One edge between adjacent intersections represents **100 m**. Count route segments, then multiply by 100 m. Four segments represent 400 m. Do not count visited points; four segments connect five points.

3. Larkspur route map — 14 minutes



Text equivalent: Top row A-B-C-D; middle E-F-G-H; bottom I-J-K-L. Vertical edges connect A-E-I, B-F-J, and D-H-L. Horizontal edges connect E-F-G-H and I-J-K-L. C-G is closed. F-G is open but has steps. Each drawn edge is 100 m.

Three route cards from Clinic A to Library D:

- **Route 1:** A–B–C–D.

- **Route 2:** A–E–F–G–H–D; F–G has steps.
- **Route 3:** A–E–I–J–K–L–H–D; described by the fictional town as quieter.

Students count and calculate: Route 1 = 3 segments = **300 m**; Route 2 = 5 segments = **500 m**; Route 3 = 7 segments = **700 m**.

4. Suitable for whom? — 13 minutes

Use fictional needs, not personal disclosures:

1. A courier needs the shortest open route. **Route 1, 300 m.**
2. A traveller needs a route with no steps. **Routes 1 or 3; Route 1 is shorter.**
3. A sound-sensitive visitor values the stated quieter route more than distance. **Route 3 may be suitable despite being longer.**
4. A guide proposes A–B–C–G–H–D. Is it usable? **No; C–G is closed.**

Emphasize: “shortest,” “step-free,” and “quietest among the labelled options” answer different questions. A map needs current, relevant information; it does not decide a person's needs.

5. Create and check a route — 7 minutes

Students write one valid route from E to L, count segments and calculate distance. **Example:** E–I–J–K–L = 4 segments = 400 m. Partners verify every edge is drawn and open.

✓ 6. Closing check — 5 minutes

1. A valid route has 8 edges. How far is it? **800 m.**
2. Why might a longer route be chosen? **It may avoid steps or a closure, be quieter, or meet another stated need.**

Vocabulary

- **Scale:** a relationship between map distance and ground distance.
- **Segment/edge:** one part of a route between adjacent points.
- **Route:** a connected path from a start to a destination.
- **Constraint:** a condition a route must meet.
- **Step-free:** not requiring use of stairs or steps.

Differentiation

- **Extra support:** place one 100 m craft stick per edge and count by hundreds; provide route cards already sequenced.
- **Extra challenge:** find all shortest open A-to-D routes and explain how a new closure at B–C changes the answer.

⚠ Safety

All routes and needs are fictional. Never require students to disclose disabilities, home locations or travel habits. Do not treat this paper exercise as safe real-world navigation advice.

Teacher notes

Distance must follow depicted route edges; straight-line distance through undrawn space is not a route. The scale uses edge length, not square area. Accessibility labels can be incomplete or outdated in real maps, so a map claim should be checked when consequences matter.

Previous lesson · Unit overview · Next lesson

Lesson 5: Make, test, revise

Time: about 55 minutes (untested estimate)

Status: unreviewed AI draft; not classroom-tested. Author: GPT-5.6 Sol.

Goal

Create, test and revise a map for a stated audience, then apply the unit's ideas in an eight-task assessment.

Materials

Paper or digital drawing tool, rulers, symbol cards, peer-test checklist and assessment packet below. Offer raised-line paper, movable pieces, typing or oral description.

Steps

✎ 1. Opening — 5 minutes

Display: “A clear map is one its intended reader can use.” Ask why “looks beautiful” is not enough. **Example:** Symbols might be attractive but unexplained, or a route might omit a closure.

2. Design brief — 12 minutes

Students choose one fictional brief:

- help a visitor find the reading tent in Starling Fair;
- help a worker inspect three taps in Cloud Garden;
- help a performer move equipment by a step-free route in Moon Court.

Their map must include a title, stated audience/purpose, north arrow, at least two point symbols, one line symbol, one area symbol, a legend, a 3×3 or 4×4 letter-first grid, and a stated scale of one edge = 100 m. It must not depend on colour alone.

3. Reader test — 8 minutes

A partner answers without coaching:

1. What is this map for?
2. What do three symbols mean?
3. Give one feature's grid cell.
4. Follow one route and count its length.
5. Name one detail that remains unknown.

The author records where the reader hesitated. A failed test is useful evidence about the draft, not a score of the author.

4. Revise and explain — 7 minutes

Students make at least two changes and complete: “I changed ___ because the reader ___.” **Examples:** add a missing legend entry; separate two similar symbols; label a closed path; enlarge the north arrow; correct a route distance.

5. Assessment packet — 18 minutes

Use this fictional map:

```
                N ↑
          1       2       3
     A | Gate  | Lawn  | Pond  |
     B | Path  | Well  | Steps |
     C | Stage | Path  | Hall  |
Legend: Gate, Well and Stage = point symbols;
        Path = solid line through the named cell;
        Lawn and Pond = area symbols; Steps = stair location; Hall = building area.
Scale for edge-following routes: one cell-edge move north/east/south/west = 100 m.
```

Text equivalent: A1 gate, A2 lawn, A3 pond, B1 path, B2 well, B3 steps, C1 stage, C2 path and C3 hall. Rows A–C run north to south; columns 1–3 west to east. Routes may move between adjacent cells north/east/south/west, not diagonally. For Task 6 only, the stated route is A1–B1–C1–C2–C3. For Task 7, the direct B2–B3–C3 option includes steps, while B2–C2–C3 is step-free.

Complete exactly these eight tasks:

1. Explain one way this map differs from the place it represents.
2. Classify Gate, the route through Path cells, and Pond as point, line or area symbols.
3. State the grid reference of the Well using the unit's convention.
4. Name the cardinal direction from the Gate A1 to the Lawn A2.
5. Does the absence of a tree symbol prove that the place has no trees? Explain.
6. Calculate the length of A1–B1–C1–C2–C3.
7. Choose a stated route from Well B2 to Hall C3 for a traveller avoiding steps, and justify it.
8. Name one revision that would make this map clearer or more useful, and connect it to a reader or purpose.

6. Closing reflection — 5 minutes

Students finish: “One map choice I can now explain is ___; one thing I would still check is ___.” Accept oral, typed, drawn or arranged responses.

Answer guide

1. A map is a selected, simplified model; it does not reproduce every object, exact shape, height, sound or current condition. Accept one clear example.
2. Gate = point; route/path = line; Pond = area.
3. B2: letter row first, number column second. It locates the cell, not an exact point inside it.
4. East, because the north arrow makes page-right east.
5. No. A map can omit features because of purpose, scale, date or error.
6. A1–B1, B1–C1, C1–C2 and C2–C3 are 4 edges; 4 × 100 m = **400 m**.
7. B2–C2–C3 is 2 edges = 200 m and is stated step-free. B2–B3–C3 also has 2 edges but includes the Steps cell, so it does not meet the stated constraint.

8. Answers vary. Examples: distinguish point and area symbols more clearly; draw the actual line route; add a closure/date label; explain whether the Hall entrance is in C3; add a step-free symbol. The response must name how the change helps a reader or purpose.

Do not turn the guide into a validated pass mark. Look for patterns: a student who counts points rather than edges needs a different follow-up from one who ignores the legend.

Vocabulary

- **Audience:** the intended reader or user.
- **Draft:** a version made for testing and improvement.
- **Usability test:** observing whether a reader can use something for its purpose.
- **Revision:** a purposeful change after checking a draft.
- **Constraint:** a condition that a choice must meet.

Differentiation

- **Extra support:** provide a map frame, pre-cut symbols and sentence starters; let the student dictate labels or demonstrate routes with counters.
- **Extra challenge:** create two maps of the same fictional place for different audiences and justify three changed inclusions or omissions.

⚠ Safety

Use only invented places and routes. Do not collect home addresses, personal mobility information or identifiable daily journeys. No public posting or unsupervised fieldwork is part of the lesson.

Teacher notes

Praise useful revision rather than artistic polish. A reader's difficulty may reveal a legend or layout problem, but one reader does not represent everyone. Tactile and verbal maps are maps too; visual drawing is not the learning goal by itself.

Previous lesson · Unit overview