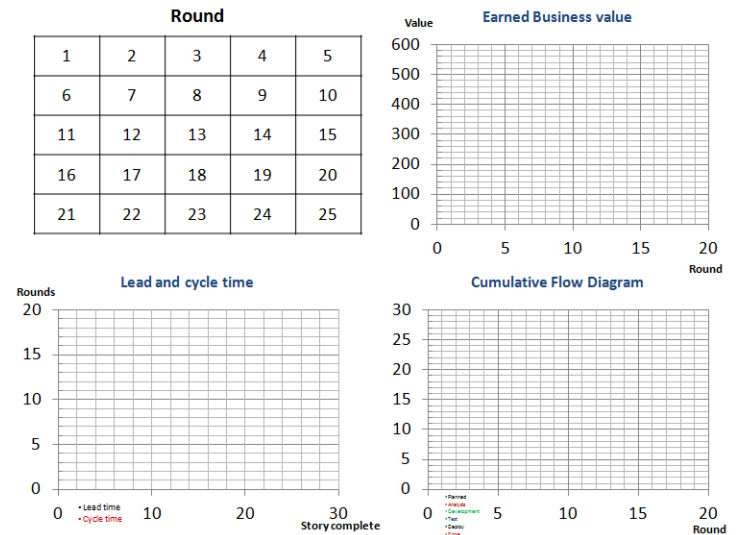# Kanban game

Danske Bank version based on
Software development Kanban

Kanban Game

Backlog	Planned	Analysis		Development		Test		Deploy	Done
		Doing	Done	Doing	Done	Doing	Done		

Round

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

Earned Business value

Lead and cycle time

Cumulative Flow Diagram

Rules

- Redistribute dice every round

- Dice score not used are lost

- Change WIP limit if needed

- Dice rules:
  - Dice moved to other column counts half
  - Roll 1 & 2 = a roll of 1
  - Roll 3 & 4 = a roll of 2
  - Roll 5 & 6 = a roll of 3

Regular story:
Cycle time
4 rounds = 100% business value
5 rounds = 75 % business value
6 rounds = 50 % business value
7 rounds = 25 % business value
> 7 rounds = 0 business value
Cycle time = Complete - Started

Fixed date story:
Must complete on deadline
Only value when on time
Lead and cycle time irrelevant for gaining business value

Expedite story:
Must complete in 3 rounds (cycle time = 3)
Can break WIP limits
Only value when on time
Must be done even if no value

Round 0

1) Spend 5 minutes to organise the normal (white) stories and fixed date (yellow) stories in the backlog

2) Now select 5 stories to start with and place these in prioritised order in the planned column

3) In each of these stories write "0" in the field "Planned in round"

Round 1

1)   **Plan work**

    1)   Select which stories from the **Planned** column you want work on into **Analysis - doing**

    2)   Ensure the stories are in prioritised order

    3)   Write when work began in the field "Started in round" – write 1

    4)   Decide if you want to move stories from the **Backlog** into the **Planned** column. If so remember to fill out the field "Planned in round" with 1

    5)   Decide how many dice you want to utilise in analysis (hint: remember you can move dices around, but only use them once in each round)

2)   **Do work**

    1)   Roll the dice

    2)   Assign dice to stories in prioritised order, if enough dice just cross out the field "Analyse". If not enough write how many dice is left on the card.

    3)   Move stories that are done from the doing to the done column.

3)   **Update metrics**

Round 2

It is important that you work you way through the board from right to left

1) **Plan work**
1) Select which stories in the **Analysis – Done** column you want to work on in **Development**. Move these from **Analysis – Done** to **Development – Doing**.
2) Consider if you want to move any stories from **Planned** to **Analysis – Doing** (remember to fill in the field "started in round")
3) Decide if you want to move stories from the **Backlog** into the **Planned** column. If so remember to fill out the field "Planned in round" with 2
4) Ensure the stories are in prioritised order in all columns
5) Decide how many dice you want to utilise in analysis and development (hint: remember you can move dices around, but only use them once in each round)

2) **Do work**
1) Roll the dice for **development**
2) Assign dice to stories in prioritised order, if enough dice just cross out the field "Develop". If not enough write how many dice is left on the card.
3) Move stories that are done from the doing to the done column.
4) Roll the dice for **Analyse**
5) Assign dice to stories in prioritised order, if enough dice just cross out the field "Analyse". If not enough write how many dice is left on the card.
6) Move stories that are done from the doing to the done column.

3) **Update metrics**

Round 3

It is important that you work you way through the board from right to left

1) **Plan work**

    1) Select which stories in the **Development – Done** column you want to work on in **Test**. Move these from **Development – Done** to **Test – Doing**.

    2) Select which stories in the **Analysis – Done** column you want to work on in **Development**. Move these from **Analysis – Done** to **Development – Doing**.

    3) Consider if you want to move any stories from **Planned** to **Analysis – Doing** (remember to fill in the field "started in round")

    4) Decide if you want to move stories from the **Backlog** into the **Planned** column. If so remember to fill out the field "Planned in round" with 3

    5) Ensure the stories are in prioritised order in all columns

    6) Decide how many dice you want to utilise in analysis, development and test (hint: remember you can move dices around, but only use them once in each round)

2) **Do work**

    1) Roll the dice for **test**

    2) Assign dice to stories in prioritised order, if enough dice just cross out the field "Test". If not enough write how many dice is left on the card.

    3) Move stories that are done from the doing to the done column.

    4) Roll the dice for **development**

    5) Assign dice to stories in prioritised order, if enough dice just cross out the field "Develop". If not enough write how many dice is left on the card.

    6) Move stories that are done from the doing to the done column.

    7) Roll the dice for **analysis**

    8) Assign dice to stories in prioritised order, if enough dice just cross out the field "Analyse". If not enough write how many dice is left on the card.

    9) Move stories that are done from the doing to the done column.

3) **Update metrics**

Round n > 3

It is important that you work you way through the board from right to left

1)   Plan work
  1)   Select which stories in the **Test – Done** column you want to work on in **Deploy**. Move these from **Test – Done** to **Deploy**.
  2)   Select which stories in the **Development – Done** column you want to work on in **Test**. Move these from **Development – Done** to **Test – Doing**.
  3)   Select which stories in the **Analysis – Done** column you want to work on in **Development**. Move these from **Analysis – Done** to **Development – Doing**.
  4)   Consider if you want to move any stories from **Planned** to **Analysis – Doing** (remember to fill in the field "started in round")
  5)   Decide if you want to move stories from the **Backlog** into the **Planned** column. If so remember to fill out the field "Planned in round" with 3
  6)   Ensure the stories are in prioritised order in all columns
  7)   Decide how many dice you want to utilise in analysis, development, test and deploy (hint: remember you can move dices around, but only use them once in each round)

2)   Do work
  1)   Rolls the dice for **deploy**
  2)   Assign dice to stories in prioritised order, if enough dice just cross out the field "Deploy". If not enough write how many dice is left on the card.
  3)   Move stories that are done from the deploy to the Done column.
  4)   Roll the dice for **test**
  5)   Assign dice to stories in prioritised order, if enough dice just cross out the field "Test". If not enough write how many dice is left on the card.
  6)   Move stories that are done from the doing to the done column.
  7)   Roll the dice for **development**
  8)   Assign dice to stories in prioritised order, if enough dice just cross out the field "Develop". If not enough write how many dice is left on the card.
  9)   Move stories that are done from the doing to the done column.
  10)   Roll the dice for **Analysis**
  11)   Assign dice to stories in prioritised order, if enough dice just cross out the field "Analyse". If not enough write how many dice is left on the card.
  12)   Move stories that are done from the doing to the done column.

3)   Update metrics

Kanban Game – reflection questions

- Did you see the six core practices in the game?

  ➢ **Visualise work**

  ➢ **Limit Work In Progress (WIP)**

  ➢ **Make policies explicit**

  ➢ **Measure and Manage Flow**

  ➢ **Implement feedback loops**

  ➢ **Improve collaboratively using scientific models**

Kanban Game – reflection questions

- Did you see the six core practices in the game?
- What do the measurements show you?
- How did the expedite and fixed date (round) impact the flow?
- What happened before each round?
- What about lost Business Value?
- Why have a planned column?
- What was the impact of introducing the WIP limit?