Mchezo ya Kuku

A multi-player poultry production card game for social learning

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Cover page image: Mchezo ya kuku in Madagascar © SWM

Development and testing of this game would not have been possible without the efforts of WCS staff including: Judienne Anita Zoly, Aubert Daha, Livasoa Charles Randriamanalina in Madagascar and Jufrey Tsoumou, Sephora Moulebato, Daniela Antonacci in the Republic of Congo

Why use games?

Games can help people learn about complex issues, make choices and adapt their actions as they observe the consequences of their choices. Games allow adults and children to explore, safely, different scenarios that can generate a variety of outcomes depending on the choices they make as they play the game. Games allow people, quickly and at no risk, to experiment with implementing different courses of action and determining which best achieve their goals.

Playing games is a tried and tested way to promote learning and insights. Unfortunately, many modern games have been developed as university level teaching tools, and typically require either a laptop computer or internet connection, or both. This game is simple and relatively quick to play, requires only locally available and low cost materials, and is even appropriate for players with low levels of literacy and numeracy, with little or no experience with multiplayer and role-playing games.

Experience from developing and playing these games with many communities confirms our belief that games that are fun to play, have few rules, rely on learning by doing, and enable failure, provoke discussion and collaborative problem solving are essential for adaptive social learning.

Social learning is essential for effective community-led conservation and development as it enables people to prioritize both individual and collective strategies and, most importantly, develops the social cohesion they need to work together, to solve their common problems.

Village poultry in Madagascar © SWM

Why a poultry production game?

Raising poultry to feed your family and to sell the eggs and meat to pay for health care, your childrens' education, and other essentials, sounds easy. You just get a few day old chicks and let them forage near the house, and voila you have hens and eggs galore. As you can imagine reality is very different. During the rainy season, a virus called Newcastle can wipe out all your hens in a matter of days. Small carnivores like Fossa in Madagascar, foxes in Europe, genets in Congo, and

ocelot in South America can slaughter a flock of hens in minutes. Your neighbor might decide that you will not notice if he steals one of your fat hens to feed his hungry children.

Raising chickens is not so simple after all. Raising hens requires lots of decisions. Thoughtful decisions, based on your personal experience, about how to invest your scare labor and even scarcer money. Poor decisions based on lack of knowledge can easily lead to disaster, and the loss of the birds you have already invested time and treasure to produce.

Many conservation and development projects have promoted the production of backyard poultry, but have failed because families' make poor decisions. Not because they are foolish or lazy, but because they have little or no experience raising hens, or ducks or guinea fowl.

WCS Malagasy staff working with communities around the Makira National Park in the forests of northern Madagascar were keen to support local families efforts to provide a sustainable source of nutritious food as an alternative to hunting and eating highly endangered lemurs. Women in the villages wanted to produce poultry for their eggs and meat but lacked experience doing so.

The WCS team thought about starting a model poultry farm in one village, but realized that travel times from all the other villages would make regular observation of how to raise poultry a logistic impossibility. They thought of conducting trainings in all the villages but worried that participants in each training would be passive learners and would not learn the problem solving skills they would need to raise poultry successfully. Then they thought, "could we create a game" that would enable players to make decisions about when and why to invest their time and money in raising poultry, and see in a matter of minutes not days or weeks the results of these decisions.

So the team created a poultry production card game where individual players could make decisions about buying chicks, hens and roosters, or paying for poultry food, or vaccinations, or the construction of a hen house. The objective of the game was to raise as many chickens as you could during the course of the game. If a player decided to spend her money to buy chicks but did not pay

for a henhouse, then if during a round of the game she drew a predator card she would lose all of her hens. If she paid for vaccinations and drew a Newcastle disease card, none of her hens would die. Each round players had to decide how to respond to the card they would draw from the deck. And the impact of drawing certain cards, like the Newcastle disease card, is determined by prior decisions made by an individual player.

Playing the game in a public space with others from the village looking on extends the number of people who can learn about the consequences of player decisions on how to invest their time and money to raise poultry. The ongoing conversation during the game encouraged players and observers to talk out loud about which decisions resulted in desired outcomes and which caused poultry production efforts to fail.

People have great fun playing the game. In fact, several villages asked if they could keep the cards so that they could continue to play the game even when the WCS team was not staying in the village. After the first series of games were played the team held a “pause and reflect” session to discuss the game. What worked, what could be improved, and what did not work and should be eliminated in future games. This way the team was able to learn and improve the game over time.

How do you play the game?

The game is played with between 5 and 8 players and can include both men and women. Players can sit at a table, or on a mat or blanket on the ground. Others in the community are encouraged to stand behind the players and not only watch the game but to comment on decisions made by players.

All players start the game with a small flock of chickens made up of 10 hen cards and 1 rooster card. Players arrange their cards, face up, on a table or other flat surface in front of them, so that the cards are visible to everyone. This is essential to enable and encourage discussion and reflection on the consequences of players decisions as they play the game.

Mchezo ya Kuku © SWM

In the center of the table or blanket the gamemaster places a stack of 50 hen cards, and a stack of 8 rooster cards face-up. These cards represent adult poultry that can be added to a player's flock if the player draws a chick card and has a poultry food card.

A third stack contains a shuffled deck of all the remaining cards, placed face-down. This is the game deck.

A blank piece of paper is placed on the table or blanket for the cards that will be discarded by the players as they play the game.

Before the game starts the gamemaster provides the following instructions to the players.

- The objective for each player is to have the largest flock by the time the game ends
- Each player starts the game with a flock of 10 hens and 1 rooster
- Each hen is worth 1 point, and a rooster is worth 3 points.

Egg production in Madagascar © SWM

- Taking turns, each player will draw a card from the game deck and place it face-up next to their other cards.
- What is on the card will guide the course of action for the player who drew the card. For example: if a poultry food card is drawn, the player can purchase the card at the cost of 2 hens (i.e., the player can pay for the food by selling (discarding) 2 hen cards). If later in the game the player draws a chick card, they can use the food card to add three hens to their flock. If the player does not have enough hens in their flock to buy the poultry food, or if they decide not to buy the food, they simply discard the food card.
- A round of play ends after each player has taking a turn drawing a card from the game deck.
- The game is over when all cards in the game deck have been drawn.

When a new card is drawn from the game deck (i.e., a card that has not been drawn before), the gamemaster halts play to describe to all the players the options they have for playing this card, and equally importantly, the possible consequences of not playing the card (i.e., simply discarding it). This ensures that all players learn about their opportunities and risk, and enables them to make informed decisions, about how to maximize the size of their flock.

At the end of the game, the winner is the player with the largest, most valuable flock, calculated by adding 1 point for each hen, and adding 3 points for each rooster in the flock.

At the end of the game, players are invited to discuss the choices they faced drawing different cards, the decisions they made, and the consequences both good and bad of how they played the game. The audience is also invited to ask questions and to comment on how the players, played the game.

What materials do you need to play the game?

The only materials needed to play the game is a set of game cards (preferably laminated). Examples of poultry production playing cards are in the Annex and can be freely downloaded and printed.

The following table shows the different types of playing cards, the number of cards that are needed to play the game, and the rules that players need to follow when they draw a card from the game deck.

Card Hen

Value +1

Rules If you draw a hen card add it to your flock

#cards 150

Card Rooster

Value +3

Rules If you draw a rooster card add it to your flock

#cards 26

Card Chick

Value +3 or 0

Rules If you draw a chick card, and if you have one or more food cards you can add 3 hens or one rooster for each food card. The hens or rooster are draw from the face-up card decks. If you have no food cards, discard the chick card.

#cards 13

Card Poultry food

Value -2 or 0

Rules You can buy poultry food by taking two hens from your flock and selling (discarding) them. If you do not want to buy food, or do not have enough hens to sell, discard the food card

#cards 13

Card Vaccine

Value -2 or 0

Rules You can buy vaccine for all your flock by taking two hens from your flock and selling (discarding) them. If you do not want to buy vaccine, or do not have enough hens to sell, discard the vaccine card

#cards 10

Card Hen house

Value -5 or 0

Rules You can build a hen house for all your flock by taking 5 hens from your flock and selling (discarding) them. If you do not want to build a hen house, or do not have enough hens to sell, discard the hen house card

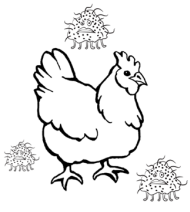
#cards 10

Card Quarantine pen

Value -2 or 0

Rules You can build a quarantine pen for your sick birds by taking 2 hens from your flock and selling (discarding) them. If you do not want to build a quarantine pen, or do not have enough hens to sell, discard the quarantine pen card

#cards 10



Card Sick hen

Value +1 or –1

Rules If you draw a sick hen card, it means that a hen that you have just added to your flock is sick. If you have a quarantine pen then the sick hen can be isolated from the flock and prevent the disease from spreading until it recovers. So draw 1 hen from the deck and add it to your flock, then discard the sick hen card. If you do not have a quarantine pen then the sick hen will infect 1 hen in your flock and both will die so you must discard 1 hen card from your flock and discard the sick hen card.

#cards 10

Card Sick rooster

Value +3 or –3

Rules If you draw a sick rooster card, it means that a rooster that you have just added to your flock is sick. If you have a quarantine pen then the sick rooster can be isolated from the flock and prevent the disease from spreading until it recovers. So draw 1 rooster from the deck and add it to your flock, then discard the sick rooster card. If you do not have a quarantine pen then the sick rooster will infect 1 rooster in your flock and both will die so you must discard 1 rooster card from your flock and discard the sick rooster card.

#cards 8

Card Thief

Value -3 or 0

Rules If you draw a thief card and you have a hen house the thief cannot get to your flock so just discard the thief card. If you do not have a hen house, the thief can steal 3 hens or 1 rooster from your flock, so you must discard 3 hens or 1 rooster from your flock

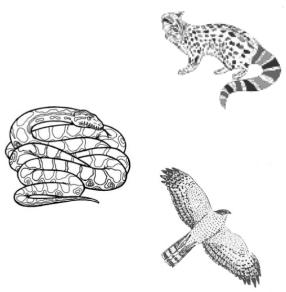
#cards 10

Card Disease

Value -5 or –3 or 0

Rules If you draw a disease card and you have a vaccine card, keep all your flock as they are vaccinated but discard the vaccine card and disease card. If you do not have a vaccine card, but you do have a quarantine card, discard 3 hens or 1 rooster, keep the quarantine card, and discard the disease card. If you do not have a vaccine or quarantine card, discard 5 hens or 3 hens and 1 rooster card, then discard the disease card.

#cards 10



Card Predator

Value -All the flock or 0

Rules If you draw a predator card and you do not have a hen house to protect your birds, you must discard all hens and roosters in your flock. If you do have a hen house, only discard the predator card

#cards 10

When a player draws a game card sometimes it requires them to discard one of more of the hens or rooster in their flock. Sometimes the player will not have enough animals to comply with the number that must be discarded. In this case the player must discard all the birds hens or roosters in their flock.

For example, if the player draws a thief card, they must discard birds equivalent to a value of 3 so that means either 3 hens or 1 rooster. If the player only has 2 hens and 1 rooster, then the player has to discard the rooster, because it has a value of 3. If the player has no roosters and only two hens then they must discard both hens leaving them with no birds in their flock.

Players can purchase one or more food and vaccine cards, but they can only purchase 1 hen house or quarantine pen card.

When a vaccine card is draw and purchased all the flock is now vaccinated and the player keeps the vaccine card to remember that the flock is protected from disease.

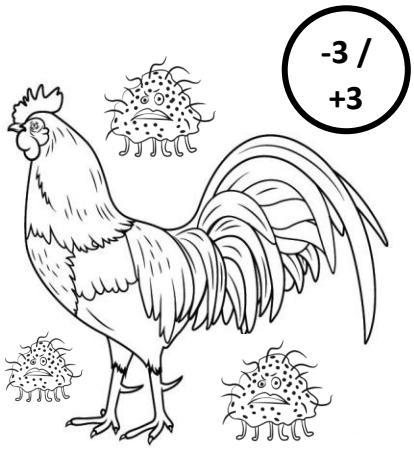
Better nutrition in Madagascar © SWM

Annex: Poultry game playing cards in English and Swahili

Please note that these playing cards are the drafts we created to developed, test and improve the game. The graphics are, as far as we can determine, royalty free images found on the internet. We are currently working with a graphic artist at WCS to create a more polished set of playing cards. We expect a new set of cards to be available by the end of 2023.

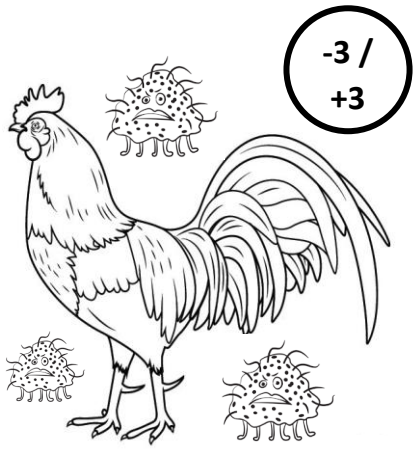
Sick Rooster

Kuku dume yaku gojwa



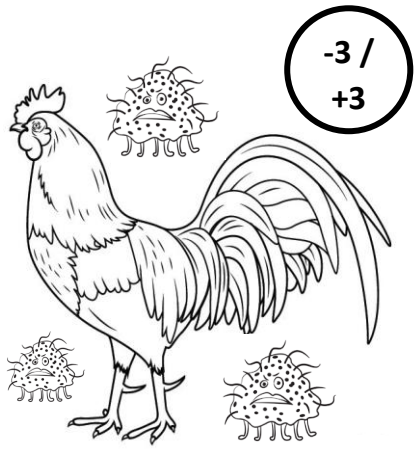
Sick Rooster

Kuku dume yaku gojwa



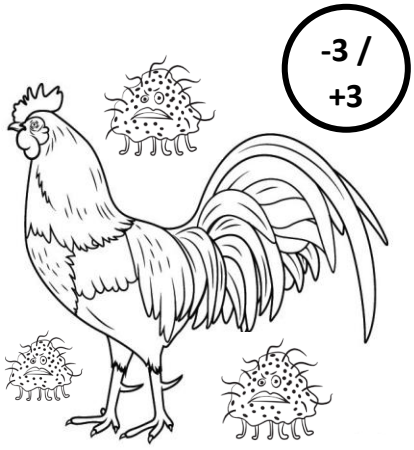
Sick Rooster

Kuku dume yaku gojwa



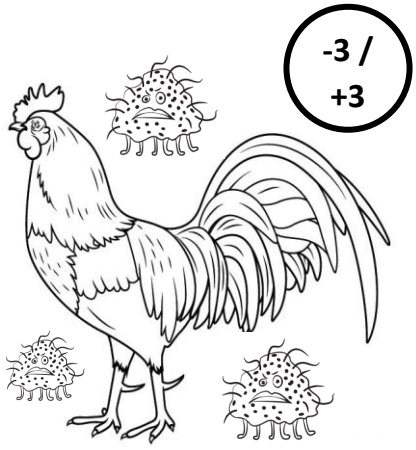
Sick Rooster

Kuku dume yaku gojwa



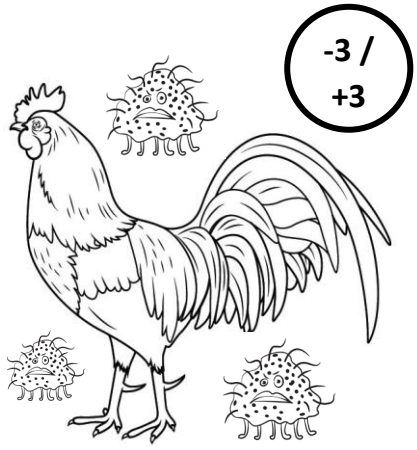
Sick Rooster

Kuku dume yaku gojwa



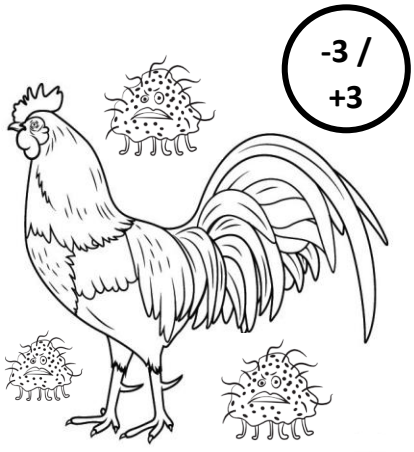
Sick Rooster

Kuku dume yaku gojwa



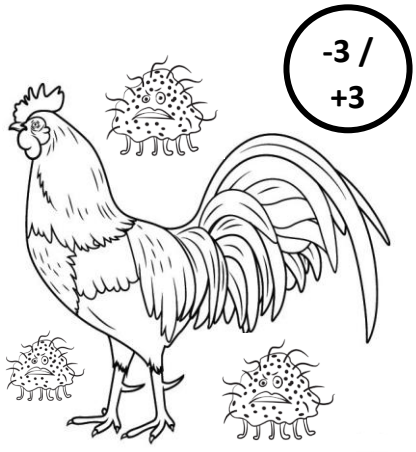
Sick Rooster

Kuku dume yaku gojwa



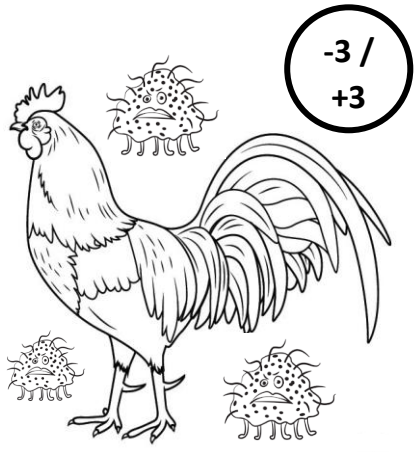
Sick Rooster

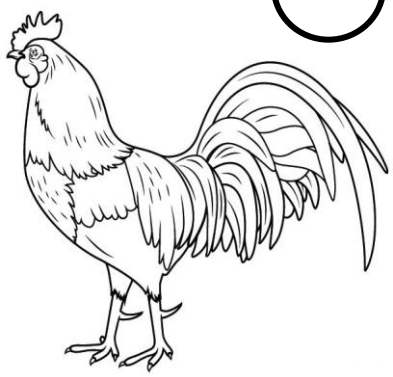
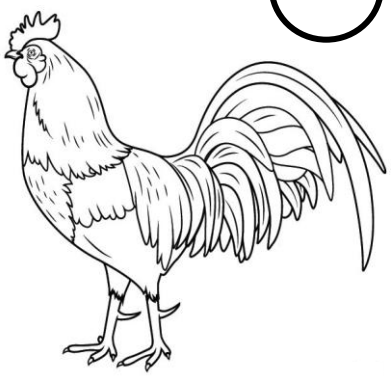
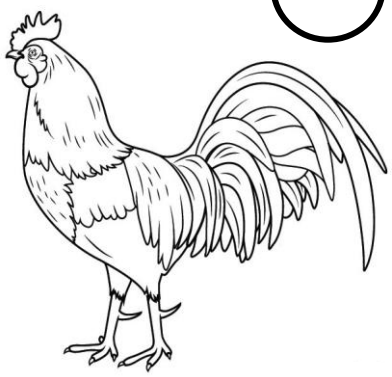
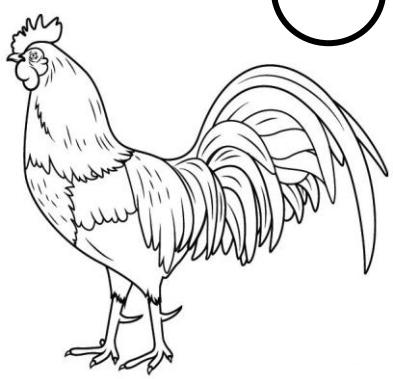
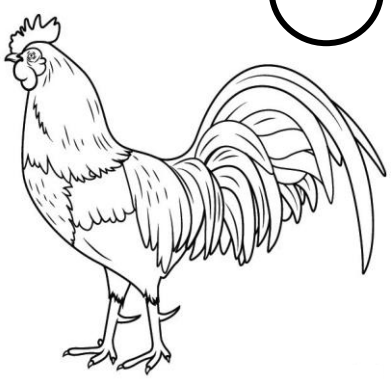
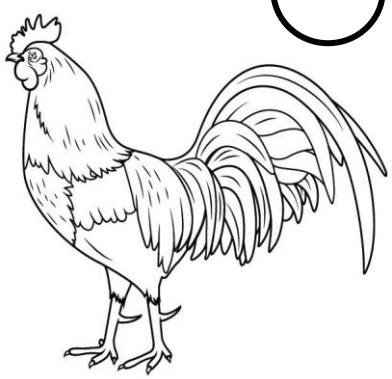
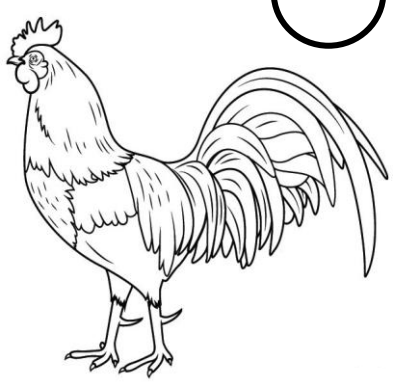
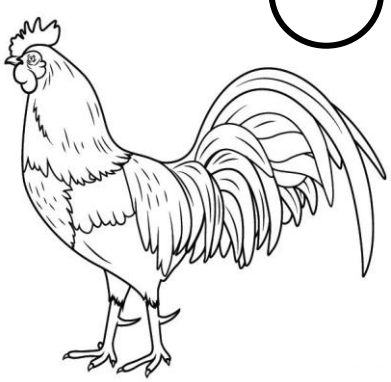
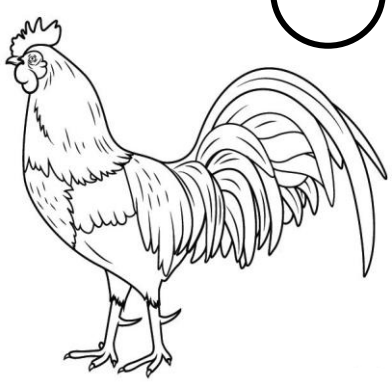
Kuku dume yaku gojwa

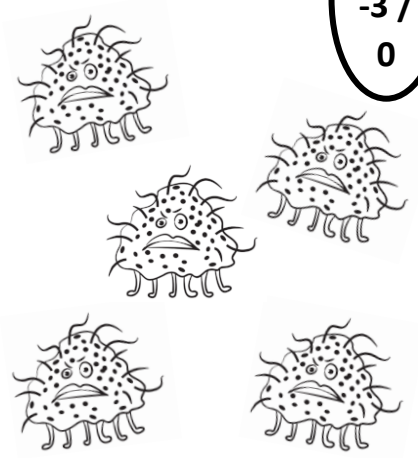
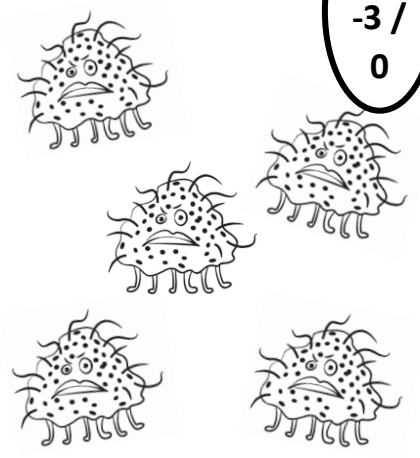
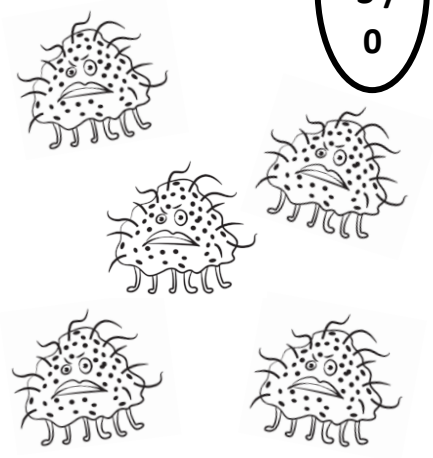
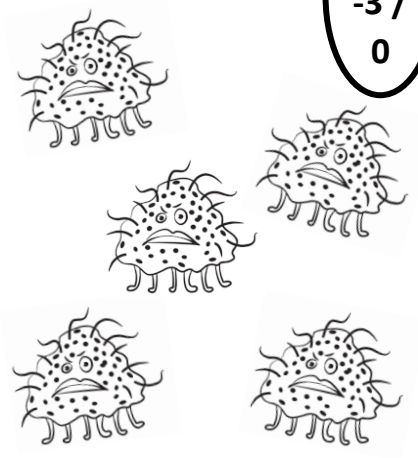
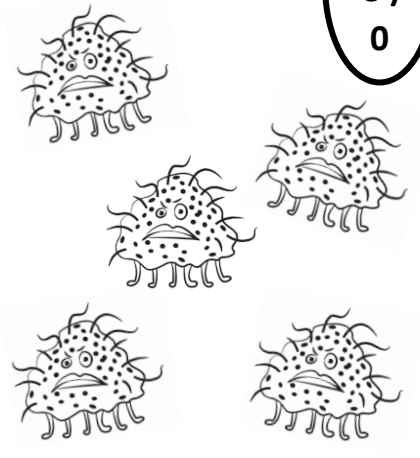
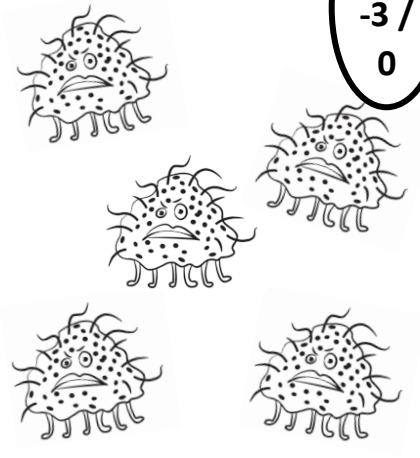
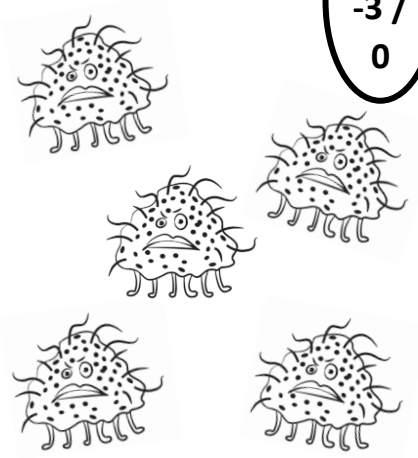
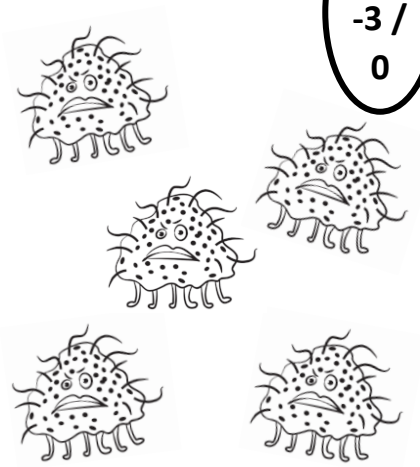
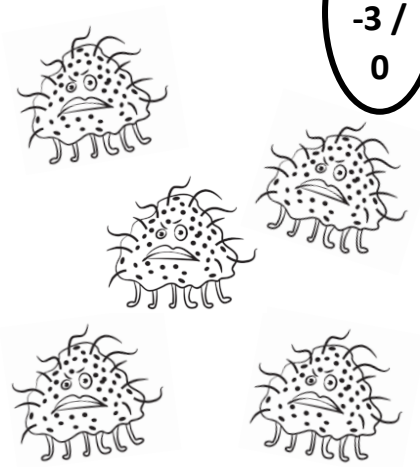


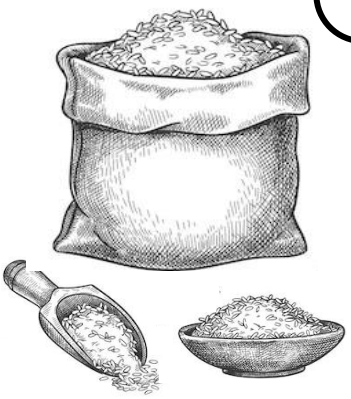
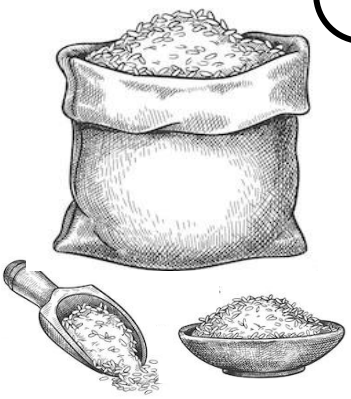
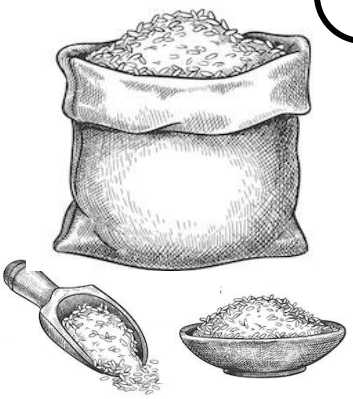
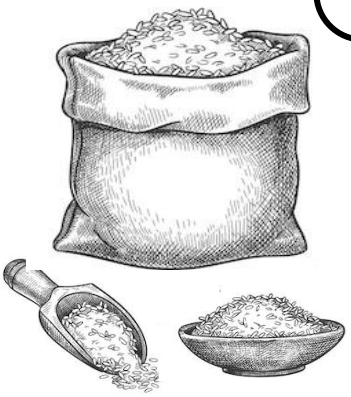
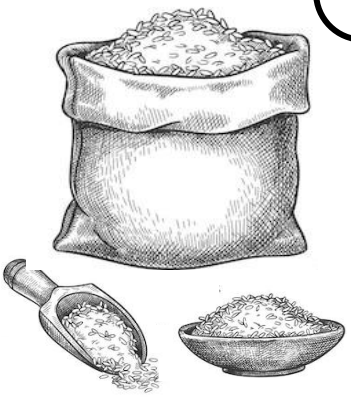
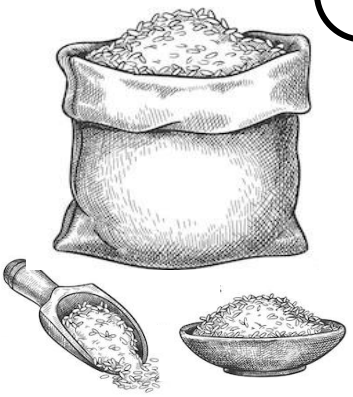
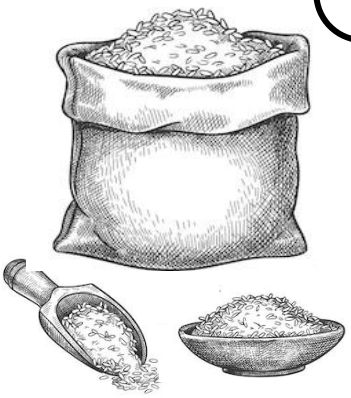
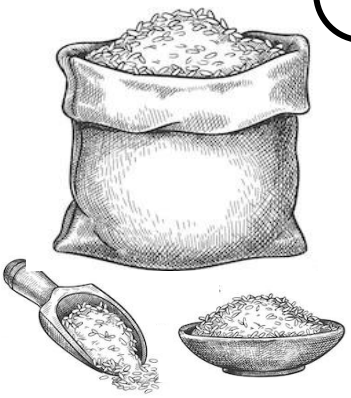
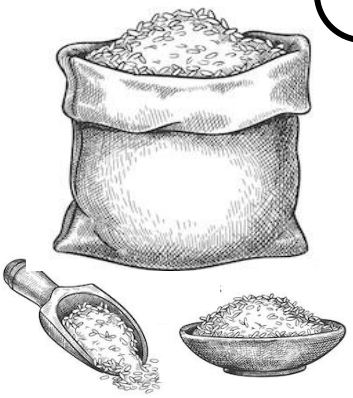
Sick Rooster

Kuku dume yaku gojwa

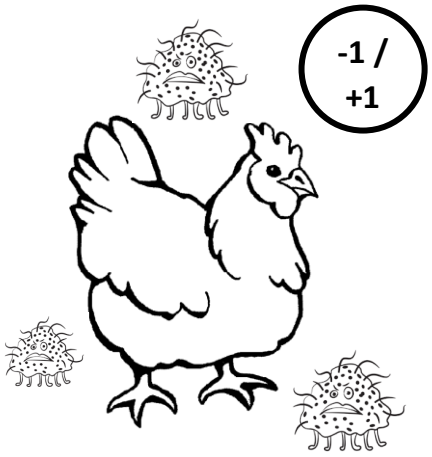
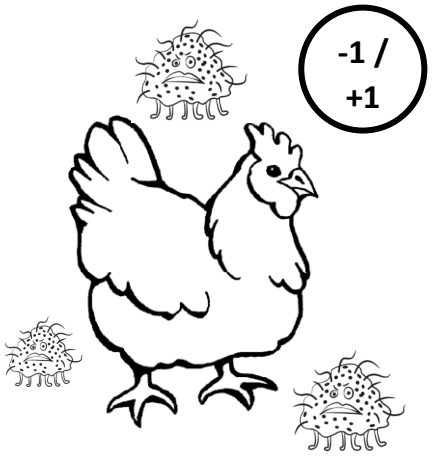
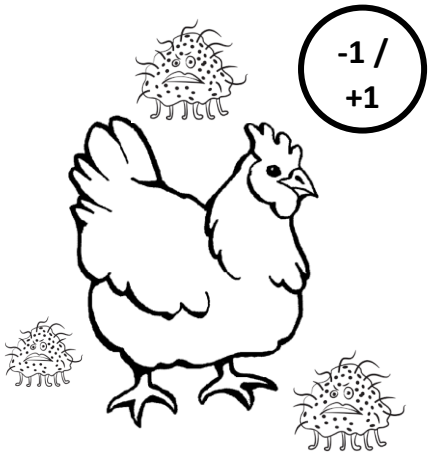
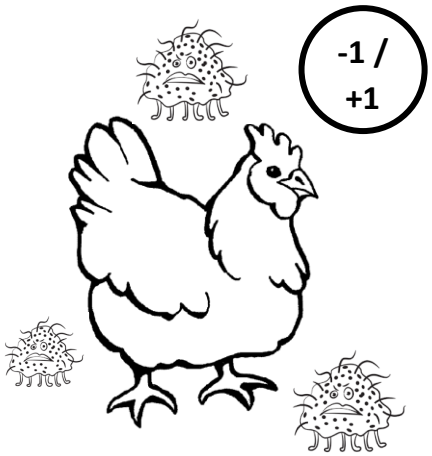
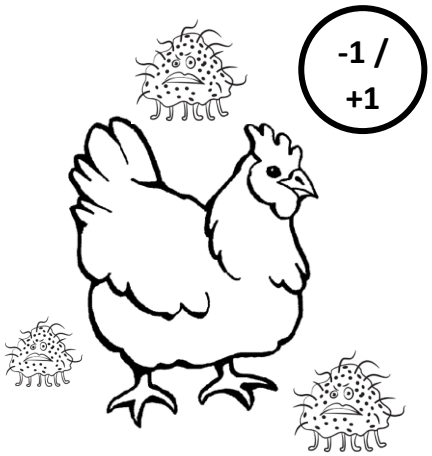
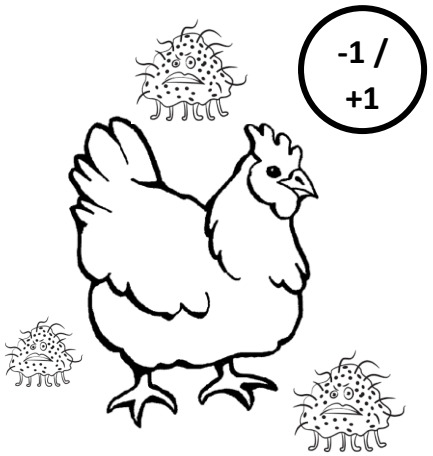
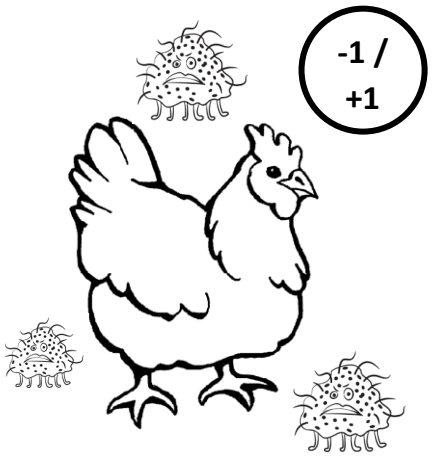
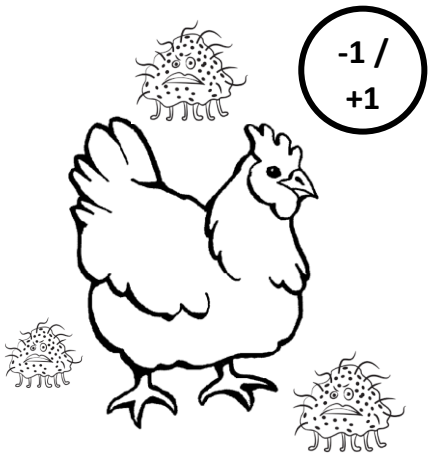
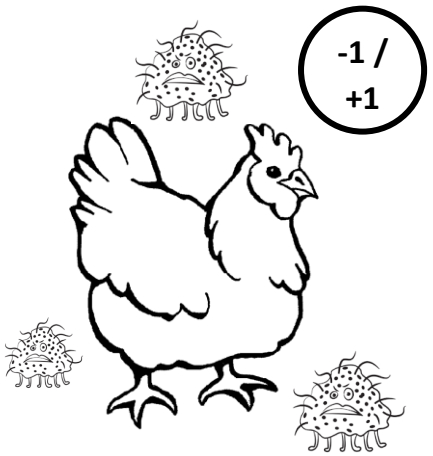


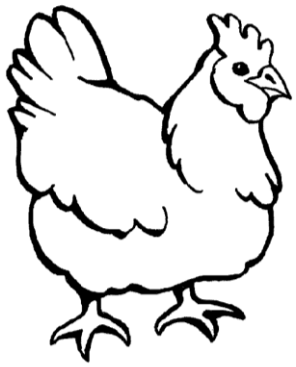
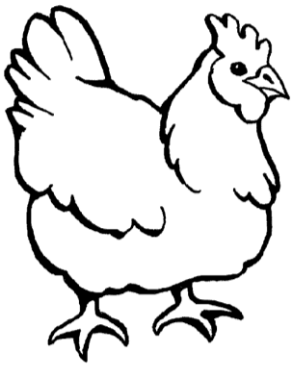
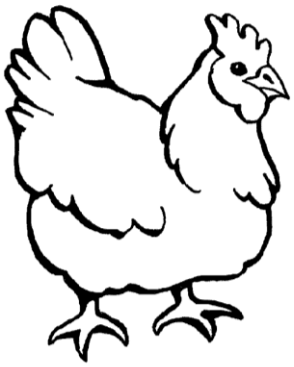
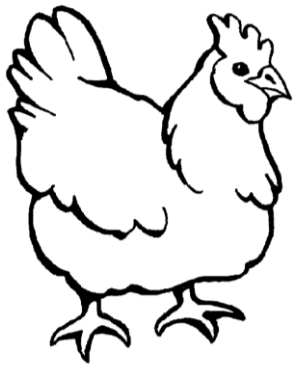
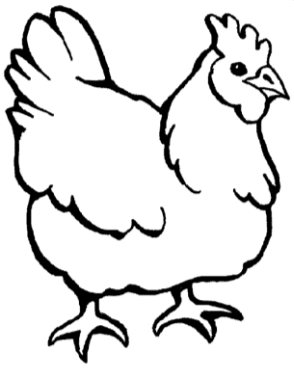
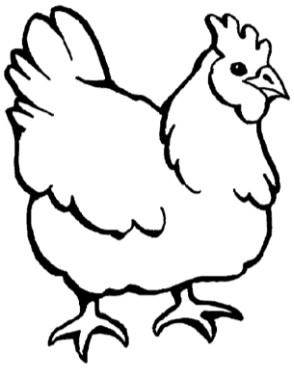
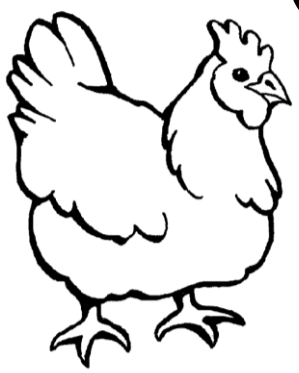
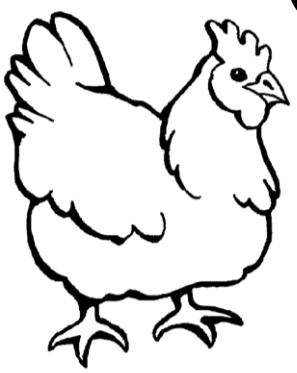
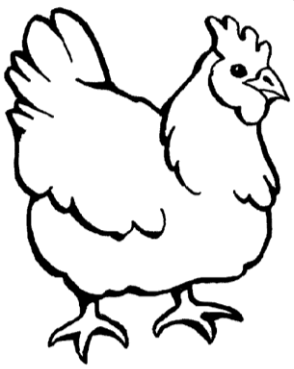
Rooster ***Kuku dume*** **+3** 	**Rooster** ***Kuku dume*** **+3** 	**Rooster** ***Kuku dume*** **+3** 
Rooster ***Kuku dume*** **+3** 	**Rooster** ***Kuku dume*** **+3** 	**Rooster** ***Kuku dume*** **+3** 
Rooster ***Kuku dume*** **+3** 	**Rooster** ***Kuku dume*** **+3** 	**Rooster** ***Kuku dume*** **+3** 

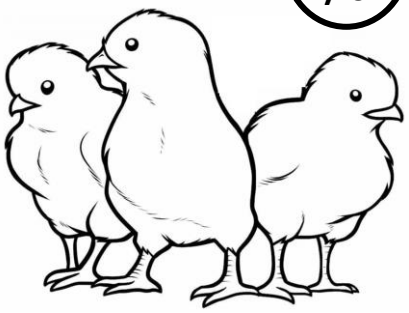
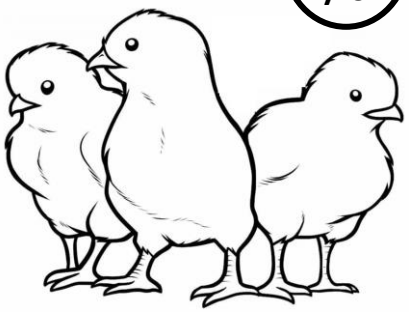
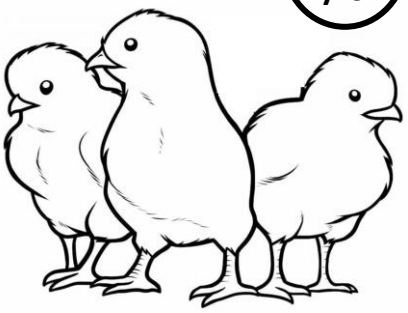
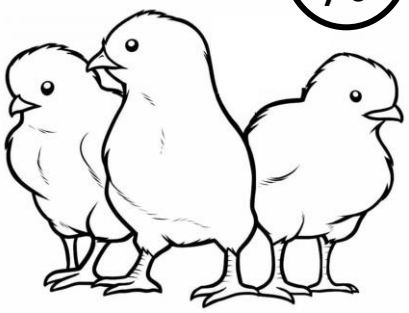
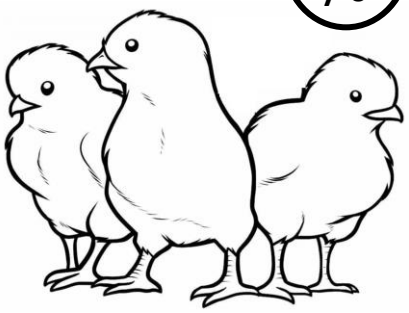
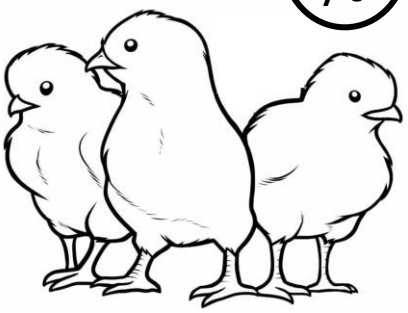
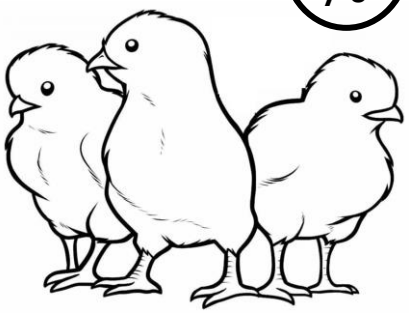
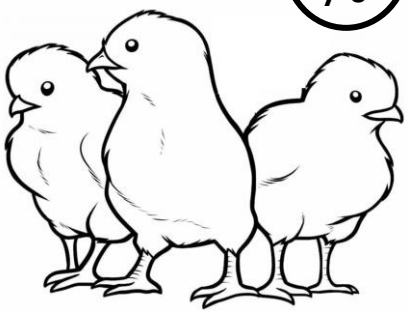
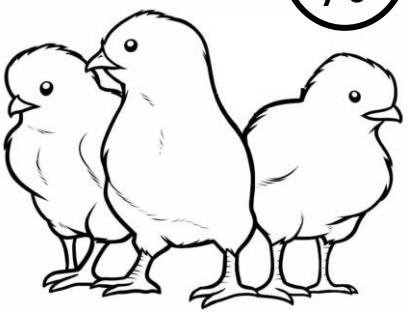
Disease ***Ugonjwa*** **-5 / -3 / 0** 	**Disease** ***Ugonjwa*** **-5 / -3 / 0** 	**Disease** ***Ugonjwa*** **-5 / -3 / 0** 
Disease ***Ugonjwa*** **-5 / -3 / 0** 	**Disease** ***Ugonjwa*** **-5 / -3 / 0** 	**Disease** ***Ugonjwa*** **-5 / -3 / 0** 
Disease ***Ugonjwa*** **-5 / -3 / 0** 	**Disease** ***Ugonjwa*** **-5 / -3 / 0** 	**Disease** ***Ugonjwa*** **-5 / -3 / 0** 

Food ***Chakula*** **-2** 	**Food** ***Chakula*** **-2** 	**Food** ***Chakula*** **-2** 
Food ***Chakula*** **-2** 	**Food** ***Chakula*** **-2** 	**Food** ***Chakula*** **-2** 
Food ***Chakula*** **-2** 	**Food** ***Chakula*** **-2** 	**Food** ***Chakula*** **-2** 

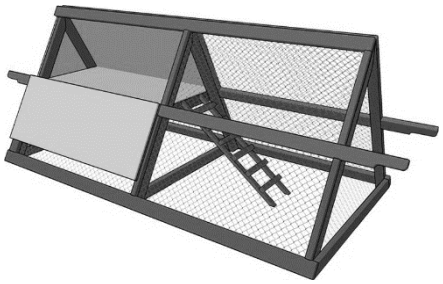
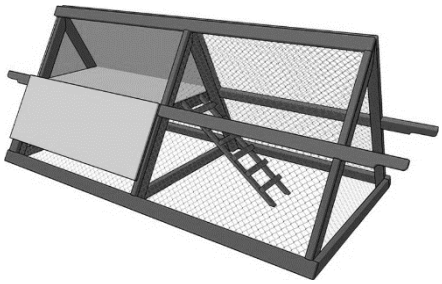
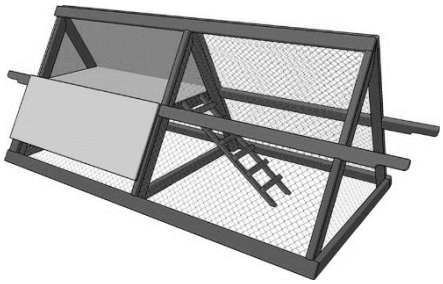
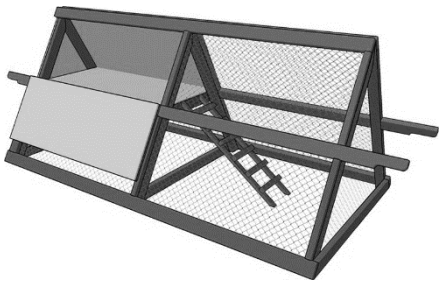
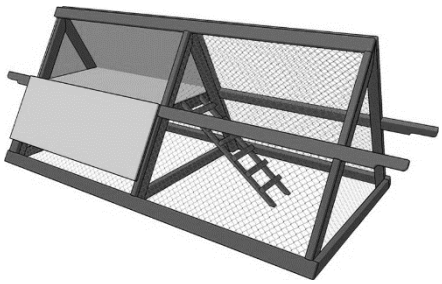
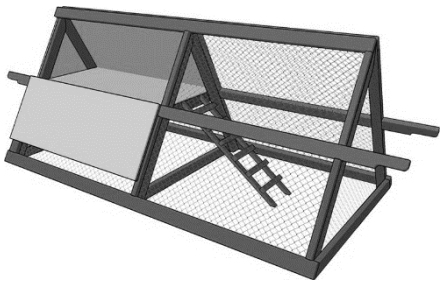
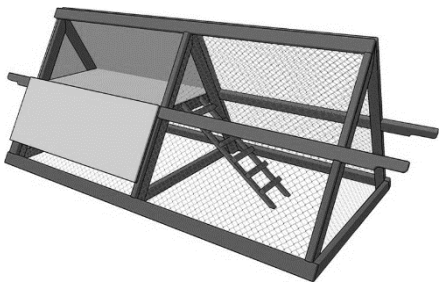
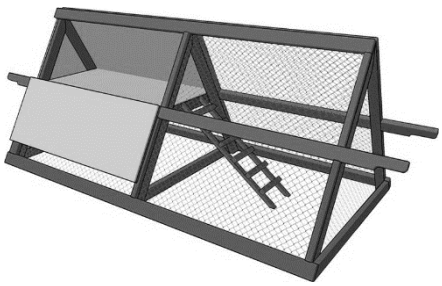
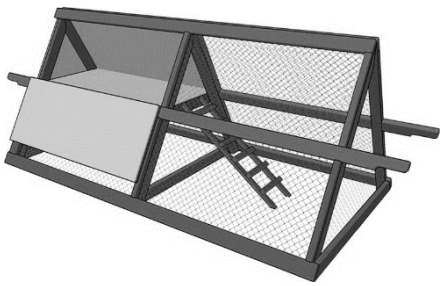
Hen house ***Nyumba ya kuku*** **-5** 	**Hen house** ***Nyumba ya kuku*** **-5** 	**Hen house** ***Nyumba ya kuku*** **-5**
Hen house ***Nyumba ya kuku*** **-5** 	**Hen house** ***Nyumba ya kuku*** **-5** 	**Hen house** ***Nyumba ya kuku*** **-5**
Hen house ***Nyumba ya kuku*** **-5** 	**Hen house** ***Nyumba ya kuku*** **-5** 	**Hen house** ***Nyumba ya kuku*** **-5**

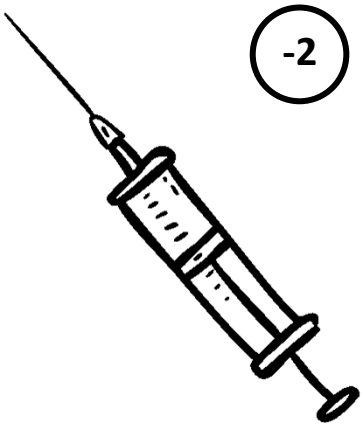
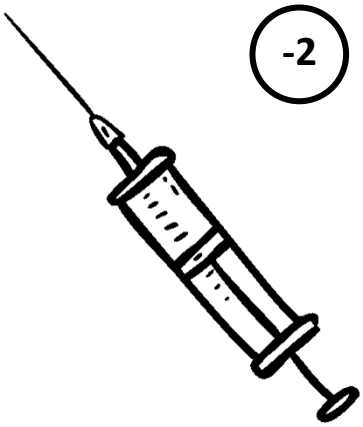
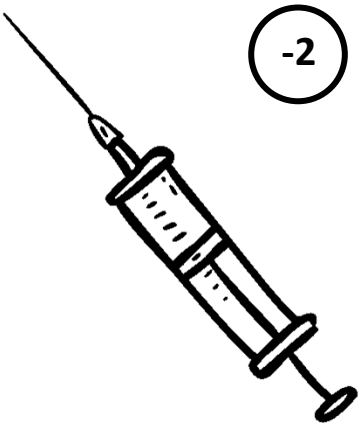
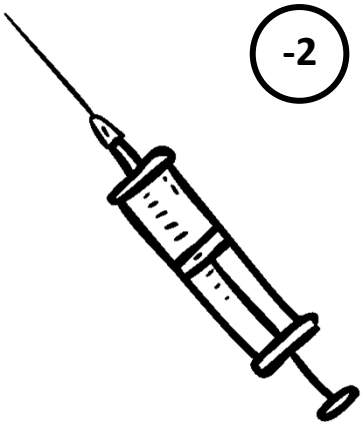
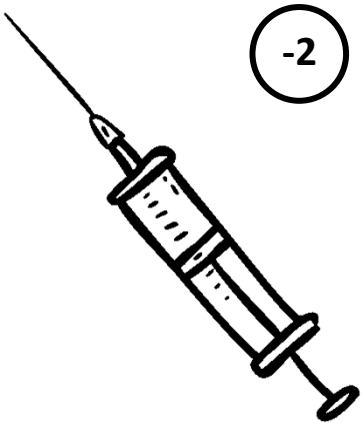
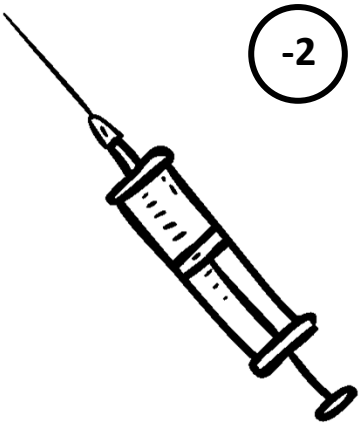
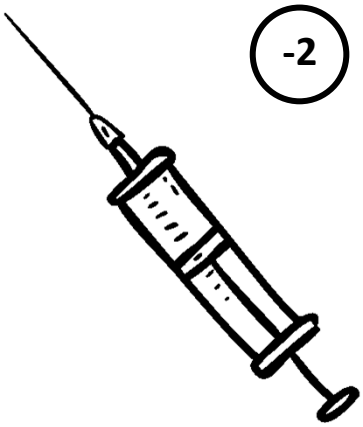
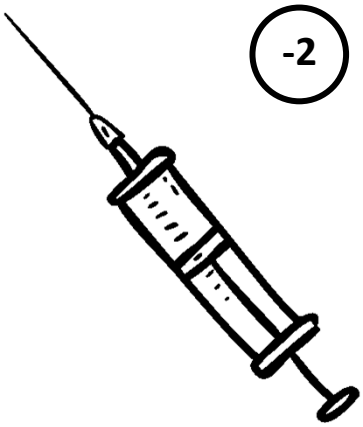
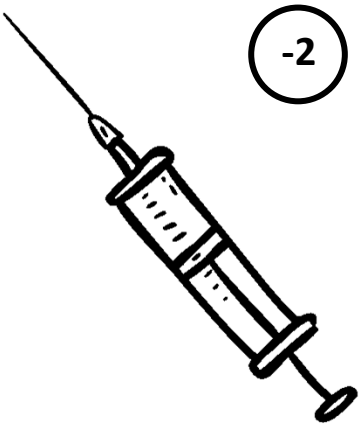
Sick hen ***Kuku dike yaku gojwa*** 	**Sick hen** ***Kuku dike yaku gojwa*** 	**Sick hen** ***Kuku dike yaku gojwa*** 
Sick hen ***Kuku dike yaku gojwa*** 	**Sick hen** ***Kuku dike yaku gojwa*** 	**Sick hen** ***Kuku dike yaku gojwa*** 
Sick hen ***Kuku dike yaku gojwa*** 	**Sick hen** ***Kuku dike yaku gojwa*** 	**Sick hen** ***Kuku dike yaku gojwa*** 

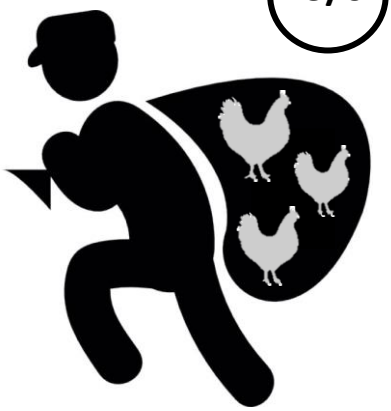
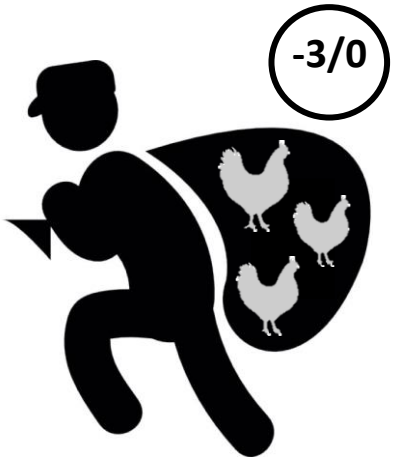
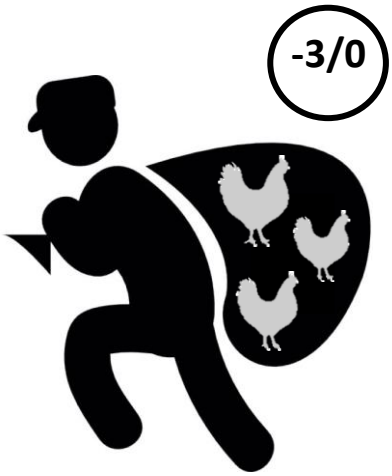
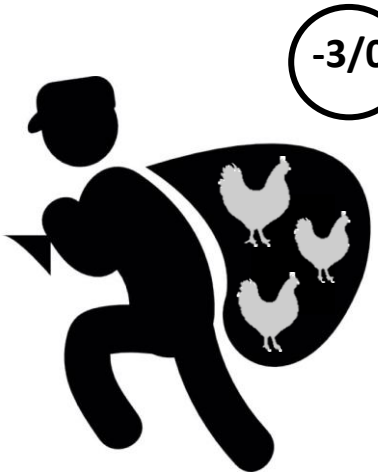
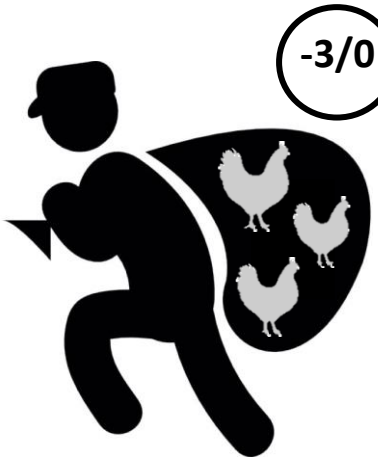
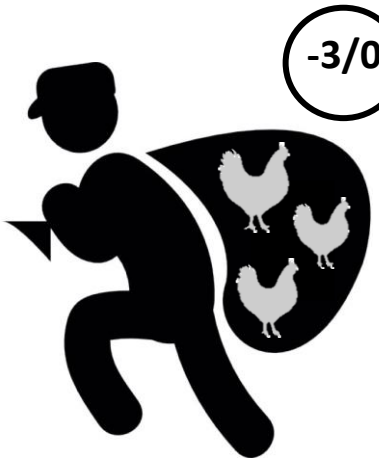
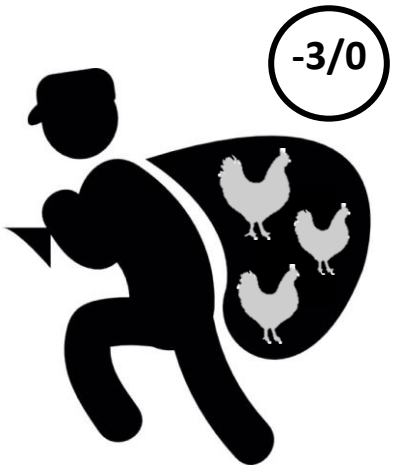
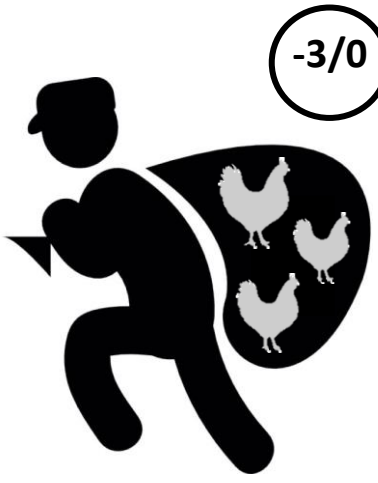
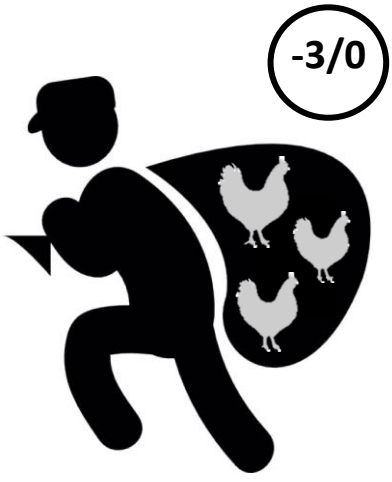
Hen ***Kuku dike*** **+1** 	**Hen** ***Kuku dike*** **+1** 	**Hen** ***Kuku dike*** **+1** 
Hen ***Kuku dike*** **+1** 	**Hen** ***Kuku dike*** **+1** 	**Hen** ***Kuku dike*** **+1** 
Hen ***Kuku dike*** **+1** 	**Hen** ***Kuku dike*** **+1** 	**Hen** ***Kuku dike*** **+1** 

Chicks ***Kitoto ya kuku*** **+3 * / 0** 	**Chicks** ***Kitoto ya kuku*** **+3 * / 0** 	**Chicks** ***Kitoto ya kuku*** **+3 * / 0** 
Chicks ***Kitoto ya kuku*** **+3 * / 0** 	**Chicks** ***Kitoto ya kuku*** **+3 * / 0** 	**Chicks** ***Kitoto ya kuku*** **+3 * / 0** 
Chicks ***Kitoto ya kuku*** **+3 * / 0** 	**Chicks** ***Kitoto ya kuku*** **+3 * / 0** 	**Chicks** ***Kitoto ya kuku*** **+3 * / 0** 

Predator ***Kasimbasimba*** / 0 	**Predator** ***Kasimbasimba*** / 0 	**Predator** ***Kasimbasimba*** / 0
Predator ***Kasimbasimba*** / 0 	**Predator** ***Kasimbasimba*** / 0 	**Predator** ***Kasimbasimba*** / 0
Predator ***Kasimbasimba*** / 0 	**Predator** ***Kasimbasimba*** / 0 	**Predator** ***Kasimbasimba*** / 0

Quarantine pen ***Luba ya kutenganicha*** **-2** 	**Quarantine pen** ***Luba ya kutenganicha*** **-2** 	**Quarantine pen** ***Luba ya kutenganicha*** **-2** 
Quarantine pen ***Luba ya kutenganicha*** **-2** 	**Quarantine pen** ***Luba ya kutenganicha*** **-2** 	**Quarantine pen** ***Luba ya kutenganicha*** **-2** 
Quarantine pen ***Luba ya kutenganicha*** **-2** 	**Quarantine pen** ***Luba ya kutenganicha*** **-2** 	**Quarantine pen** ***Luba ya kutenganicha*** **-2** 

Vaccine ***Chanjo ya kuku*** **-2** 	**Vaccine** ***Chanjo ya kuku*** **-2** 	**Vaccine** ***Chanjo ya kuku*** **-2** 
Vaccine ***Chanjo ya kuku*** **-2** 	**Vaccine** ***Chanjo ya kuku*** **-2** 	**Vaccine** ***Chanjo ya kuku*** **-2** 
Vaccine ***Chanjo ya kuku*** **-2** 	**Vaccine** ***Chanjo ya kuku*** **-2** 	**Vaccine** ***Chanjo ya kuku*** **-2** 

Thief ***Mwizi ya kuku*** **-3/0** 	**Thief** ***Mwizi ya kuku*** **-3/0** 	**Thief** ***Mwizi ya kuku*** **-3/0** 
Thief ***Mwizi ya kuku*** **-3/0** 	**Thief** ***Mwizi ya kuku*** **-3/0** 	**Thief** ***Mwizi ya kuku*** **-3/0** 
Thief ***Mwizi ya kuku*** **-3/0** 	**Thief** ***Mwizi ya kuku*** **-3/0** 	**Thief** ***Mwizi ya kuku*** **-3/0** 

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