ARNO 3

The Artificial Randomized Neutral Opponent (short ARNO) offers an alternative solo mode challenge: you play as 1 human player against 1 ARNO. These are the main differences compared to the official solo mode:

- Not just a highscore-chase – ARNO can win the game
- ARNO interacts with the human players by taking cards from the display, advancing the break token, gaining partner zoos and universities, supporting conservation projects or giving reference values for effects of your cards, etc.
- Variable number of rounds instead of the fixed 27 in the official solo
- ARNO can act with several different difficulty levels (L1-L7+):
  - level 1 (L1): beginner, level 2 (L2): easy, level 3 (L3): medium
  - level 4 (L4): hard, level 5 (L5): very hard, level 6 (L6): extremely hard, level 7+ (L7+): only for the pros
- ARNO can also act as a third/fourth player against two/three human players
- Several ARNOs can be used in a game

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Components
- This rulebook
- 8 ARNO-Action cards (for each ARNO)
- 1-2 Dice (if possible one D6 and one D8)
- only if you use the optional extra module: 1 overlay card

Setup
Global setup: setup the game according to player count including ARNO(s). If you play solo against 1 ARNO, don't forget the 2 player setup (5C). A human player will be the starting player.

Personal setup for ARNO('s):
A. Give ARNO a zoo mat A.
B. Give ARNO a set of action cards:
  - for difficulty level L1-L3 ARNO uses the Build, Cards and Animals action cards marked in green in the upper right corner
  - for difficulty level L4+ the Build, Cards and Animals action cards marked in red are used
  - for all difficulty levels: use the Sponsor and Association cards that are marked blue in the upper right corner

Place the Animals action card on ![1] (strength 1) under the zoo mat and the other 4 cards randomly distributed next to it with the blue side facing up.
If playing with Marine Worlds: ARNO is not participating in the Action card drafting and keeps using the regular cards. If playing solo against ARNO, the human player randomly draws 3 alternative Action cards of at least two different kinds, and chooses 2 cards for this game. If playing multiplayer against ARNO, the human players perform a regular draft among each other.
C. Give ARNO all materials in one color.
  C1. ARNO starts with appeal ![appeal] according to player order. E.g. for solo play against 1 ARNO, ARNO starts on 1 appeal. For reputation ![reputation], ARNO starts on the first reputation space.

ARNO starts with -5 conservation 🛡️ on level L1-L6. Indicate this by placing 5 player tokens next to ARNO's conservation counter. For level L7 and above, the starting conservation points are increased by 1 per level, e.g. L9 starts with -2 conservation. If playing with Marine Worlds, ARNO starts with 2 additional conservation points, e.g. on L1-L6 ARNO starts with -3 conservation.

C2. ARNO doesn't use the spaces at the left of the player board.

C3. ARNO gets 4 association workers, one on the notepad and 3 on the designated spaces below the notepad.

D. ARNO doesn't get money.

E. ARNO draws 1 final scoring card and keeps it face down.

F. ARNO draws 8 zoo cards, and keeps up to the first 2 Conservation Project cards on his zoo map. All Sponsor and Animal cards are discarded.

General overview: what ARNO does or doesn't

ARNO can/does:

- gain appeal 📇, conservation 🛡️ and reputation ◆
- take cards from the display (snap) 🗂️
- keep drawn conservation project cards and keep some drawn animal cards
- use association workers on the association board
- gain partner zoos 🤝, gain universities 🏛️, support conservation projects 🔃 and make donations
- gain association workers 👤
- gain player tokens on his final scoring card 🏅 and/or notepad 📋 (for end game scoring)
- advance the break token ☕
- upgrade his action cards to side II 🃏
- take bonus tiles 🔰
- gain the advantage of bonuses or bonus tiles providing something that he can use/collect
- use dice to choose between several available options

Arno can't/doesn't:

- ARNO doesn't use money (neither receive, nor spend)
- ARNO doesn't use x-tokens ✴️ (neither receive, nor spend)
- ARNO doesn't build buildings/enclosures. Therefore he doesn't use the map part of his zoo mat.
- ARNO doesn't keep drawn sponsor cards and doesn't keep some drawn animal cards
- ARNO doesnt play animals in the normal way (and thus doesn't use their effects, doesn't gain their points etc)
- ARNO doesn't use the 7 spaces on the left of his zoo mat
- ARNO doesn't make decisions (instead he uses dice)
- if a space says that side II of a certain action card is needed, ARNO doesn't have to meet this requirement
- ARNO can't use bonuses or bonus tiles giving something that he can't use or collect
- ARNO can never be the target of an interactive effect. Please use the alternative solo play effects (blue) of those cards instead

Your turn

Play tour turn as usual.

If you play a card with an interactive effect, you can't target ARNO. Please use the alternative solo play effects (blue) of those cards instead

If you play a card with an effect referring to things that other players have or do, find the reference values on ARNO's zoo mat (e.g. symbols on animal cards or partner zoos). Some effects can also be triggered in ARNO's turn, e.g.when ARNO places an animal card with a certain symbol. Or when ARNO discards sponsor cards and a human player has played card 208 (Science Library) previously.

If ARNO has placed support conservation projects in earlier turns, you have the possibility to support these conservation projects too, following the normal rules.
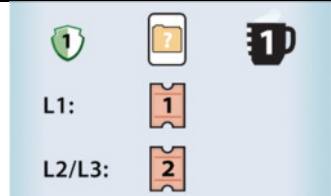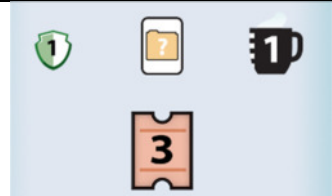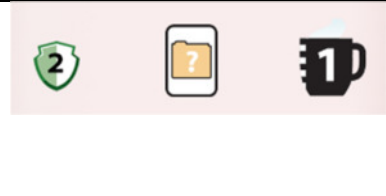
ARNO's turn

When it's ARNO's turn, randomly determine which of his cards on strength 2-5 will be used. Use a 6-sided/8-sided/12 sided die and the table to the right to determine which card to use.

☒	6-sided	8-sided	12-sided
1	not possible	not possible	not possible
2	2	1/2	1/2/3
3	3	3/4	4/5/6
4	4	5/6	7/8/9
5	5	7/8	10/11/12
reroll	1 or 6		

ARNO executes all steps on the selected Action card and receives the corresponding benefits – sometimes depending on the strength of the action. At L7+, ARNO is using the values of L6+.

ARNO action: cards

green card (L1-L3) side I:	red card (L4-L6) side I:	green and red card, side II

Side I: ARNO gains 1 conservation + ARNO takes 1 card from the display + advance the break token 1 space + ARNO gains appeal based on difficulty level

Side II: ARNO gains 2 conservation + ARNO takes 1 card from the display + advance the break token 1 space

If ARNO has to take a card from the display, throw a die to see which card he takes. Preferably use a 6-sided die. If ARNO took …

- … a conservation card: he keeps it, put it with his other conservation cards (if any) on his zoo map
- … an animal card: he keeps it, put it with his other animal cards (if any)
- … a sponsor card: discard it

This could cause an effect on the human player, e.g. for certain sponsor cards.

ARNO action: build

green card side I:	green card side II:

red card side I:	red card side II:

Side I:
- strength 2: ARNO gains reputation based on difficulty level
- strength 3: ARNO gains appeal based on difficulty level
- strength 4: ARNO takes 1 card from the display + ARNO gains 1 reputation
- strength 5: ARNO gains conservation based on difficulty level

Side II:
- strength 2: ARNO takes 1 card from the display + ARNO gains reputation based on difficulty level
- strength 3: ARNO gains appeal based on difficulty level
- strength 4: ARNO takes 1 card from the display + ARNO gains player tokens on his notepad based on difficulty level
- strength 5: ARNO gains conservation based on difficulty level
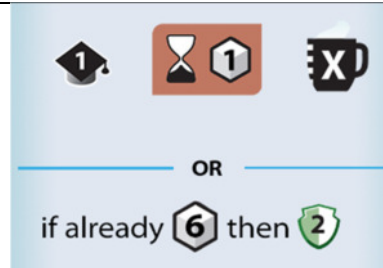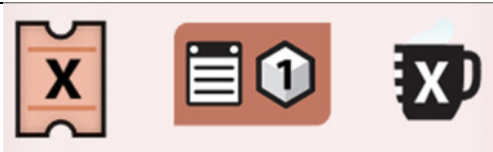
If ARNO has to take a card from the display: see *ARNO action: cards* to see which card he takes and what he does with it.

ARNO action: animals

green card side I:	red card side I:	green card side II:	red card side II:

ARNO gains appeal based on action strength and difficulty level. E.g. when playing on difficulty level L2 with the animal card on side I and having action strength 3, ARNO would gain 3 + 1 = 4 appeal.

ARNO action: sponsors

side I:	side II:

Side I:
- if there are 0-5 player tokens on ARNO's end scoring card: ARNO gains 1 reputation + ARNO gains 1 player token on his end scoring card + advance the break token based on action strength
- if there are already 6 player tokens on ARNO's end scoring card: ARNO gains 2 conservation

Side II: ARNO gains appeal based on action strength + ARNO gains 1 player token on his notepad + advance the break token based on action s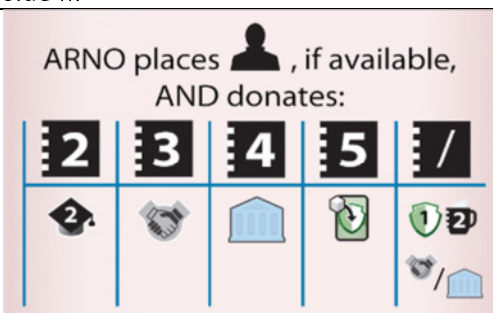trength. E.g. if the action strength is 5, ARNO gains 5 appeal + 1 player token on his notepad + the break token advances 5 spaces.

ARNO action: association

side I:	side II:

Side I:
- if ARNO still has an worker on his notepad, he places a worker on the association board on the same task as the action strength, and executes this task. This means:
  - strength 2: ARNO gains 2 reputation
  - strength 3: ARNO gains a partner zoo
  - strength 4: ARNO gains a university
  - strength 5: ARNO supports a conservation project that he hasn't supported yet
- if ARNO has no worker on his notepad anymore: ARNO gains 1 conservation + advance the break token 2 spaces + ARNO gains either a partner zoo or a university (the one he lacks the most, otherwise randomly)

Side II does the same for each strength, plus ARNO will donate.

What happens if …?
- … ARNO **already placed a worker on this task** in an earlier turn? He never places a double worker. Instead, he selects the next higher task where none of his workers is placed yet (as if he would use an invisible X-token to improve his action). If no higher task is available, he selects the next available lower action

- … ARNO has to **randomly select something**? First find all available options that ARNO can choose from. Assign dice values to each option. E.g. ARNO can choose from the partner zoos Europe, Asia, Africa and Australia. With a 8 sided die, assign dice values 1/2 = Europe, 3/4 = Asia, 5/6 = Africa, 7/8 = Australia. Or with a 6 sided die, the assigned dice values could be 1 = Europe, 2 = Asia, 3 = Africa, 4 = Australia, 5/6 = reroll. Then throw a die to see which one was selected.
- … ARNO has to **choose from several partner zoos or universities**? He randomly selects one (see above). Just like any human player, he can't select a partner or university that is already on his zoo mat. If there are **no available options**, continue as if he had already placed a worker on this task (see before).
- … ARNO chooses **the generic university from Marine Worlds**? Randomly determine one among the available universities with the animal icon and place it on ARNO's zoo mat. ARNO is not using its effect and is not searching the deck.
- … ARNO wants to **gain a 3rd partner zoo but doesn't have the association action on side II**? ARNO ignores this requirement.
- … ARNO has to choose **which conservation project he supports and which condition of this conservation project**? (A condition is the 1th/2nd/3rd option of a conservation project.) Just like any human player, ARNO can't support the same project twice.
  - if ARNO has **no conservation projects on his zoo mat**: ARNO supports a conservation project that's already next to the association board. If there are conservation projects without player token, randomly choose one of these. If all conservation projects already have a player token, randomly select one of those having at least one free slot. Place his player token based on difficulty level: L1/L2 = the rightmost condition, L3/L4 in the middle and L5+ at the leftmost condition. He gains the reward. If there are **no available options**, continue as if he had already placed a worker on this task (see before).
  - if ARNO has **exactly 1 conservation project on his zoo mat**: determine at first if ARNO plays this card, or if he supports a project that was already placed next to the association board. Both possibilites get a 50% chance based on a die roll. Based on which option is chosen, continue as described above or below.
  - if ARNO has **2 or more conservation projects on his zoo mat**: he plays one of those projects. Randomly determine which project he chooses. Place this conservation project in the designated space on top of the association board. Place his player token based on difficulty level: L1/L2 = the rightmost condition, L3/L4 in the middle and L5+ at the leftmost condition. He gains the reward.

Examples:
- ARNO has 2 conservation cards. If you throw 1/2/3, ARNO chooses the 1st card, if you throw 4/5/6, ARNO chooses the 2nd card (see the white dice)
- Imagine ARNO has no conservation cards. He supports one project that is already available next to the Association board. ARNO already supported the 2nd card in the middle. This is why there are four projects remaining (with the black dice).

> - If ARNO would have had exactly one conservation project card, start by randomly determining if he supports this card or a project already available. Then proceed according to the instructions above.

Breaks

If movement of the break token causes a break, execute all steps normally for yourself. However:

- ARNO doesn't gain an X-token if he was the player causing the break
- ARNO doesn't have a hand limit, thus doesn't have to discard now
- ARNO doesn't gain an income, as he doesn't use money. Instead, he draws 3 cards from the deck. If available, he places the first conservation project card and the first animal card on his zoo mat. The animal card may trigger an effect on the human player. The remaining cards (from these 3 drawn cards) are discarded

Score tracks & bonuses

- When ARNO gains his first conservation points, remove the player tokens one by one until he's on 0 conservation points. Then put him on the 0 conservation space to proceed as usual.
- If ARNO reaches the 2 conservation bonus, he always chooses the extra association worker.
- If ARNO can choose from several bonus tiles, he randomly selects one (throw a die, 1/2/3 = left option, 4/5/6 = right option). He never chooses the one printed on the board. If he can use the selected bonus tile, he does, and then discards it. If he can't use the bonus tile, he discards it without use.
- ARNO can only gain the reward from bonuses or bonus tiles giving him: appeal 🧡, conservation 🛡️, reputation ⚫, partner zoos 🤝, universities 🏛️, association workers 👤 and action card upgrades 📇. Bonuses or bonus tiles can't give him things he can't use/collect.
- When ARNO receives a card upgrade, an Action card that's still on side I will be randomly selected with a die (don't consider cards already on side II). All cards are assigned the same probability.
- If a space says that side II of a certain action card is needed, ARNO doesn't have to meet this requirement. E.g. he can have more than 9 reputation without having the Cards action on side II.
- If playing with Marine Worlds: when ARNO has 15 reputation and gains 1 more reputation, he chooses the bonus tile, if still available. It's removed from the game afterwards.

End of game and final scoring

ARNO can trigger the end of the game like any human player. If a human player triggers the end of the game, every ARNO has one more turn.

Card scoring: ARNO receives end game points:

- 0-4 conservation points for the number of player tokens on his final scoring card minus 2. The face-down final scoring card itself has no meaning and is not considered in final scoring
- 1 conservation point for every player token that was placed on his notepad

The determination of the final victory points and the winner of the game remains unchanged. In case of a tie, ARNO is ahead.

Optional module: variable conservation project condition determination

To provide a more unpredictable behavior during the determination of the condition on which ARNO supports a conservation project, you can use this optional module. It's also providing more realistic reference values for the Marine World card 265 Franchise Business during the game.

- Place the overlay or card of the module on ARNO's zoo mat during setup. Then place one of ARNO's player tokens on the first spot in the upper left corner. If you are using the overlay, you can use the track in the middle of the bottom instead of placing a final scoring card. On the left you find the space for ARNO's animal card, on the right for his conservation cards.
- Every time ARNO receives (and discards) a Sponsor card, this token is advanced to the next slot – first from the left from top to bottom, then on the right and finally step by step backwards if the last spot was reached. This also applies during setup and breaks. For example, if ARNO draws 3 Sponsor cards during setup or a break, advance the token 3 times.
- The position of the token determines which condition of the next Conservation Project is supported by ARNO. I stands for the lowest rightmost condition, II for the middle one and III for the highest leftmost one. If this condition is already taken, the condition is determined by the last position above the current one.
- This is only to determine where ARNO is placing his token on the selected project card. The points that ARNO receives remain unchanged and is only dependent on the chosen difficulty level and empty condition slot.
- If playing with Marine Worlds: additionally the tracking token on the module card determines how many kiosks ARNO has at a certain point in the game. This is important once a human plays the card 265 Franchise Business.