

Obby Maker: Build a Fair Obby

Ages 9-14 · about 45 minutes, in one sitting

Your child plays a short obstacle course, works out the rule behind every jump, and builds a stage of their own. The app says in a sentence whether the stage can be finished. At the end you trade seats: you play their stage, and they watch where you get stuck.

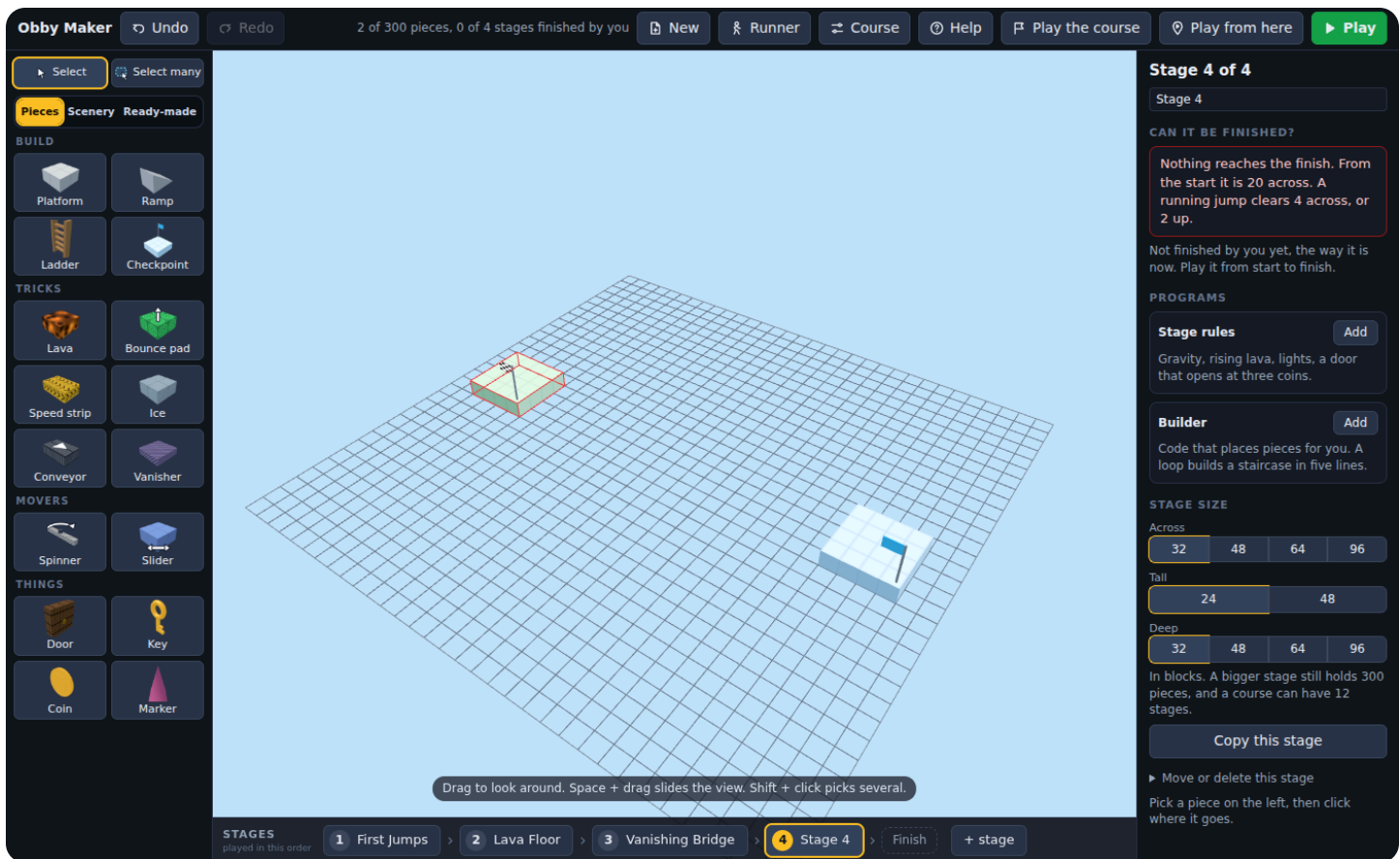
What you need

- A computer with a keyboard and a mouse, and a current browser. It draws in 3D, so a very old computer may run it slowly.
- The lesson link: mytekdev.com/try/obby?lesson=build-a-fair-obby&ref=fam-obby-1. No account, no email and nothing to install.
- Optional: the activity sheet at the end of this plan, printed, and a pencil.

Before you start: try it once yourself

Build a stage yourself once before you start, about ten minutes. You will see exactly what the app tells your child.

1. **Open the lesson.** Go to mytekdev.com/try/obby?lesson=build-a-fair-obby&ref=fam-obby-1. The starter course has three stages along the bottom, under Stages: First Jumps, Lava Floor and Vanishing Bridge.
2. **Play the course.** Press **Play the course** at the top right. Run with the arrow keys or W A S D, jump with Space, and press Esc to stop.
3. **Add a stage.** Press **+ stage** at the bottom. The box under **Can it be finished?** turns red: Nothing reaches the finish. From the start it is 20 across. A running jump clears 4 across, or 2 up.
4. **Place a platform.** Pick **Platform** on the left and click near the start pad. While you place it, the jump arc is blue if the runner can land and red if it cannot.
5. **Find the edge.** Drag the platform away from the start; it moves half a block at a time. The arc stays blue up to a gap of 4 and turns red past it.
6. **Finish it.** Keep adding pieces until the box says The finish can be reached, add a **Checkpoint** before your hardest jump, then press **Play** and run to the finish. The stage's button in the Stages strip now says done.



What you will see after pressing + stage.

If you see something else: a whole course gone means someone pressed New, which replaces it; Undo brings it back. A stage that never says done was probably played with Play from here, which does not count: use Play and run from the start pad to the finish. Turning on the double jump under Course clears done from every stage, so each one has to be played again.

The ideas, in plain words

An obby, short for obstacle course, is a game where a runner jumps from piece to piece to reach a finish. Game designers separate two kinds of hard. Fair hard is a jump the player can make with practice, so missing it feels like the player's own mistake and trying again feels worth it. Broken hard is a jump nobody can make, however many tries. In this app, with double jump off, a running jump between platforms at the same height clears 4 blocks across or 2 blocks up, so a level gap of 5 is never hard, only broken. Jumping down from a higher platform carries the runner farther: 2 blocks down, a gap of 5 can be made.

A checkpoint is the pad the runner goes back to after a fall. Where it goes decides how much a mistake costs. One placed just before a hard jump means a fall sends the runner back a short way, so the player gets many tries at the hard part without replaying everything before it. The app also checks every stage and says in a sentence whether the finish can be reached, but it cannot tell whether a stage is fun. Only a playtest, watching someone else play it, shows that.

YOUR CHILD MIGHT ASK

A GOOD ANSWER

Why can't I make my stage really, really hard?	You can, as long as it stays possible. A jump nobody can make is not hard, it is broken, and players quit.
Why does the arc turn red at 5?	A running jump goes 4 blocks across at most. At 5 the runner cannot reach, so the app warns you before anyone tries.
My gap of 5 works. Is the rule wrong?	Check the heights. The rule is for platforms at the same height. Jumping down carries the runner farther, so the arc can stay blue past 4.
Does a checkpoint make the jump easier?	No. The jump is the same. A fall just costs less, because the runner comes back to the checkpoint instead of the start.
My playtester got stuck. Did I do it wrong?	Not always. Ask yourself whether you meant that jump to be hard. If you did and it is possible, it may be fine. If not, change it.

Do it together

1. Open mytekdev.com/try/obby?lesson=build-a-fair-obby&ref=fam-obby-1. A short guide opens over the app; follow it together. It starts with **Play the course** at the top right: run with the arrow keys or W A S D, jump with Space, and press Esc to stop. Take turns until you have both finished all three stages.

You'll know it worked when: Your child reaches the finish of First Jumps, Lava Floor and Vanishing Bridge.

2. Talk about the hardest jump. Was it possible? What would make it impossible? Then the rule: a running jump clears 4 blocks across or 2 blocks up, so a gap of 5 never works.

You'll know it worked when: Your child can say the rule without looking: 4 across or 2 up.

3. The guide has your child press **+ stage** at the bottom of the screen. Read the red box under **Can it be finished?** together.

If you get stuck: If the guide already made a new stage, keep it and do not press **+ stage** again, or you will have an extra empty one.

You'll know it worked when: The box says nothing reaches the finish, which is 20 across from the start.

4. Your child picks **Platform** on the left and clicks near the start pad. While the platform is being placed, the jump arc is blue if the runner can land and red if it cannot. Drag it away from the start to find where blue turns red.

If you get stuck: If the whole course disappears, New was pressed, which replaces the course. Undo brings it back.

You'll know it worked when: The arc stays blue up to a gap of 4 and turns red past it.

5. Keep adding pieces until the box says the finish can be reached, then add a **Checkpoint** just before the hardest jump.

You'll know it worked when: The box under **Can it be finished?** says the finish can be reached.

6. Press **Play** and run the stage from the start pad to the finish.

If you get stuck: **Play from here** does not count. Use **Play** and run from the start pad.

You'll know it worked when: The stage's button in the Stages strip says done.

7. Trade seats: you play your child's stage while they watch without helping. Then ask which jump they made hard on purpose, and whether that is where you got stuck.

You'll know it worked when: You get stuck at the jump they meant to be hard, and with a few tries you can still make it.

Talk about it

Ask these while you work together. A child who has understood the lesson can answer them without help:

- How far can a running jump go across? How high?
- Why can nobody make a gap of 5 blocks?
- Show me the jump arc. What does its color tell you?
- Where is your checkpoint, and why there?
- Make this jump harder without breaking it.

The last one is the real test. A child who moves a platform to 4 across, or makes the landing platform smaller, instead of moving it to 5, understands the difference between fair hard and broken hard.

For younger and older kids

Younger: For ages 7 and 8, build the first stage side by side, one piece each, and leave out the checkpoint.

Older: For teens, ask for three stages that get harder in order, each with a checkpoint where it is needed, and one sentence for each: which jump is hardest, and why it is still fair.

Keep going

- Add a second stage with + stage, and make it harder than the first, still fair.

- Turn on the double jump (Course, then Jumping, then Double jump) and build a gap only a double jump can cross: up to 8 across or 4 up. Turning it on clears done from every stage, so play each one again.
- Make the landing platform of the hard jump 1 block wide, and explain why that makes it harder but still fair.

Bring it into other subjects

- Math: make a table of every jump in your stage, with blocks across and blocks up. Which jump is closest to the rule, 4 across or 2 up? Is it the one you made hard on purpose? (Answers depend on the stage.)
- English: write the rules of your obby for a player who has never played, in three sentences or fewer.
- Art: use the Scenery tab (trees, arrows, lamps) to show the player where to go without any words.
- Computer science: pick a lava piece, then under Program, find When the runner meets it and click Open. Read the line that sends the runner back.

For your records

Ready to copy into an hour log, a portfolio or a transcript.

LESSON	Obby Maker: Build a Fair Obby
SUBJECTS	Computer science, Game design
TIME	45 minutes
WHAT WE DID	Played an obstacle course game, worked out the jump rule behind it (4 blocks across or 2 up), and designed a stage of their own that the app confirmed could be finished. Playtested it with another player and talked about what made each jump fair.
SKILLS PRACTICED	designing to a rule; testing and fixing a design; fair versus impossible difficulty; giving and using feedback

Activity sheet (optional)

Name: _____ Date: _____



Open the app: scan the QR code, or go to mytekdev.com/try/obby?lesson=build-a-fair-obby

Essential question: What makes an obstacle course hard but fair?

1. **Play the course.** Press **Play the course**. Run with the arrow keys or W A S D. Jump with Space. Finish all three stages.
2. **Find the rule.** A running jump goes ____ blocks across, or ____ blocks up.
3. **Fair or broken?** A jump is fair when:

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4. **Build your stage.** Press **+ stage**. Add platforms until the box under **Can it be finished?** says the finish can be reached.

5. **Play it to the finish.** Press **Play** and run your stage to the finish, until it says **done** at the bottom.

Sketch your stage from the side: the start, each jump, the checkpoint and the finish.

START	JUMP 1	JUMP 2	JUMP 3	FINISH

1. Which jump did you make hard on purpose?

2. Where did your playtester get stuck?

Quick check

Name: _____

1. A running jump clears 4 blocks across. A gap of 5 blocks is: (A) hard but fair, (B) easy, (C) impossible: nobody can make it.

2. Why put a checkpoint just before a hard jump? (A) it makes the jump shorter, (B) a fall at the jump sends the runner back a short way, not to the start, (C) it makes the runner jump higher.
3. Someone's stage has a gap of 5 blocks between two platforms. Name one change that makes the jump fair but still hard.
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Answers

QUESTION	ANSWER	WHY
1	C	A running jump clears 4 across at most, so a gap of 5 can never be made. That is broken, not hard.
2	B	A fall at the hard jump sends the runner back to the checkpoint just before it, not to the start of the stage.
3	Any change that makes the gap 4 blocks or less: move either platform 1 block closer, or stretch one platform 1 block toward the other	A gap of 4 keeps it hardest. Any gap from 1 to 4 works. Adding a checkpoint does not count: it does not make a gap of 5 possible.

Want the whole subject taught?

This is one lesson to do together. If you would rather have the whole subject taught, our Computer Technology course teaches obby design as part of a full course, with an instructor, live and recorded classes, graded work and credit.

If your state or umbrella school asks, this lesson covers CSTA 2017 1B-AP-13, CSTA 2017 1B-AP-15, CSTA 2017 2-AP-15.

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The app this lesson uses is free and runs in the browser, with nothing to install and no account needed. It is at mytekdev.com.

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