Welcome! This is a place to discuss Anki, and ask any questions you may have. Before asking a question, please see these instructions.

Deck Options Explained

Scheduling

Jun 2020
1 / 18
Jun 2020
Mar 28

mmdj2 3 Jun '20

**if you think it's too long to read, you can use example parts, they work as some sort of TL;DR.
but if you're new I recommend reading the whole thing.**

▼ Deck Options

I think deck options is the most important thing about anki that everybody should know how to work with and modify.
Here I will explain things about deck options that I wish I had known when I started using anki and that are important for anki users to understand.

it controls anki's scheduler so if you use inappropriate settings, you might have to review too many cards every day and you might get frustrated with your reviews, or you might not see cards in a deck often enough and you might keep forgetting them.

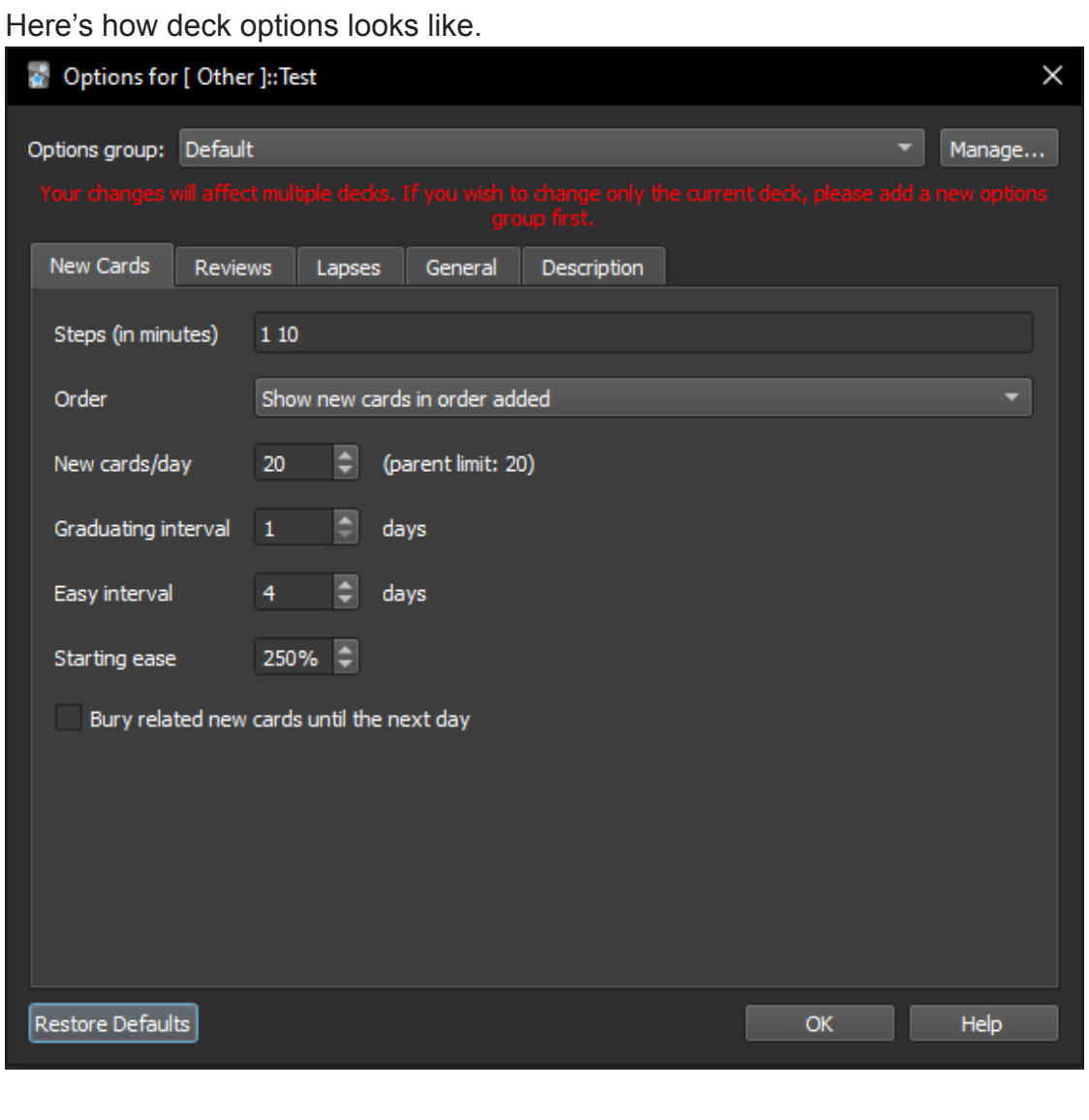
I personally think how effective anki is for you depends on your deck options settings, and messing with it without knowing what you're doing might make anki the most useless app for you. but if you use the right settings it most likely will be the best app you can use to memorize almost anything.

In this post I will just explain how everything works and how it affects scheduling, and won't recommend any settings because I think you should tweak with them and find out for yourself what works best for you.

▼ Opening Deck Options

You can open deck options by:

- Clicking on gear icon in front of your deck name and selecting "Options" from the menu that appears
  Or
- Clicking on deck name and going to deck overview and pressing "O" on deck overview screen
  Here's how deck options looks like.



Options for [Other]::Test

Options group: Default

Your changes will affect multiple decks. If you wish to change only the current deck, please add a new options group first.

Steps (in minutes): 1 10
Order: Show new cards in order added
New cards/day: 20 (parent limit: 20)
Graduating interval: 1 days
Easy interval: 4 days
Starting ease: 250%
☐ Bury related new cards until the next day

▼ Creating Option Groups

If you have multiple decks/subjects you might want to use different settings for each one of them. if you need to use different settings for different decks you'll have to create option groups.

To create option groups:

1. click on "Manage…" button in top right corner of deck options window
2. select "Add" from the menu that appears.
3. Now type in the name that you want to use for your options group.

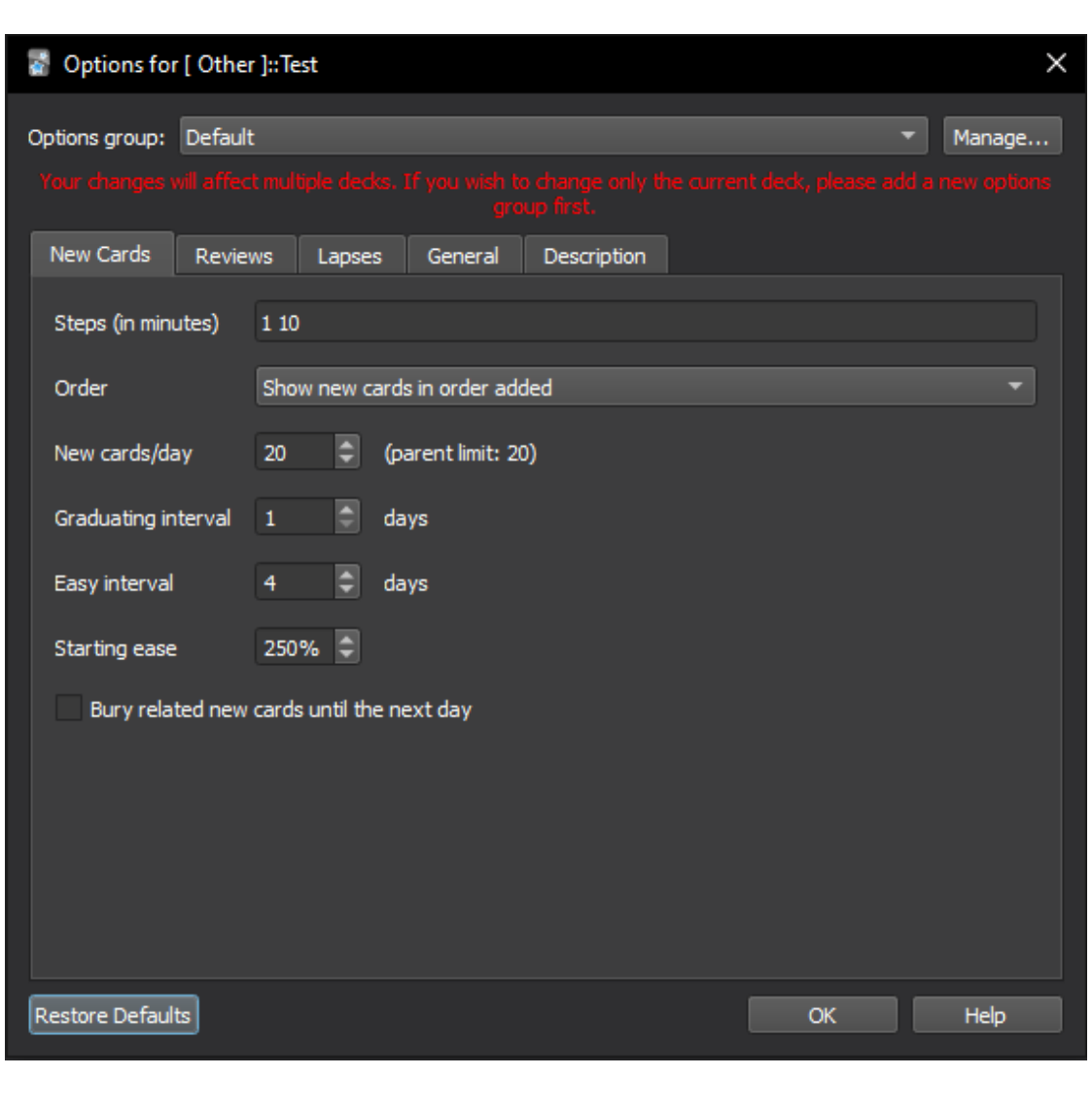
congrats 😃 you just created your options groups.

NOTE: You don't have to create different option groups for every deck you have. some settings might be effective for more than one deck.

Now that you created your deck options, in "New Cards", "Reviews", and "Lapses" I'll explain what each options does.

▼ New Cards

This tab, as the name suggests, modifies how anki treats new cards.



Options for [Other]::Test

Options group: Default

Your changes will affect multiple decks. If you wish to change only the current deck, please add a new options group first.

Steps (in minutes): 1 10
Order: Show new cards in order added
New cards/day: 20 (parent limit: 20)
Graduating interval: 1 days
Easy interval: 4 days
Starting ease: 250%
☐ Bury related new cards until the next day

▼ Steps (in minutes)

This options defines learning steps for new cards.

You'll pass one learning step on a new/learn card each time you press "Good" on that card.

Say your learning steps are like this -> 10 30 1440
The first one (10) is for the "Again" button. Each time you press again on a new/learn card, it's interval will be 10 minutes, meaning that anki will show you that card in 10 minutes. (might show you sooner based on "Tools -> Preferences -> Learn ahead limit")

The second number (30) is the first learning step. when you first see a new card, if you press "Good" on it, it's interval will be 30 minutes, meaning that anki will show you the card again in 30 minutes.

The third number (1440 = 1 day) is the second learning step. when you have pressed good on a new card, the second time when you see it, if you press "Good" on it, it's interval will be 1440 minutes (1 day), meaning that anki will show you that card again in 1 day.

now that you have finished learning steps, the cards exits learning phase and it'll get an ease (Starting ease) and it will be a graduated card.

when you finish learning steps, the cards exits learning and the next interval will be "Graduating interval"

▼ Graduating interval

When you finish learning a card (when you finish learning steps) after you see the card again, it's interval will be "Graduating interval".

Say your graduating interval is 3 days and your learning steps are like this -> 10 30 1440
when you see you card after last learning step (after 1 day) if you press "Good" on that card, it's interval will be 3 days, meaning anki will show you the card again after 3 days.
from there on the interval will be calculated based on your performance and review settings.

▼ Easy interval

it controls easy button interval for cards in learning phase.
If you press "Easy" on a card in any learning step, the card will graduate (it'll exit the learning phase) it's interval will be "Easy interval"
Say your Easy interval is 4 days.
if you press easy on a card in learning phase, it's interval will be 4 days, meaning anki will show you that card again in 4 days

▼ Starting ease

Anki will give each card in review phase a unique ease which controls how often you see a card.
Starting ease is the ease that anki gives cards when they exit learning phase and get graduated.
You'll see how it affects how often you see a card in "Reviews"

▼ Examples

I know some of you find those explanations confusing
Here's an example card. feel free to go back and read and compare this part with the previous parts till you fully understand what exactly happens.

**Steps (in minutes): 10 30 1440
Graduating interval: 3 days
Easy interval: 4 days**

new card -> (Press "Good") -> show again in 10 minutes
the same card after 10 minutes is passed -> (Press "Good") -> show again in 30 minutes
the same card after 30 minutes is passed -> (Press "Good") -> show again in 1 day
the same card after 1 day is passed -> (Press "Good") -> show again in 3 days

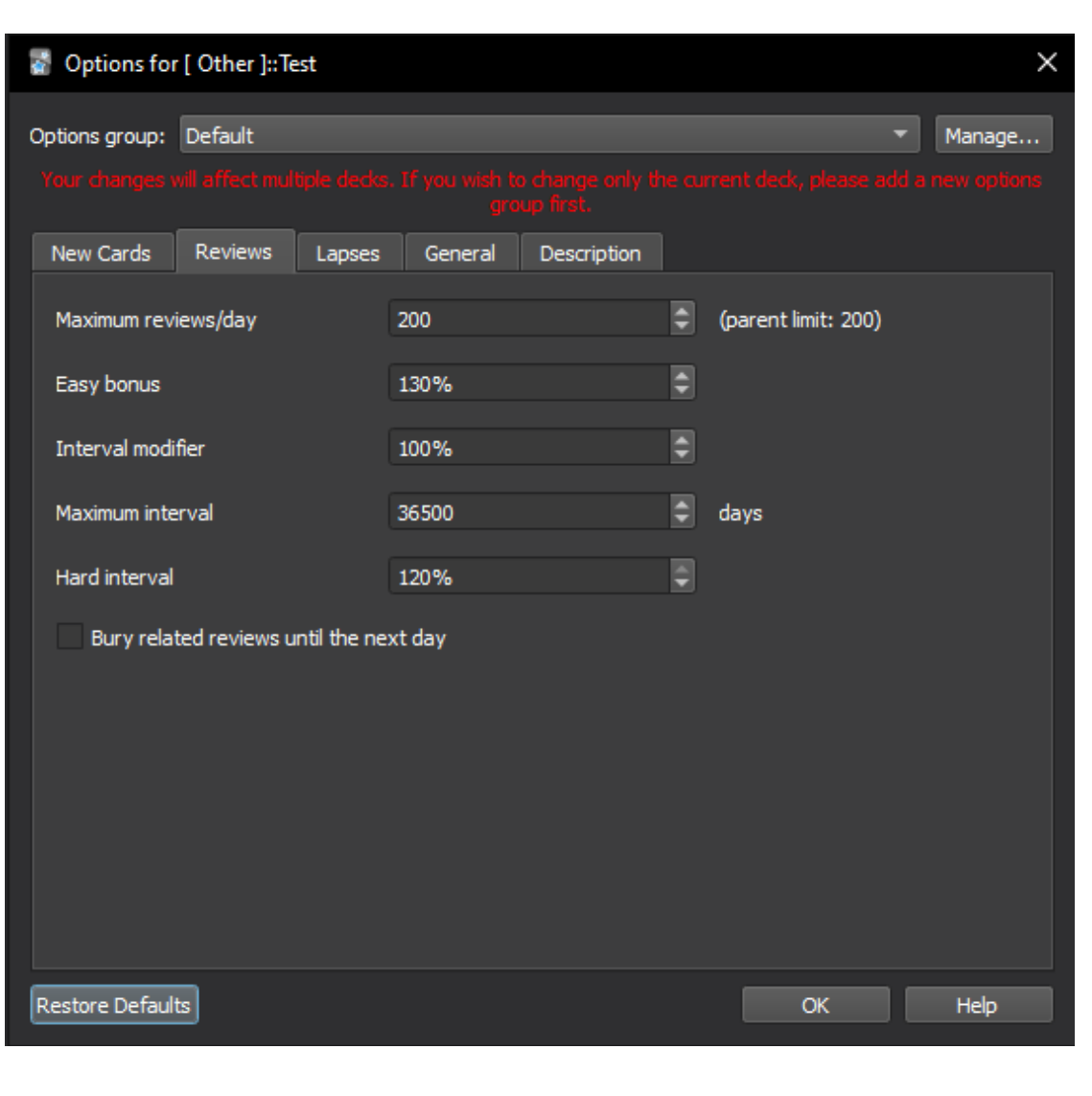
- If you press again in any of those steps, the card will go back to the first learning step
- if you press hard in any of those steps, the card will stay in that step. it's interval will be Previous interval (sometimes it's interval is average of good and again intervals)
- if you press Easy in any of those steps, the card will exit learning phase, and it's interval will be 4 days (Easy interval).

▼ Difference between graduated cards and cards in learning phase

You might be wondering what happens when a card graduates, or what's the difference between a graduated card and a card in learning phase.
The difference is in the card's ease. a card in learning phase doesn't have ease, and no matter how many times you press "Again" on that card, it won't affect it's ease. but for the graduated cards, each time you press again anki will decrease that card's ease by 20% which will affect all future reviews for that card. (Explanation is review settings)

▼ Reviews

This tab controls scheduling for cards in review phase.



Options for [Other]::Test

Options group: Default

Your changes will affect multiple decks. If you wish to change only the current deck, please add a new options group first.

Maximum reviews/day: 200 (parent limit: 200)
Easy bonus: 130%
Interval modifier: 100%
Maximum interval: 36500 days
Hard interval: 120%
☐ Bury related reviews until the next day

Scheduling for review cards is based on previous interval (how long it's been since you last reviews the card to be exact) and **easy bonus**, **interval modifier**, **hard interval**, card's **ease**.
each one of these plays a role based on what button you have pressed.

Example

I think explaining what those options do in form of an example is much easier and less confusing.

▼ Again

if you press **Again** on a review card, it's exit review state and will enter re-learning phase and it's ease will be decrease by 20% (more about re-learning phase in **lapses**)

▼ Hard

if you press **Hard** on a review card, it's previous interval will be multiplied by **Hard interval** and it's ease will be decreased by **15%** telling anki to show you the card more frequently

Here's an example card:

*Previous interval: 10 days
Hard interval: 120%*

review card that you reviewed 10 days ago -> (Press "Hard") -> show again in 12 days (10 * 1.2) [-15% ease]
same card after 12 days -> (Press "Hard") -> show again in 14 days (12 * 1.2) [-15% ease]
same card after 14 days -> (Press "Hard") -> show again in 17 days (14 * 1.2) [-15% ease]

▼ Good

if you press **Good** on a review card, it's previous interval will be multiplied by card's **ease**

Here's an example card:

*Previous interval: 10 days
Ease: 200%*

review card that you reviewed 10 days ago -> (Press "Good") -> show again in 20 days (10 * 2)
same card after 20 days -> (Press "Good") -> show again in 40 days (20 * 2)
same card after 40 days -> (Press "Good") -> show again in 80 days (40 * 2)

▼ Easy

if you press **Easy** on a review card, it's previous interval will be multiplied by **(Ease * Easy bonus)** and it's ease will be increased by **15%**

Here's an example card:

*Previous interval: 10 days
Ease: 200%
Easy bonus: 150%*

review card that you reviewed 10 days ago -> (Press "Easy") -> show again in 30 days (10 * 2 * 1.5) [+15% ease]
same card after 30 days -> (Press "Easy") -> show again in 97 days (30 * 2.15 * 1.5) [+15% ease]
same card after 97 days -> (Press "Easy") -> show again in 334 days (97 * 2.3 * 1.5) [+15% ease]

▼ Interval modifier

all intervals for review cards will be multiplied by interval modifier.

There are 2 things that limit how much interval modifier can decrease the interval:

- Hard interval can't be less than previous interval
- Good interval can't be less than hard interval

so if a buttons interval is less than previous interval, anki will automatically change it to previous interval

Here are the same examples with an interval modifier of 80%:

▼ Hard

*Previous interval: 10 days
Hard interval: 120%
Interval Modifier: 80%*

review card that you reviewed 10 days ago -> (Press "Hard") -> show again in 10 days (10 * 1.2 * 0.8 = 9.6 -> automatically changed to 10) [-15% ease]
same card after 10 days -> (Press "Hard") -> show again in 10 days (10 * 1.2 * 0.8) [-15% ease]
same card after 10 days -> (Press "Hard") -> show again in 10 days (10 * 1.2 * 0.8) [-15% ease]

▼ Good

*Previous interval: 10 days
Ease: 200%
Interval Modifier: 80%*

review card that you reviewed 10 days ago -> (Press "Good") -> show again in 16 days (10 * 2 * 0.8)
same card after 16 days -> (Press "Good") -> show again in 26 days (16 * 2 * 0.8)
same card after 26 days -> (Press "Good") -> show again in 41 days (26 * 2 * 0.8)

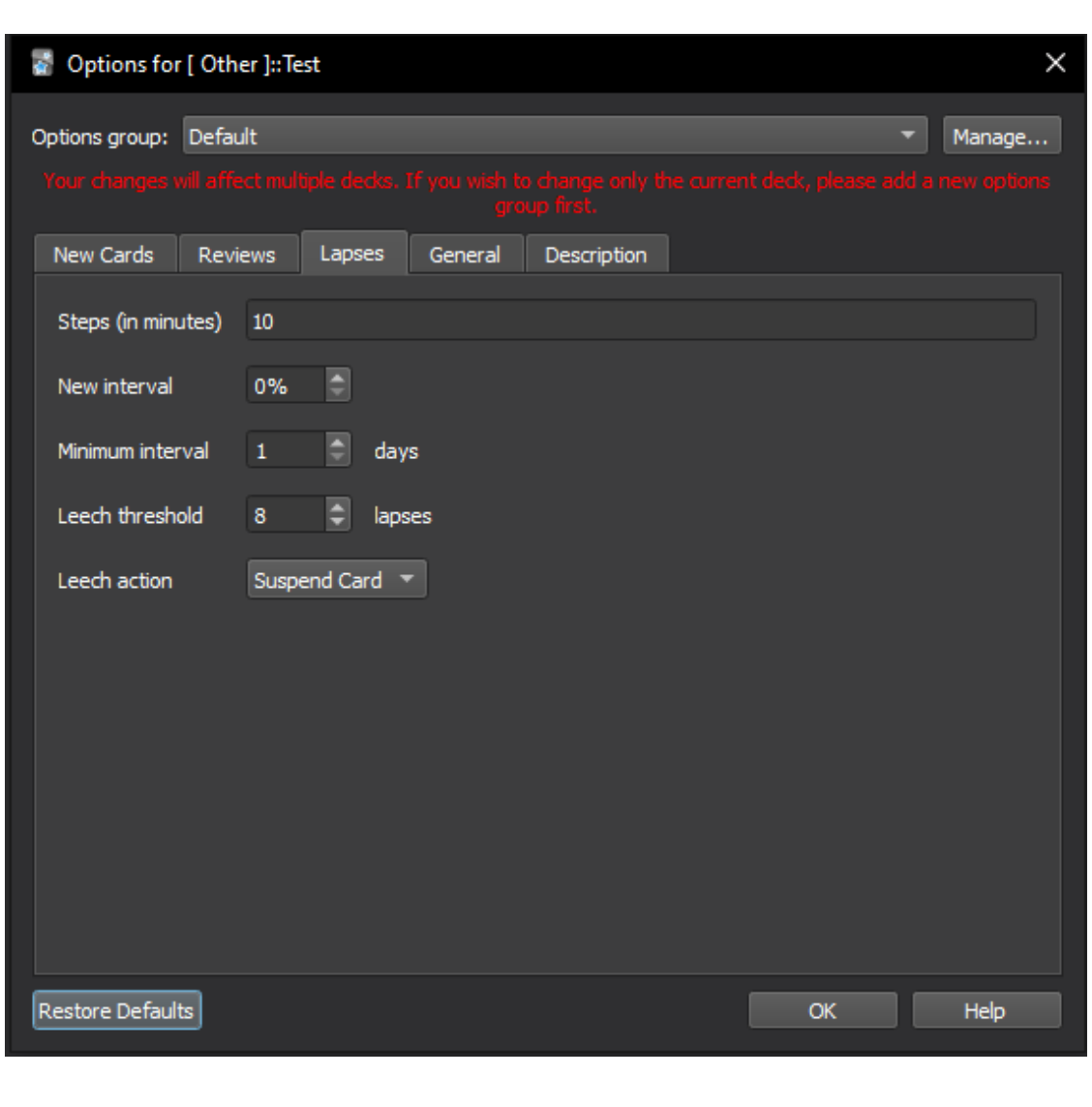
▼ Easy

*Previous interval: 10 days
Ease: 200%
Easy bonus: 150%
Interval Modifier: 80%*

review card that you reviewed 10 days ago -> (Press "Easy") -> show again in 24 days (10 * 2 * 1.5 * 0.8) [+15% ease]
same card after 24 days -> (Press "Easy") -> show again in 62 days (24 * 2.15 * 1.5 * 0.8) [+15% ease]
same card after 62 days -> (Press "Easy") -> show again in 171 days (62 * 2.3 * 1.5 * 0.8) [+15% ease]

▼ Lapses

Controls scheduling for cards in re-learning phase.



Options for [Other]::Test

Options group: Default

Your changes will affect multiple decks. If you wish to change only the current deck, please add a new options group first.

Steps (in minutes): 10
New interval: 0%
Minimum interval: 1 days
Leech threshold: 8 lapses
Leech action: Suspend Card

▼ Steps (in minutes)

it's the same thing as learning steps for new card.
when you fail a card (press "Again") the card enters re-learning phase (same as learning phase) and before it becomes a review card again, you'll have to pass all re-learning steps or press easy on the card.

▼ New interval

it works as the graduating interval in New cards tab. the difference is that you can set it based on cards previous interval.

▼ Example

*Previous Interval: 50 days
Steps (in minutes): 10 30 1440
New interval: 50%*

review card that you reviewed 50 days ago -> (Press "Again") -> show again in 10 minutes
same card after 10 minutes -> (Press "Good") -> show again in 30 minutes
same card after 30 minutes -> (Press "Good") -> show again in 1 day
same card after 1 day -> (Press "Good") -> show again in 25 days (50 * 0.5 | previous interval * new interval)

if you press "Easy" in any of those steps this is what happens:
card -> (Press "Easy") -> show again in 25 days (50 * 0.5)

▼ Minimum interval

it controls the minimum interval for a lapsed card.

Example

*Previous interval: 10 days
steps (in minutes): 10 30 1440
New interval: 20%
Minimum interval: 5 days*

review card that you reviewed 10 days ago -> (Press "Again") -> show again in 10 minutes
same card after 10 minutes -> (Press "Good") -> show again in 30 minutes
same card after 30 minutes -> (Press "Good") -> show again in 1 day
same card after 1 day -> (Press "Good") -> show again in 5 days (10 * 0.2 = 2 which is less than the minimum interval (5 days) so anki automatically changes it to 5 days)

▼ Fuzz Factor

When you press a button that say 30 days, anki might give the card a different interval. it's due to fuzz factor and doesn't mean anki's algorithm is broken or it's not functioning properly.
anki automatically applies a fuzz factor to all cards so when you introduce some new cards, you won't have to review all of them in the same day.

The fuzz factor is usually between 15 to 20 percent.

Example

Here's an example for you to understand fuzz factor better

*Interval for card A: 10 days (on any button)
interval for card B: 20 days (on any button)
interval for card C: 30 days (on any button)
interval for card D: 40 days (on any button)*

Now here's the interval that we expect anki to give these cards:

**for card A the interval should be something from 8 to 12 days
for card B the interval should be something from 16 to 24 days
for card C the interval should be something from 25 to 35 days
for card D the interval should be something from 34 to 46 days**

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this was my understanding of deck options and how it works. if you don't understand some parts of it, feel free to ask questions.
**don't modify the settings unless you know what you're doing.
you don't have to change everything you see** 😃

4 Replies 26 ♡

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andrewsanchez Jun '20

Nice! It would be cool to have a Community Contributions category with a Tutorial subcategory for posts like this.

1 Reply 1 ♡

---

abdel ↪ mmdj2 Jun '20

very helpfull thank you so much

---

dae ↪ andrewsanchez Jun '20

Let's continue that discussion on Move the FAQ into Discourse 52

1 ♡

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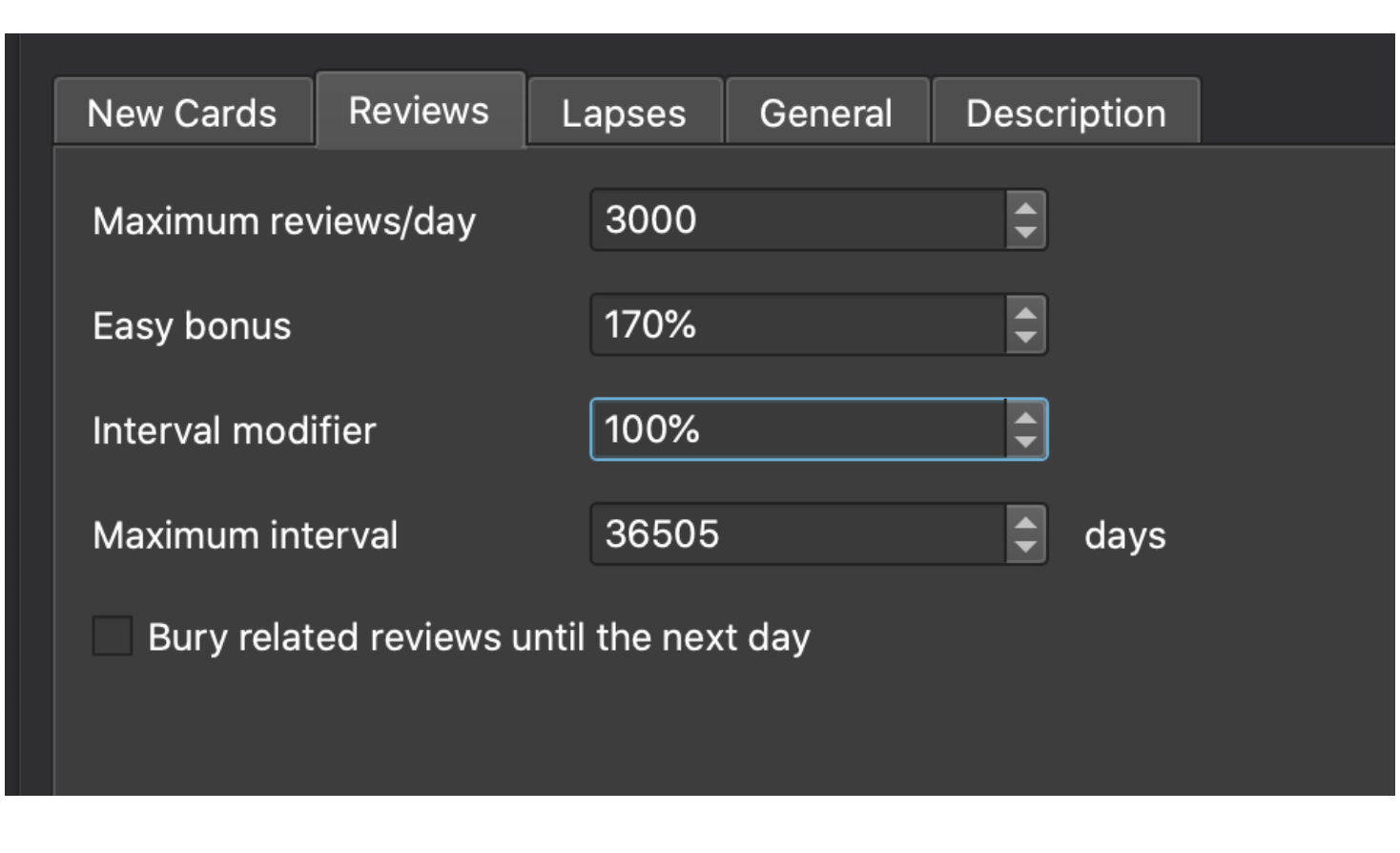
emilio.dignazio Jun '20

Hi, is it possibile that i do not have "hard interval" button? (i have the 2.1.26 version)



Maximum reviews/day: 3000
Easy bonus: 170%
Interval modifier: 100%
Maximum interval: 36505 days
☐ Bury related reviews until the next day

---

mmdj2 Jun '20

you should enable V2 scheduler in "Tools -> Preferences -> Anki 2.1 scheduler (beta)"

1 ♡

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emilio.dignazio Jun '20

ok, thank you. do this action reset my old card?

---

guillempalausalva Jun '20

It will reset just the learning cards i.e the non-graduated cards.

2 ♡

11 DAYS LATER

Nicole Jun '20

Thank you very much for this in-depth tutorial!

> mmdj2:
>
> review card that you reviewed 10 days ago -> (Press "Hard") -> show again in 10 days (10 * 1.2 * 0.8 = 9.6 -> automatically changed to 10)

According to Anki's documentation (FAQ section) 39, this will be adjusted to 11 days, I think?

"Finally, all new intervals (except Again) will always be at least one day longer than the previous interval."

1 ♡

---

mmdj2 Jun '20

yes, that's true. just thought wasn't too important and and didn't want to confuse them about the one extra day. (it's confusing enough as it is 😑)

1 ♡

Nicole Jun '20

Fair enough 🙂 I was just slightly irritated because I finally stumbled upon the FAQ section with the algorithm… but you're right, it does not matter for the calculations as such.

1 ♡

---

mmdj2 Jun '20

here's a link 25 to the manual about that one extra day.

and here's the exact quote for whomever is interested in it:

> One final thing to note is that Anki forces a new interval to be at least 1 day longer than it was previously so that you don't get stuck reviewing with the same interval forever. If your goal is to repeat a card once a day for multiple days, you can do that by setting more learning mode steps instead of by adjusting this modifier.

1 ♡

---

mtylek Jun '20

> mmdj2:
>
> There are 2 things that limit how much interval modifier can decrease the interval:
>
> - Hard interval can't be less than previous interval
> - Good interval can't be less than hard interval
>
> so if a buttons interval is less than previous interval, anki will automatically change it to previous interval

Does it mean I can't set my Hard Interval to lets say 80? I am thinking about Hard Interval to 80 and Interval Modifier left at 100. As a result my new interval (after pressing Hard) should be shorter than the previous one was. Will that work?

---

mmdj2 Jun '20

if you set hard interval on something like 80%, it'll make hard interval less than previous interval.
but if you try decreasing interval to less than previous interval by using interval modifier, it won't happen.

---

mtylek Jun '20

> mmdj2:
>
> if you set hard interval on something like 80%, it'll make hard interval less than previous interval.

Do you mean it will make normal interval less than the previous one right?
This is exactly what I want, namely when I press Hard I want to have my new interval as 80% of the previous interval which is less.

---

mmdj2 Jun '20

this is what will happen

► Show Example

basically, hard interval can make interval less than previous interval.

and if your hard interval is less than 100%, interval modifier will also be able to decrease interval even more.

► Show Example

3 ♡

4 MONTHS LATER

guidolomo Oct '20

> mmdj2:
>
> I personally think how effective anki is for you depends on your deck options settings

I agree! Thanks for this clear and comprehensive account of how they work.

1 YEAR LATER

fabmir79 Mar 28

Thanks, because I don't think the decrease in ease is explained anywhere in the manual. I did not understand that pressing hard did not only modify the interval once (by the factor of 1.2 instead of 2.5 on standard deck options settings) but also of every time afterwards by decreasing the ease factor by 15% so that when the good button is pressed afterwards it only increases the interval by a factor of 2.1 (2.5 -15%).

Reply

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