NEURON ACTIVATED

Rulebook

Components



Starter tile
Start neuron with the pointer (purple arrow). The only tile on the board at the start.



Neuron tile
Value 1, 2 or 3. Holds NT up to its capacity (ring turns red when full).



Synapse tile
11 types x 4 tiles. The legs run to the sides. NT are placed on them.



Astrocyte
One per player. Fills the space of a removed tile and blocks paths.



Booster tile
NT waiting to be placed. Refilled with the die when it is empty.



Die: D4 or D6
Game setting. Refills the booster from your stock.



Turn card
Clockwise or counter clockwise: the direction the pointer turns.



Stimulus counter
Every player has one. It grows with connections and pays for activations.



Bonus tile (optional)
Only when the game setting "bonus tiles" is switched on.

2 to 4 players - played online

Rules version 0.19 (game file neuronactivated-v0.19)

This document is fully editable in Microsoft Word. Pictures marked [IMAGE PLACEHOLDER] can be replaced by screenshots or drawings.

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1 The idea of the game

Neuron Activated is a game of connections. You grow a network of synapse tiles between neurons, place your NT (neurotransmitters) on it and earn Stimulus from every connection you make. With Stimulus you activate neurons: you pull NT onto them, where they are worth the value of the neuron when the game ends.

How you win

Your final score is the value of all your NT that sit on neurons, plus the number of your NT in your biggest connected area of tiles.

The player with the highest total wins.

In short, every turn you: refill your booster, place a synapse tile, collect Stimulus, maybe place a new neuron, and maybe pay Stimulus to activate a neuron.

2 Components

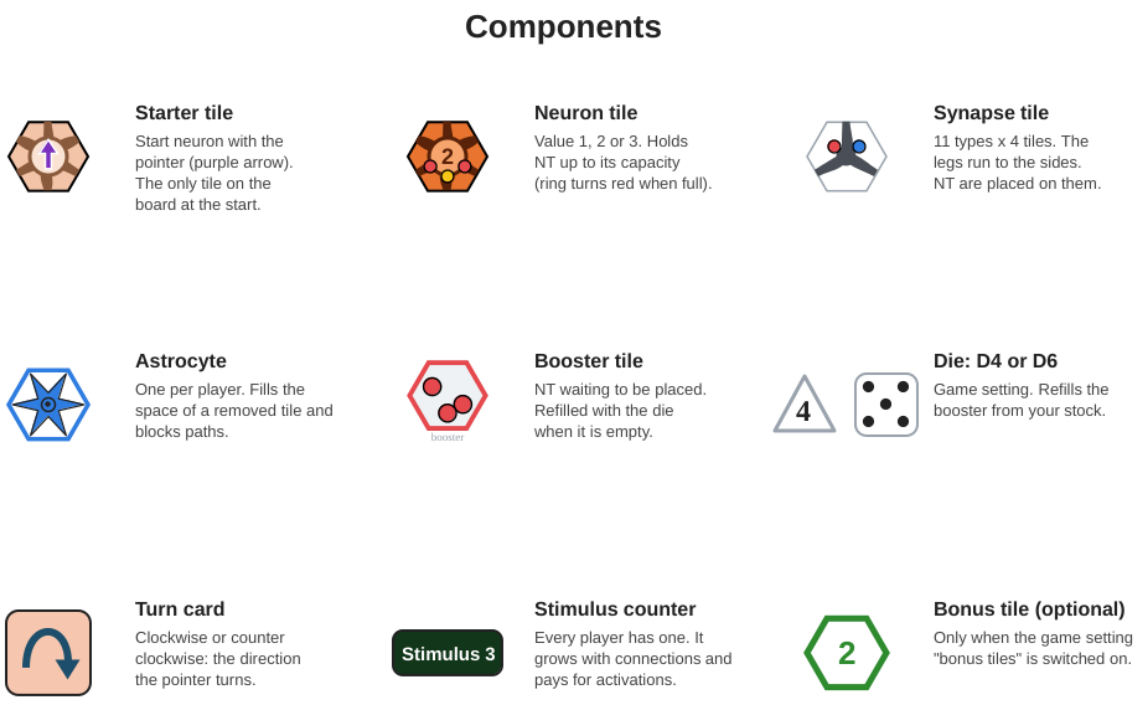


Figure 1 - The components of the game

Component	Quantity	Purpose
Starter tile	1	The start neuron with the pointer. The only tile on the board at the start of the game.
Neuron tiles	Values 1, 2, 3 (defaults 4 / 4 / 2); value 0 optional	Placed on the board during the game. They hold NT, up to the neuron capacity.
Synapse tiles	44 (11 types x 4)	Each has legs on some of its 6 sides. The legs form the paths between neurons.

Component	Quantity	Purpose
NT (neurotransmitters)	16 / 13 / 10 per player (2 / 3 / 4 players)	Your pieces, in your colour. They start in your stock.
Booster tile	1 per player	Holds the NT that you are about to place.
Astrocyte	1 per player	Fills the space of a removed tile and blocks paths.
Die	D4 (default) or D6	Refills your booster when it is empty.
Turn card	1	Shows the direction in which the pointer turns: clockwise or counter clockwise.
Stimulus counter	1 per player	Starts at 0. Grows with your connections and pays for activations.
Bonus tiles (optional)	6	Only used when the game setting is switched on (see chapter 12).

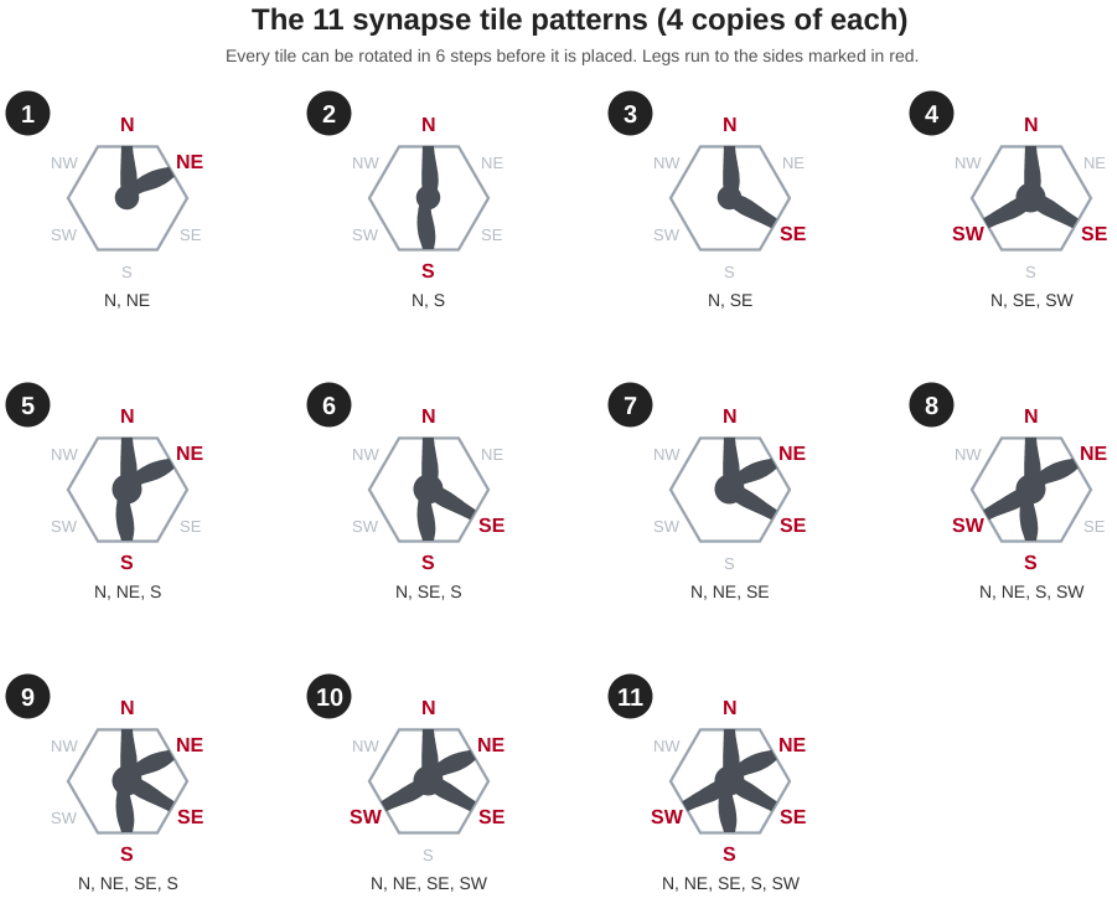


Figure 2 - The 11 synapse tile patterns, 4 copies of each

Every synapse tile can be rotated in 6 steps before it is placed. The legs always run from the middle of the tile to the middle of a side.

Colours: in the online game every player chooses a colour (red, yellow, white, blue, green or pink) while selecting a seat. Your NT, booster and astrocyte use that colour.

3 Setup

1. Place the starter tile in the middle of the table. The pointer points up (N). The turn card shows clockwise.
2. Shuffle the neuron tiles face down into one pile (add the bonus tiles only if that setting is on).
3. Shuffle the synapse tiles. Every player takes 3 into an open hand: everybody can see everybody's hand tiles.
4. Every player takes an empty booster tile, an astrocyte, a Stimulus counter at 0 and a stock of NT in their colour: 16 NT with 2 players, 13 with 3 players, 10 with 4 players.
5. The player in the first seat starts. Play continues in seat order.

Online, the first player chooses the game settings on the seat screen before pressing Start game. The settings are listed in the rules box during the game.

4 Game settings

The first player chooses these settings before the game starts. Defaults are marked.

Setting	Options	Default
Activating a new neuron	A: a newly placed neuron can be activated in the same turn. B: it cannot be activated in the same turn. C: when a neuron is placed, no neuron can be activated in that turn.	B
Connections that count	Both leg-to-leg and leg-to-neuron connections count, or only leg-to-leg connections.	Both count
NT placed on a tile	1 NT per counted connection (maximum 3, or what is left on your booster), or always only 1 NT per tile.	1 per connection
Activations per turn	1 per turn, or unlimited (as long as you can pay, never the same neuron twice in a turn).	1 per turn
Booster die	D4 or D6.	D4
Neuron capacity	The maximum number of NT on a neuron: 4 to 8.	6
Neuron tiles per value	Value 0: 0 to 6. Value 1: 1 to 6. Value 2: 1 to 6. Value 3: 1 to 6.	0 / 4 / 4 / 2
Bonus tiles	Off: no bonus tiles in play. On: 6 bonus tiles are mixed into the neuron pile.	Off

5 A turn, step by step



Figure 3 - A turn at a glance

Step 1 - Refill the booster

If your booster is empty, roll the die (D4 or D6) and move that many NT from your stock onto the booster. If fewer NT are left in your stock, take what is left. If your stock is empty at the start of your turn, the game ends immediately (see chapter 11).

Step 2 - Place a synapse tile

Choose one of the 3 tiles in your hand, rotate it and place it on the board following the rules in chapter 6. If none of your tiles can be placed, you place no tile: take a neuron tile instead (step 4) and your turn ends.

Step 3 - Stimulus, NT and the pointer

Count the connections of the tile you placed (chapter 7). Every counted connection gives you 1 Stimulus. Then place NT from your booster on the tile (setting). Every NT you place turns the pointer one step in the direction of the turn card.

Step 4 - A new neuron

If your booster is empty after placing the tile, take the top tile of the neuron pile and place it on the board (chapter 8).

Step 5 - Activate a neuron (optional)

You may now pay Stimulus to activate a neuron and use its effect (chapter 9).

Step 6 - End of turn

Draw tiles until your hand holds 3 tiles again. If the pile is too small to refill your hand, the final round begins (chapter 11). Then it is the next player's turn.

6 Placing a synapse tile

A new tile must be placed on an empty hex. Rotate it first: every one of the 6 rotations is allowed.

- **Next to a neuron:** the side that faces the neuron must carry a leg. This holds for every neuron the tile touches.
- **Not next to a neuron:** the tile must touch at least 2 existing tiles, and at least 1 of its legs must connect to a leg of one of those tiles.
- **Sides must match:** every side that touches another tile must match: leg to leg, or no leg to no leg. A leg against a side without leg is a mismatch.
- Legs that face an empty hex are allowed. They simply wait for a later tile.
- An astrocyte counts as a touching tile and fits anywhere, so it never causes a mismatch. Nothing can be placed on an astrocyte.

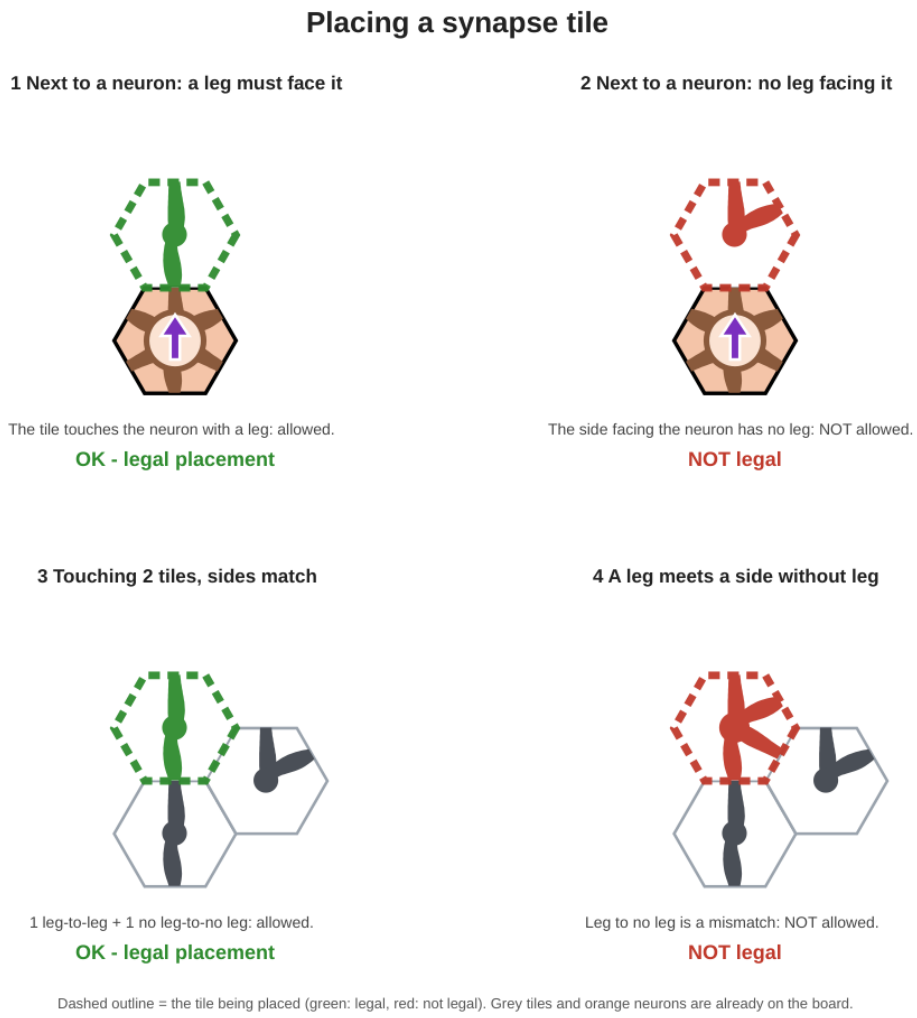


Figure 4 - Four placement examples

7 Connections, Stimulus and NT

After placing a tile, count its connections. Which connections count depends on the game setting:

- **Leg to leg:** a leg of your new tile meets a leg of another tile.
- **Leg to neuron:** a leg of your new tile reaches a neuron. (Counts only when the setting "both" is on.)
- A touching side without leg against a side without leg matches, but is never counted.

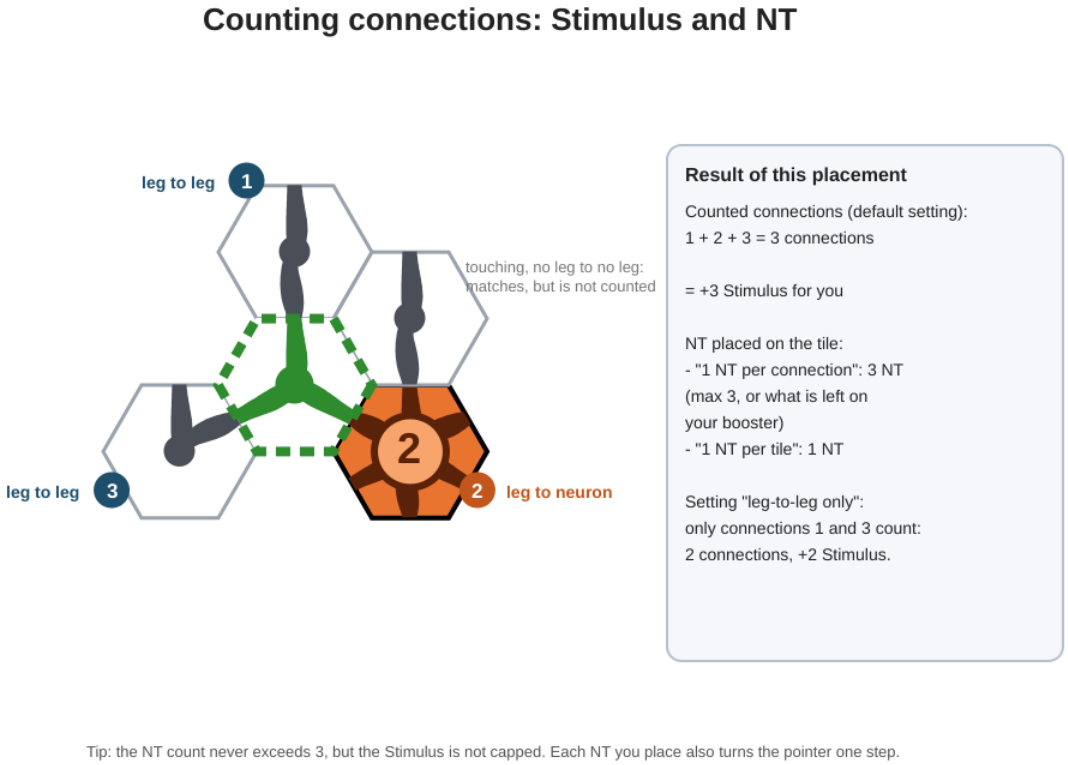


Figure 5 - Counting the connections of a new tile

What you get	Rule
Stimulus	+1 for every counted connection. There is no maximum. Stimulus stays with you until you spend it.
NT on the tile, "1 per connection"	1 NT per counted connection, at most 3, and never more than what is left on your booster.
NT on the tile, "1 per tile"	Always 1 NT (if your booster has one), whatever the number of connections.
Pointer	Each NT you place turns the pointer one step, clockwise or counter clockwise as shown by the turn card.

8 Neurons

Taking and placing a neuron

You take the top neuron tile when your booster is empty after placing a tile, or when you cannot place any tile. In the online game you first confirm a message that your booster is empty, then you see which tile you took, and an animation shows where the neuron lands.

- Look along the pointer ray, starting next to the start neuron. The new neuron goes on the first empty hex that is not next to any neuron.
- If nothing on the ray is usable, the pointer moves one step in the direction of the turn card and the next attempt follows the new ray. You get 3 attempts. After 3 failed attempts the tile leaves the game.
- A floating neuron is a neuron without any connected tile. If a floating neuron already stands in the direction of an attempt, no second one is placed: the placement is skipped, the tile stays on the pile and the game continues. A message tells all players.
- When the neuron pile is empty the game ends (see chapter 11).

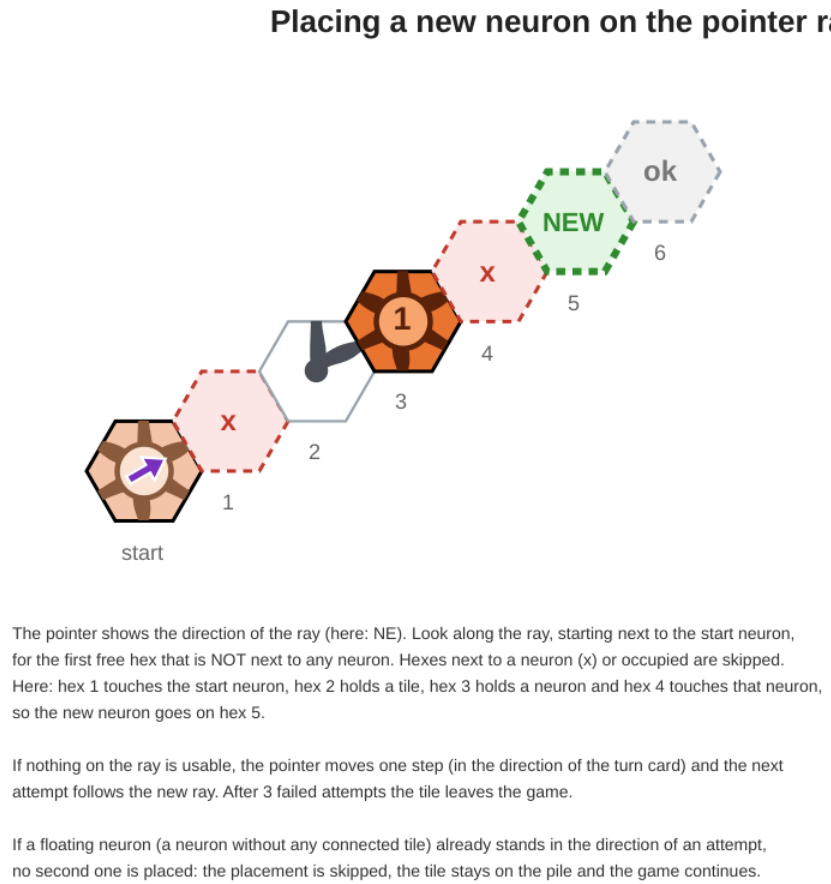


Figure 6 - Placing a neuron along the pointer ray

Neuron capacity

A neuron holds at most the capacity of NT (default 6). A full neuron gets a red ring. NT can no longer be added to it, neither from a tile nor by moving NT from another neuron.

NT on neurons

Every NT on a neuron is worth the value of that neuron to the player whose colour it has, at the end of the game. It does not matter who moved it there.

9 Activating a neuron

When can you activate?

After the new-neuron step, you may activate one neuron (or more, if the setting "unlimited" is on). The starter tile can not be activated, and a neuron can not be activated twice in the same turn. The setting "Activating a new neuron" decides whether a neuron placed in this turn is eligible: rule A yes, rule B only from your next turn, rule C no activation at all in a turn in which a neuron was placed.

The cost

Cost of a neuron = its value + 1 for every NT of yours on a tile that has a direct path to that neuron

A direct path is a chain of tiles whose legs connect and that ends next to the neuron. It never runs through another neuron and it is blocked by astrocytes.

The cost is counted per neuron: one NT can add to the cost of several neurons, but only once per neuron. Costs are recalculated after every activation.

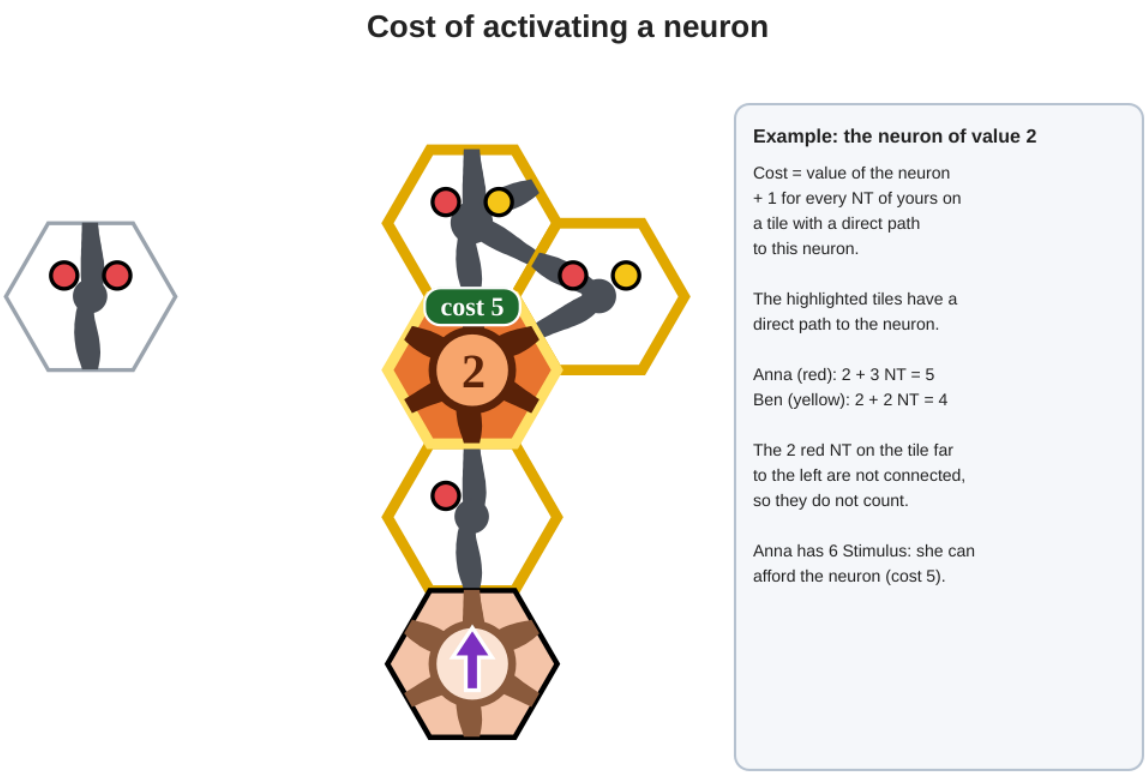


Figure 7 - Cost example

Choosing, confirming, paying

- During the activation step every neuron shows its cost for you: green when you can choose it, red when you can not.
- You can choose a neuron when you have enough Stimulus and the neuron has a valid effect (a tile with NT on a direct path, or NT that can be moved to a connected neuron).
- If you can not choose any neuron, a message explains why and the turn goes on. If you can, you may also skip the activation.
- After choosing, you confirm in a message that shows the cost and your Stimulus afterwards. Then the cost is deducted from your Stimulus.

The effect: choose one

1. **Remove a tile with NT.** Click a tile with NT that has a direct path to the neuron. One NT of any colour moves onto the neuron (you choose which colour if the tile holds several). All other NT on the tile go back to the stock of their owners. The tile leaves the game and your astrocyte takes its place. If the neuron is full, no NT moves and all NT on the tile go back to their owners.
2. **Move an NT between neurons.** If the neuron is connected by a direct path to another neuron, you may move 1 NT of any colour from one of the two neurons to the other, but only toward a neuron that still has room. If several neurons are connected, you choose which one. The turn card flips.
3. **Skip.** You do nothing. The cost stays paid.

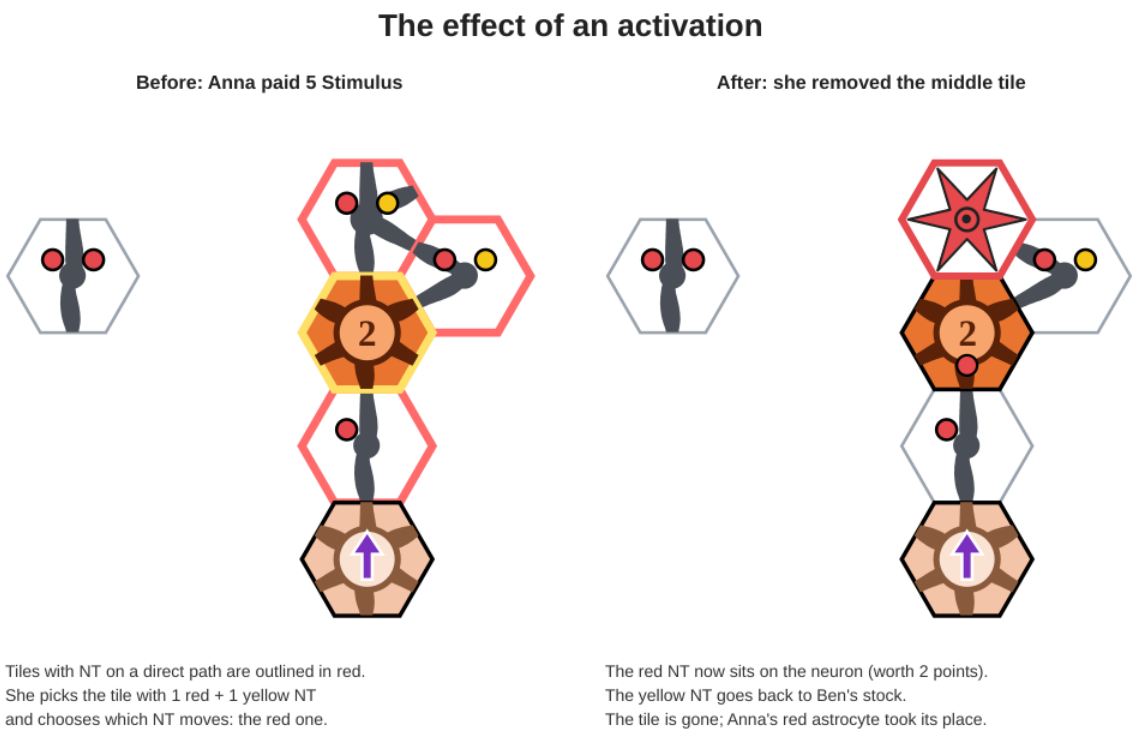


Figure 8 - The effect of an activation

10 Astrocytes

- Every player has one astrocyte. It is placed in the hex of the tile that the player removes (by an activation or a bonus tile).
- When the same player removes another tile, the astrocyte moves to the new hex and the old hex becomes empty again.
- An astrocyte blocks paths: no path runs through it.
- It fits anywhere: legs and no legs may touch it in any way. It counts as a touching tile for the placement rule, but never as a counted connection.
- No tile and no neuron can be placed on an astrocyte.

11 End of the game and scoring

When does the game end?

- **Stock:** at the start of a player's turn the booster is empty and the stock is empty. The game ends immediately.
- **Neuron pile:** the last tile of the neuron pile has been taken and dealt with. The game ends.
- **Tile pile:** when a player can not refill the hand to 3 tiles at the end of their turn, the final round starts: every player, including that player, plays one more turn. Then the game ends.

Scoring

1. **NT on neurons.** Every NT on a neuron scores the value of that neuron for its owner.
2. **Biggest connected area.** Look at the tiles that hold at least one of your NT. Tiles that touch each other form an area. Take your area with the most tiles (if equal, the one holding more of your NT). You score the number of your NT in that area.
3. **Total.** Add 1 and 2. The player with the highest total wins. Equal totals share the win.

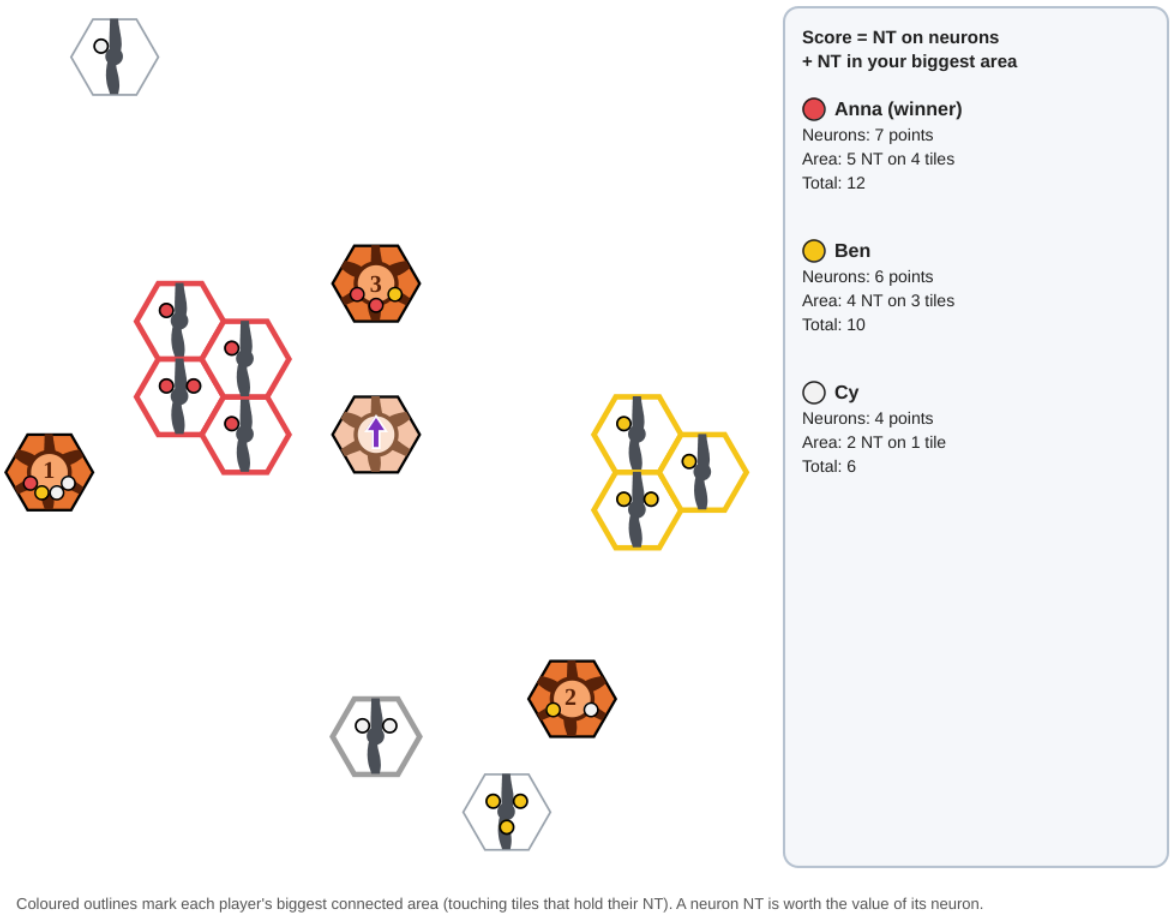


Figure 9 - Final scoring example

Player	NT on neurons	Biggest area	Total
Anna (red)	7 points	5 NT on 4 tiles = 5	12 (winner)
Ben (yellow)	6 points	4 NT on 3 tiles = 4	10
Cy (white)	4 points	2 NT on 1 tile = 2	6

12 Optional bonus tiles

Only used when the game setting "bonus tiles" is on. A bonus tile that you take instead of a neuron goes to your player area, where everybody can read it. You can play it in any later turn of yours, and it then leaves the game.

Bonus	Effect
1	Remove any synapse tile from the board (it leaves the game). NT on it go back to their owners. Your astrocyte takes its place.
2	Place an additional tile from your hand in the same turn (2 tiles instead of 1).
3	Remove 1 NT from a tile on the board and add it to the NT stock of any player, yourself included.
4	Search the tile pile for a synapse tile of your choice and swap it with one in your hand (that one goes under the pile; the pile is reshuffled).

13 Playing online

- **Colour and seat:** while selecting a seat you choose your colour. Colours that are taken are greyed out. Only the first player can change the game settings.
- **Open information:** the tiles in everybody's hand are visible to all players, and so are collected bonus tiles with their description.
- **Messages:** important moments (empty booster, a tile taken, a skipped neuron placement, an activation that can not be paid) show a message to all players. Only the active player gets the buttons.
- **Switched computer:** if you continue on another computer, you first see the game as a spectator. Use the "Take over" button of your seat; this works once the seat has been offline for 2 minutes.

[IMAGE PLACEHOLDER]

Screenshot: seat selection screen

The seat screen with the four seat buttons, the row of six colour dots (taken colours greyed out, your colour with a gold ring) and the game settings box for the first player.

[IMAGE PLACEHOLDER]

Screenshot: the game screen

The whole game screen: player cards with booster tile, Stimulus, NT on neurons, score and the open hand tiles, the board in the middle, and the activation panel below with cost badges on the neurons.

[IMAGE PLACEHOLDER]

Screenshot: confirming an activation

The pop-up "Confirm activation: Activate the neuron of value 2 for 5 Stimulus? You have 6 Stimulus, 1 will be left." with the Confirm and Back buttons.

[IMAGE PLACEHOLDER]

Screenshot: taking over a seat

The box shown to a spectator after a computer switch, listing every seat with a Take over button (disabled for seats whose player is still connected).

14 Glossary and quick reference

Term	Meaning
NT	Neurotransmitter: your pieces. They sit in your stock, on your booster, on tiles or on neurons.
Stimulus	Your point counter for activations. Earned by counted connections, spent on activations.
Booster	The tile where your NT wait to be placed. Refilled with the die when empty.
Leg	The coloured path on a synapse tile that runs from the middle to a side.
Connection	A leg that meets a leg of another tile (or a neuron, depending on the setting).
Direct path	A chain of connected tiles that ends next to a neuron without running through another neuron or an astrocyte.
Floating neuron	A neuron without any connected tile.
Astrocyte	Your marker tile in the hex of a tile you removed. Blocks paths.
Capacity	The maximum number of NT on one neuron (setting, default 6).
Pointer	The arrow on the starter tile. It decides the direction in which new neurons are placed.

Quick reference

Stimulus gained = counted connections of the tile you placed.
Cost of a neuron = its value + number of your own NT on tiles with a direct path to it.
Final score = (NT on neurons x neuron value) + your NT in your biggest connected area.