

Wild Willows

EDUCATOR GUIDE



Restoring Willow Meadow

A single-session classroom activity in which students rebuild a damaged meadow, watch wildlife return, and work out why each animal came back when it did.

GRADES 5–8

45–60 MIN

ENGLISH + ESPAÑOL



Teacher Quick Start

In **Wild Willows**, students play a caretaker restoring a nature preserve. They gather fallen seeds, branches and stones, plant native grasses and wildflowers, dig ponds, and build shelter. As the land recovers, real animals move back in on their own.

The first area, **Willow Meadow**, is a grassland stripped of its native grasses. It holds 25 animal species. Students will not meet all of them in one class period – and that is fine. The learning is in watching **which** animals arrive, and working out **why**.

Nothing is hunted, harmed, captured or kept. Animals are observed and welcomed home.

What students should walk away with

- **Habitat = food + water + shelter + space.** An animal returns only when all of its needs are met in one place.
- **Different species need different things.** A bumblebee and a barn owl do not want the same meadow.
- **Biodiversity builds in an order.** Plants and insects come first; predators arrive last, once there is enough to eat.
- **Restoration takes time and repeated effort** – a seedling has to grow before it counts as habitat.
- **Small changes ripple outward.** Take away one plant type and you take away the animals that depended on it.

Before class

- ☐ Install Wild Willows on classroom machines. It runs fully offline once downloaded – no account, no internet, no sign-in.
- ☐ Turn on **Settings > Simpler wording**. It rewords the whole game – including the animal notes – in shorter sentences and everyday words. Nothing is hidden, it is just said more plainly, and it makes the field journal far easier for this age group to read.
- ☐ Print **Worksheets 1–3** for every student, or one per pair.
- ☐ Optional: set Settings > Language to **Español**, and check **Text size** and **Colorblind mode** for students who need them.

AT A GLANCE

Willow Meadow – 25 species

44 x 26 tiles of restorable ground

93 habitat items can be planted or built here

7 gatherable materials

4 tools – basket, shovel, watering can, field journal

Standards this supports

Ecosystems, interdependent relationships, matter and energy flow, biodiversity and humans, and cause-and-effect reasoning. Pair it with your own state or district framework – the activity is built to be evidence-based, not answer-based.

Grouping

Pairs at one machine works best – one drives, one records, swap at the halfway mark.

Groups of 3 work well if machines are limited. Give each student a role: gatherer, recorder, observer.

Whole class on a projector works too. Take a vote on what to plant or craft next.

Whichever way you group them, students create and name their own caretaker when the game starts – skin, hair, outfit and hat are all theirs to pick. It takes a minute or two and it is worth letting them have it.

One thing worth saying out loud on day one

There is no score in this game and no way to fail. Groups that fill every tile are not doing better than groups that built carefully and watched closely. Tell students that up front – it changes what they pay attention to.

Restore Willow Meadow

A 45–60 minute arc. Timings are a guide — the discussion at the end matters more than finishing the play block.

1

5–10 MIN

Open the meadow together

- Project the empty meadow on a big screen for the full class to see — dusty ground, a few dry tufts, nothing alive. Read the goal aloud — **plant grasses and wildflowers, add water and shelter, help meadow animals come back.**
- Ask, and write the answers where everyone can see them: **What is missing here? What would an animal need before it would move in? Which animal shows up first — and why?**
- Students record their predictions on **Worksheet 1** before touching a keyboard. Do not correct the predictions. They are what you will revisit at the end.

2

25–35 MIN

Play, build, observe

- Groups should collect materials, plant and build. Remind them to focus on trying new things instead of perfecting their work. This is an experiment not a competition!
- Every time an animal arrives, the recorder logs it on **Worksheet 2**: what the animal was, and what had just been planted or built.
- Circulate with one question — **“Why do you think that one came now?”**
- Two things surprise students. Plants have to **grow up** before they count as habitat, so a fresh seedling does nothing yet. And predators refuse to appear until their prey is already settled.

3

10–15 MIN

Compare and discuss

- Groups fill in the **after** column of **Worksheet 2**, then compare their meadow to their own day-one predictions.
- Pool the class data. Which animals did most groups get? Which did nobody get? What did the groups with the most species build that the others didn't?
- Close on the big one: **“Ten groups built ten different meadows. Why did roughly the same animals arrive first in all of them?”**



If you have a second session

Use **Worksheet 4 – Habitat Detective** and **Worksheet 5 – Design Your Own Biome**. Groups can also swap machines and try to work out, from the meadow alone, what the previous group built and in what order.

Student Field Notes

Field notes turn play into evidence. Students predict, record what actually happened, then explain the gap between the two.

What to look for

- **Predictions before play.** Wrong predictions are the useful ones. A student who guesses “a deer” and gets a grasshopper has something real to explain.
- **Cause paired with effect.** A note that says just “grasshopper” is weak. “Grasshopper — right after we planted the first grass patch” is evidence.
- **Habitat changes, not just animals.** Ask students to describe the ground itself: what it looked like at the start, what it looks like now.
- **Surprises.** The moment something didn’t work is usually the best note on the page.

Why Multiple Animals Can Show Up At Once

“Nothing came for ages, then three animals arrived at once — why?”
The answer is almost always that a plant finished growing, and several species had been waiting on it.

The usual order of arrival



Grasshopper
needs a grass patch



Snail
needs a damp leaf corner



Prairie Vole
needs a grass runway



Ladybug
needs a clover patch



Pillbug
needs a crumbling log

The grasshopper is always first — every other species in the meadow waits behind it. Students notice this fast.

Discussion prompts that work

WHILE THEY PLAY

- What has changed since you started?
- What is still missing from this meadow?
- You built that — what were you hoping would come?
- Why do you think nothing arrived that time?

AFTER THEY PLAY

- Which animal needed the most from you?
- What arrived that you did not plan for?
- If you started over, what would you build first?
- Which animals are still missing, and what would they need?

What students could say — and where to take it

“Nothing is happening.”

Ask what they’ve planted and how long ago. Plants have to mature before they count — the wait is the lesson, not a bug.

“I’ll just build one of everything.”

Fine — then ask which build caused which arrival. They usually can’t say, which makes the case for one change at a time.

“The fox is broken, it won’t come.”

Ask what a fox eats. If the rabbits and voles aren’t back, the fox has nothing to live on.

“Ours is the best meadow.”

Best at what? Push for a measure — most species, most plants, most bodies of water — then compare fairly.

Habitat Detective

A short investigation cycle: pick a species that has not shown up, work out what it is missing, predict, build, and check.

1

CHOOSE

Open the field journal (J). Pick a meadow animal that has not returned – silhouettes mark the missing ones.

2

DIAGNOSE

Read its hint. List what it needs that the meadow does not have yet.

3

PREDICT

Write down the change you will make and what you expect. Commit before you build.

4

TEST

Make only that one change. One variable at a time, or you cannot tell what worked.

5

OBSERVE

Did it come? If not, what else is missing? Is the plant fully grown? Is its food source back yet?

Willow Meadow – who needs what

Meadow health rises as students plant and build. Every species has its own threshold – this is the ladder students are climbing. Twenty of the meadow's twenty-five species are shown.

SPECIES	ROLE	HEALTH	NEEDS IN THE MEADOW
 Grasshopper	Herbivore	8%	Grass patch
 Snail	Recycler	10%	Damp leaf corner
 Prairie Vole	Herbivore	10%	Grass runways
 Ladybug	Insect-eater	12%	Clover patch
 Pillbug	Recycler	12%	Crumbling log
 Ground Squirrel	Omnivore	14%	Burrow town, dry stone wall – grasshopper returned
 Monarch Butterfly	Herbivore	15%	Milkweed bed, pollinator garden
 Song Sparrow	Omnivore	16%	Hidden grass nest, berry bush – grasshopper returned
 Garter Snake	Mid-predator	20%	Winter den, stone wall, water – vole returned
 Praying Mantis	Insect-eater	24%	Egg-case stem, wildflowers, native grass; grasshoppers + monarchs
 Bumblebee	Pollinator	25%	Nesting tussock, native thistle
 Cottontail Rabbit	Herbivore	25%	Brush hollow, berry bush
 Western Meadowlark	Omnivore	45%	Domed grass nest, native grass, perch – grasshoppers + mantises
 Brown Bat	Insect-eater	50%	Maternity roost, small pond, oak tree – mantises returned
 Bluebird	Insect-eater	55%	Bluebird nest box, berry bush, perch – grasshoppers + bumblebees
 Mule Deer	Herbivore	55%	Berry thicket, native grass, small pond
 Barn Owl	Top predator	60%	Barn loft, native grass, perch – vole returned
 Red Fox	Mid-predator	65%	Earth den, brush pile, oak – rabbits + voles
 Red-tailed Hawk	Top predator	70%	Crown eyrie, oak tree, perch – voles + squirrels
 Coyote	Top predator	80%	Den bank, brush pile, pond – rabbits + voles

The pattern to draw out: plants and insects at the bottom, hunters at the top. The hawk and the owl are not harder to **build** for – they are waiting for everyone below them to arrive first.

Create Your Own Biome

An off-screen design task. Students invent a damaged habitat and plan its restoration — no game required, which makes it a good homework, extension, or assessment piece.

The brief

Pick a **real biome** that Wild Willows does not have, work out what damaged it, and plan how you would bring it back. Six options are below — or students can propose another real one and clear it with you.

Students must be able to defend every choice with a reason. The goal is not a pretty map — it is a habitat where every animal has a stated reason to live there.

Encourage students to do their research

Before designing, have students spend a little time learning about their biome. They should find out what normally lives there, what those species need to survive, and what real threats the habitat faces.

Required in every design

1. Which biome, and one line on what it looks like now
2. What damaged it — be specific
3. Five species that used to live there
4. For each one: its food, its water, its shelter
5. Four things you would plant or build
6. Which species returns first, and why
7. Which returns last, and why

Six real biomes to choose from

None of these overlap the six in the game, and every one of them is somewhere real people are doing restoration work right now.

Tropical rainforest

Hot, wet, layered from floor to canopy. Cleared for timber and farmland.

Savanna

Grassland with scattered trees and a long dry season. Overgrazed, and the waterholes have dried up.

Tundra

Frozen ground, no trees, a short burst of summer. Scarred by vehicle tracks that take decades to heal.

Boreal forest

Cold forest of spruce and pine with long winters. Logged and fragmented by roads.

Swamp

Salt-tolerant trees along a tidal coast. Cleared for ponds, and now the shoreline is washing away.

Coral reef

Warm, shallow, bright sea. Bleached by heat and buried under silt washing off the land.

Pushing the thinking further

ADD A CONSTRAINT

The rains fail for two years. Or the sea gets a degree warmer. What has to change about the design?

TRADE DESIGNS

Groups swap plans and hunt for a species whose needs are not actually met. Friendly, and very effective.

Before & After – and what the game leaves out



Biodiversity, before and after

Worksheet 3 asks students to count and compare rather than admire. Numbers make the change arguable.

- | | |
|-------------------------|--|
| ● Species count | How many kinds of animal at the start? How many now? |
| ● Kinds of living thing | Insects, birds, mammals, reptiles – how many groups are represented? |
| ● Plant cover | Roughly what fraction of the ground was bare then, and now? |
| ● Water | Was there any? Is there now? Who showed up because of it? |
| ● Food web | Who eats plants? Who eats the plant-eaters? Is anything at the top of the chain yet? |

Game vs. nature

Wild Willows is a **simplified model** of an ecosystem, and it is worth telling students that directly. Then ask them to find the simplifications.

WHAT THE GAME GETS RIGHT

- Animals need food, water, shelter and space – all of it, in one place.
- Predators only settle once their prey is established.
- Plants have to grow before they count as habitat.
- Recovery is gradual, and every species has its own threshold.

WHAT IT LEAVES OUT

- Nothing dies, gets sick, or goes hungry. Real food webs run on death.
- There are no invasive species, no pollution, no disease.
- Restoration takes minutes here. In the field it takes years.
- Animals never compete for the same resource.
- The caretaker always has the materials, tools, and permission.

Closing question for the class: “If we could add one true thing to this game that isn’t in it, what should it be – and what would it change about how you played?”

Beyond Willow Meadow

Willow Meadow is the first of six connected areas. Restoring one opens a trail to the next, and animals from every area count toward a single preserve total.



Old Hollow Forest

A logged-over woodland. Rebuild the understory, raise nesting trees and deadwood.



Rushwater Wetland

A drained marsh. Restore shallow water, reed beds and mud banks.



Redstone Scrubland

An overgrazed desert flat. Replant brush, build shade and burrows.



Graywind Heights

A trampled alpine slope. Restore turf, snowmelt pools and rocky shelter.



Pelican Shore

A scoured coast. Anchor the dunes, reopen the tidepools.



150 species in all – 25 per area, each with real diet, shelter and habitat notes.

Practical details for schools

Platforms	macOS, Windows and Linux. Modest hardware requirements; no graphics card needed.
Internet	None required. The game runs entirely offline and saves locally to the machine.
Accounts	No account, no email, no sign-in. A save is just a name the student picks.
Languages	Full English and Spanish, switchable any time from the title screen or Settings > Language.
Accessibility	Reduce motion; three colorblind modes including monochrome; four text sizes; five font choices; rebinding keys; separate music and effects volume; light and dark mode; a “simpler wording” setting that plainly rewords the whole game including the animal notes
Content rating	Apple 9+. No combat, no failure state, nothing dies.
Ads & purchases	None. No advertising, no in-app purchases, no loot boxes, no chat, no user-generated content from other players.
Data	Anonymous gameplay statistics only, never linked to identity. No tracking and no third-party analytics.

Complimentary classroom copies

Wild Willows is being donated to participating schools — full copies, no cost, no expiry, no strings. If you would like a set for your classroom, or you have questions about running this activity, get in touch and let me know roughly how many machines you need copies for.

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