STUDENT HANDOUT

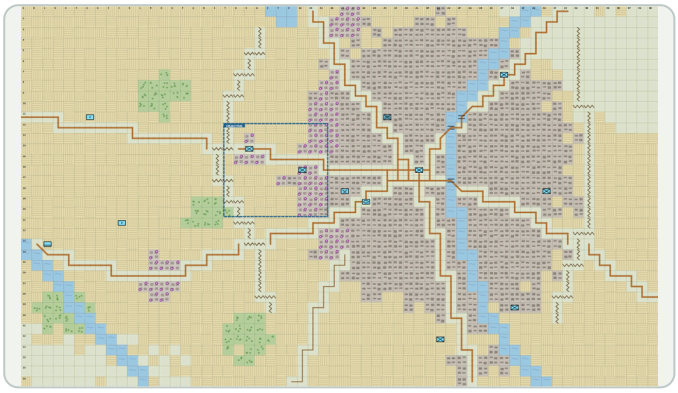
The Battle of Bakhmut

Bakhmut, Donetsk Oblast, Ukraine · 1 August 2022 to 20 May 2023

Information as of October 2026



Scenario illustration · AI generated



Student map · own side only · Simulation situation map · reconstructed terrain and estimated deployments; not verified historical positions.

Learning objectives

- Explain how the authored reconnaissance drones reveal contacts for automatic artillery engagement, and compare recorded infantry and gun losses. This comparison does not establish the real force ratio or prove why the historical defence held.
- Explain the authored supply abstraction using supply-counter losses, the cutoff indicator and effects on gun ammunition, vehicle movement and drone turnaround. Holding a named road or district is not itself a coded measure of strategic sustainment.
- Compare the authored enemy recon and Lancet arrivals with your quadcopter observation, munition drops and FPV launches. Use recorded contacts and losses; this does not establish the real proportion of missions or historical adoption dates.

Run time and a good result

Default run clock: 9 minutes 20 seconds at 1×, excluding pauses, briefing and discussion. Time controls change elapsed play time.

Objective: Hold the western approaches of Bakhmut, from Khromove and the Litak area to the T0504 road toward Ivanivske, through all five waves. The two roads west to Chasiv Yar are your supply line.

The Battle of Bakhmut: Hold the western approaches of Bakhmut, from Khromove and the Litak area to the T0504 road toward Ivanivske, through all five waves. The two roads west to Chasiv Yar are your supply line. Prevent an unopposed enemy occupation of the marked zone lasting 8 continuous simulation seconds; retain a fighting force until

the episode ends. The authored limit is 560 simulation seconds across 5 stages. Compare objective progress, time, losses, drone expenditure and recorded civilian harm with a second run. A strong classroom result also explains the source evidence and reconstruction estimates; it does not verify a historical casualty count.

Atrocity notice

The UN Commission found war crimes by Russian authorities, including killings, torture and sexual violence, and a small number of violations by Ukrainian forces. Its March 2023 findings are context, including for later scenarios.

These reports describe the wider conflict. They do not establish that every crime occurred in this modeled battle.

Studying or commanding a side does not endorse its conduct. Drone Front never lets players target civilians, hospitals, schools or places of worship. Civilian harm from simulated strikes is counted and shown in the debrief, including nonzero harm. Civilian massacres are never playable operations. Designated terrorist forces and Wagner remain computer controlled; Gaza war events remain excluded from play.

▼ Dated reports and findings

- 2023-03-16 · UN Commission of Inquiry: war crimes in Ukraine

Learn more: the laws of war

- ICRC: Geneva Conventions and commentaries
- ICRC: Customary IHL database
- UN: Genocide Convention (9 December 1948)
- UN: Rome Statute (17 July 1998), articles 6–8

Historical source notes

Bakhmut was fought mostly by infantry and artillery. Michael Kofman’s retrospective analysis describes an approximately five-to-one Russian fires advantage during the battle (Carnegie, 8 October 2024). This is an attributed assessment of fires advantage, not a count of artillery pieces; the inspected evidence does not establish separate daily shell totals for the two sides. Drones of this period mostly found targets for the guns and dropped small munitions; FPV attack drones were still new. Magyar's Birds, one of the first Ukrainian units to use them, said it used FPV drones on 110 days to counter assaults around Bakhmut (Wikipedia).

Casualty figures are disputed. The White House said on 1 May 2023 that Russia had lost more than 20,000 killed and 80,000 wounded since December 2022, about half of them Wagner. Prigozhin said more than 20,000 Wagner fighters were killed, and BBC Russian and Mediazona later documented 19,547 named Wagner dead, 17,175 of them recruited from prisons. NATO assessed in March 2023 that Ukraine was losing about one soldier for every five Russians; Ukraine said one for seven (Wikipedia).

Analysts disagreed on what the city was worth. The British Ministry of Defence and the US National Security Council called its capture mostly symbolic, while others pointed to the T0504 and T0513 roads and to Kramatorsk and Sloviansk coming within artillery range. Several researchers called the Russian result a pyrrhic victory (Wikipedia).

The city was nearly destroyed. About 80,000 people lived there before the war; in early December 2022 between 7,000 and 15,000 remained, and the mayor said 500 remained at the end of May 2023 (Wikipedia). Russian forces went on from Bakhmut toward Chasiv Yar, and the Russian Ministry of Defence announced the capture of Khromove on 29 November 2023 and of Ivanivske in March 2024 (Wikipedia). This page reflects information as of October 2026.

Civilian harm

The mayor of Bakhmut, Oleksii Reva, reported on 31 May 2023 that 204 residents had been killed and 505 injured since the invasion began, and that 500 residents remained in the city.

The governor of Donetsk Oblast, Pavlo Kyrylenko, said more than 60 per cent of Bakhmut's infrastructure was damaged or destroyed; between 7,000 and 15,000 of the prewar population of about 80,000 remained in early December 2022.

The Donetsk regional administration told CNN approximately 4,500 civilians remained, including 48 children, and urged them to evacuate. This was an official estimate for that date.

Evidence for learning objectives

Bakhmut was fought mostly by infantry and artillery, and drones of this period mostly found targets for the guns and dropped small munitions. A Ukrainian commander said plentiful drone surveillance let his troops answer small Russian assaults quickly (Wikipedia).

RUSI's May 2023 Meatgrinder report describes Orlan-10 observation supporting Russian command posts and artillery. It also describes Lancets conducting their own reconnaissance. This is theatre-wide research; the simulation represents these roles without verifying every Bakhmut engagement.

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Timings

For 60 minutes, brief for 10, complete all five authored waves with pauses at the three decision points within a 25 minute exercise slot, and review for 25. If only three waves are used, label the exercise incomplete and do not compare it with a completed objective. For 90 minutes, compare two complete runs using different drone allocations or pre-run postures. For 180 minutes, give syndicates both command sides, add Realistic reports and compare modeled outcomes with the attributed historical accounts.

Session	Plan
45 minutes	Brief: 10 min; Run: 15 min; Collect: 5 min; Review: 15 min
60 minutes	Before questions: 5 min; Brief: 10 min; Run: 20 min; Collect: 5 min; Debrief and after questions: 15 min; Discussion: 5 min
90 minutes	Before questions: 5 min; Brief: 10 min; Run 1: with drones: 20 min; Run 2: without drones: 15 min; Collect: 5 min; Compare and discuss: 25 min; After questions: 10 min
180 minutes	Before questions: 10 min; Brief and staff roles: 15 min; Run 1: with drones: 25 min; Run 2: without drones: 20 min; Break: 10 min; Run 3: syndicates: 30 min; Collect: 10 min; Seminar replay and debrief: 40 min; After questions: 10 min; Close: 10 min

Staff roles

commander
Set the pre-run posture and available standing orders, allocate drone observation across the authored approaches, and report the western hold zone at each stage. Individual district-holding or withdrawal orders are unavailable.

intelligence
Track where each wave enters the map, which units are Wagner and which are Russian Armed Forces, and when the enemy reconnaissance drone is overhead.

fires
Observe artillery engagements and ammunition, report Lancet exposure, and recommend available artillery standing orders. Individual battery movement and gun-target assignments are automatic.

droneOps
Plan the use of quadcopters for spotting, munition drops and FPV strikes across all five waves, and report how many drones you keep in reserve for the last assault.

Opposing staff objective

With the Wagner Group attacking beside you, take the western approaches of Bakhmut and cut both roads to Chasiv Yar before the last wave ends.

Decision points

- In the authored opening, compare spending a ready FPV with using a reconnaissance quadcopter for observation. Record the automatic infantry and artillery response; this model choice does not verify the historical opening chronology.
- In the authored January stage, new attacks arrive from the north as well as the east. Compare drone allocation and standing orders across those approaches; ground reinforcements and movement occur automatically.
- In the authored February–March stage, compare drone observation and available standing orders around the western hold zone and supply approaches. Discuss a proposed ground withdrawal as a classroom option outside the available unit controls.

Before and after questions

1. **Which roles do the model's reconnaissance and armed quadcopters perform?**
   A. Provided direct strikes as the principal substitute for artillery
   B. Performed coordinated FPV strikes as the principal activity throughout
   C. Supported supply delivery as the alternative to ground transport
   D. Reconnaissance quadcopters revealed artillery contacts while armed quadcopters dropped small munitions in the model

2. **What role did RUSI's May 2023 report describe for Orlan-10 reconnaissance aircraft supporting Russian artillery?**

   A. Its main contribution was independent damage assessment after completed strikes
   B. It supported Russian target observation and strike systems
   C. Its main contribution was persistent observation separate from artillery coordination
   D. Its main contribution was local communications relay for ground manoeuvre

3. **How should you treat the casualty figures for Bakhmut?**

   A. Identify the claimant, date and supporting evidence
   B. Use the latest official estimate as settled
   C. Prefer the estimate from the best-equipped side
   D. Average opposing estimates into a single total

4. **What geographic significance does CNN's March 2023 analysis attribute to Bakhmut?**

   A. The city's political significance outweighed consideration of transport connections
   B. Nearby Soledar determined value without considering the wider road network
   C. An assessment of roads and wider geographic effects
   D. The AZOM plant determined value without considering the wider geography

5. **What civilian population estimate did the Donetsk regional administration give CNN on 1 March 2023?**

   A. Most residents had departed before December 2022
   B. About 4,500 remained, including 48 children
   C. Most residents had relocated nearby to Chasiv Yar
   D. About 4,000 remained with utilities largely restored

Discussion

- Count the authored gun counters and compare otherwise matching runs with and without the player's drones. Enemy drones remain. How did recorded losses and objective progress change, and why is that not a verified five-to-one historical artillery ratio?
- The simulation places reconnaissance and loitering munitions alongside artillery. RUSI describes Orlan observation supporting guns and Lancets also conducting their own reconnaissance. Which relationships did the model represent, and which historical claims would need separate evidence?
- Using the authored waves, compare objective progress, elapsed time and losses on both sides, with civilian harm recorded separately. What further political, operational and source evidence would be needed to judge the historical battle's value?
- In a 31 May 2023 Ukrinform interview, Mayor Oleksii Reva reported 204 residents killed since the start of the war. How does the run's civilian-harm log differ from a historical casualty count, and what can each establish?

Debrief rubric

Strong
Meets the objective or explains why it was not met; uses the published sources and run evidence, separates known facts from assumptions, compares both sides' losses and cost exchange, and evaluates precautions against civilian harm.

Adequate
Describes the objective and main decisions, identifies at least one source and model limitation, reports losses and harm, and gives a reasoned change for a second run.

Weak
Reports only victory or points, treats teaching settings as real performance, gives unsupported historical claims, or omits uncertainty and civilian harm.

Published readings

1. Michael Kofman, Carnegie: Assessing Russian Military Adaptation in 2023 (8 October 2024; Bakhmut fires advantage)
2. ISW (via Critical Threats): Russian Offensive Campaign Assessment, 20 February 2023
3. DFRLab, Atlantic Council: Russian War Report, DFRLab confirms Russia's push to encircle Bakhmut (11 February 2023)

Complete source list

Wikipedia: Battle of Bakhmut
Wikipedia: Bakhmut
Wikipedia: Battle of Soledar
Wikipedia: Battle of Chasiv Yar
Wikipedia: Chasiv Yar
Wikipedia: Khromove
Wikipedia: Ivanivske, Donetsk Oblast
Wikipedia: Yahidne, Donetsk Oblast
Wikipedia: Opytne, Bakhmut Raion, Donetsk Oblast
Wikipedia: Ivanhrad
Wikipedia: Berkhivka
Wikipedia: Klishchiivka
Wikipedia: Wagner Group
Wikipedia: Robert Brovdi (Magyar's Birds drone unit)
Wikipedia: ZALA Lancet
Wikipedia: Orlan-10
Michael Kofman, Carnegie: Assessing Russian Military Adaptation in 2023 (8 October 2024; Bakhmut fires advantage)
ISW (via Critical Threats): Russian Offensive Campaign Assessment, 20 February 2023
DFRLab, Atlantic Council: Russian War Report, DFRLab confirms Russia's push to encircle Bakhmut (11 February 2023)
OSW Centre for Eastern Studies: Fierce battles for Bakhmut, day 350 of the war (9 February 2023)
CNN: Bakhmut, as Russian fighters are edging into the city, here is what you need to know (1 March 2023)
CNN: Vital supply bridge to Ukraine's Bakhmut blown up overnight by Russian forces (3 March 2023)
The National: Ukrainian troops under mounting pressure in Bakhmut, UK says (4 March 2023)

Meduza: The state of the war's various fronts, Ukraine continues the defence of Bakhmut (11 March 2023)
Al Jazeera: Wagner advance in Bakhmut as Russian offensive appears to weaken (17 March 2023)
GOV.UK Home Office: Proscribed terrorist groups or organisations (accessible version)
RUSI: Meatgrinder, Russian Tactics in the Second Year of Its Invasion of Ukraine (Watling and Reynolds, 19 May 2023), printed page 12
Ukrinform — interview with Bakhmut mayor Oleksii Reva, 31 May 2023 (Ukrainian)