

DragonBox



Who Created It?

High school math teacher Jean-Baptiste Huynh and cognitive scientist and game designer Patrick Marchal began working on the idea for DragonBox in June 2011.

In April 2012, DragonBox is officially launched in Oslo, Norway after receiving funding.

May 2012 the first DragonBox game is released (later called **DragonBox 5+**) and **DragonBox 12+** is released April 2013.



Kahoot! Acquires DragonBox

News Brief: May 9, 2019 – Kahoot! acquires the DragonBox family of math apps for \$18M. The union now exposes Kahoot!’s hundreds of millions of users to Dragonbox.

Regarding the acquisition, CEO and co-founder of Kahoot! Asmund Furueth said, “DragonBox brings tremendous value to our global community of students, teachers, and parents, as math is the single most important subject on our platform.”



Originally Created For?

- Created for students 5+.
- **Goal:** to excite young learners about math and maximize exposure to pre-algebraic concepts, along with learning crucial insights to improve how the subject is being taught. By adjusting to a student's progression, the modified game allows players to remain motivated while collecting insights for researchers to better understand how and where students struggle with mastery.
- 12+ version created subsequently.
- Designed as a way to teach algebra without students realizing they are learning algebra.

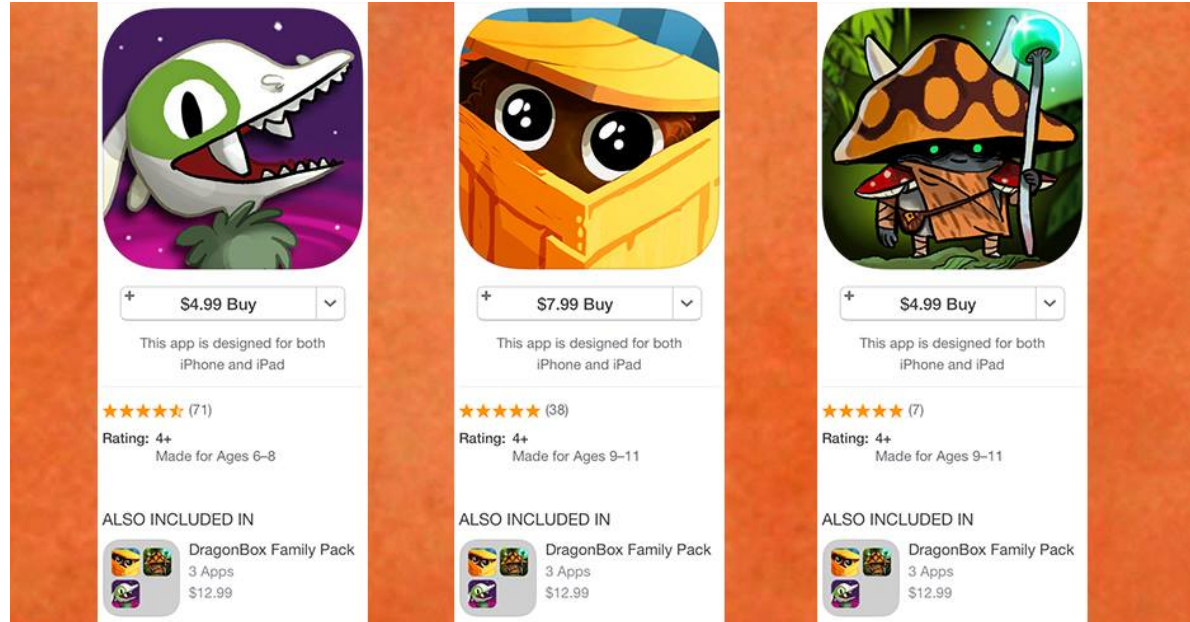


Pricing

Teachers can get a free version of four of the apps. Teachers must purchase the Elements for \$4.99.

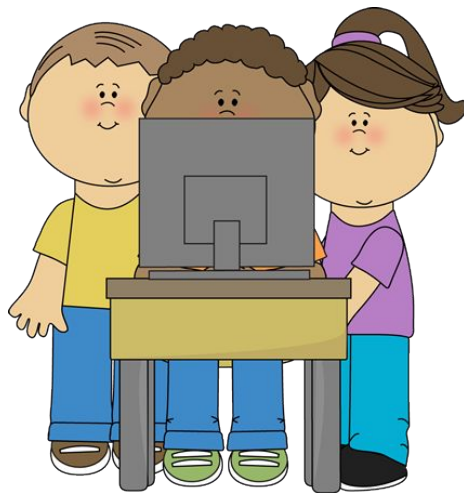
Students can either buy a bundle with all five apps for \$24.99 or buy individual apps which range in price from \$4.99 to \$7.99 for lifetime access.

Schools that purchase twenty or more licenses can get a 50% off discount from iTunes.



System Requirements

Platform	DragonBox Algebra 5+	DragonBox Algebra 12+	DragonBox Elements
IOS	Supported(1)		
Android	Supported(2)		Supported(2)
Mac OS X	Supported(3)	Planned	Planned
Windows XP, Vista, 7	Supported(4)	Planned	Planned
Windows 8 Store	Supported(5)	Supported(5)	Planned



(1) Requires iOS 4.0+ & armv7 processor i.e. Compatible with iphone since the 3gs, all ipads and ipods since the 3rd generation except for the 8GB of the 3rd generation (MC086LL). Older ipods (like first generation ipod touch) are not supported [source].

(2) Compatible with all but oldest android phones and tablets. Requires Android 2.3+ & armv7. Tested on several android phones including (but not limited to) Samsung Galaxy S, SII, Tab 10.1, LG Optimus, HTC Sense, HTC, Google Nexus, Kindle.

The exact list of supported phones is not available at the moment. You can usually find out if a phone will be compatible by identifying on a site like gsmarena.com the android version and the chipset your phone has. E.g. the Sony Xperia Arc S has a Qualcomm MSM8255 Snapdragon chipset. Then by searching that chipset name, you will find the CPU instruction set on the internet. Wikipedia often has that information. For the aforementioned chipset it is armv7, thus compatible. Send us a mail if you're unsure.

(3) Mac OS X 10.6.6 or above.

(4) XP SP2 or more

Graphics card with DirectX 9 level (shader model 2.0) capabilities. Any card made since 2004 should work.

(5) Windows Store should filter incompatible devices. We haven't set specific extra requirements.

Note: a few devices supposedly compatible are exhibiting unfixable bugs, and have been excluded from the Google Play store.

Does DragonBox Work on Chromebooks?

- Can be used on the following Chromebook devices:
<https://sites.google.com/a/chromium.org/dev/chromium-os/chrome-os-systems-supporting-android-apps?rd=1>
 - Note: DragonBox Apps DO NOT sync across devices so if you switch devices you will lose your progress.

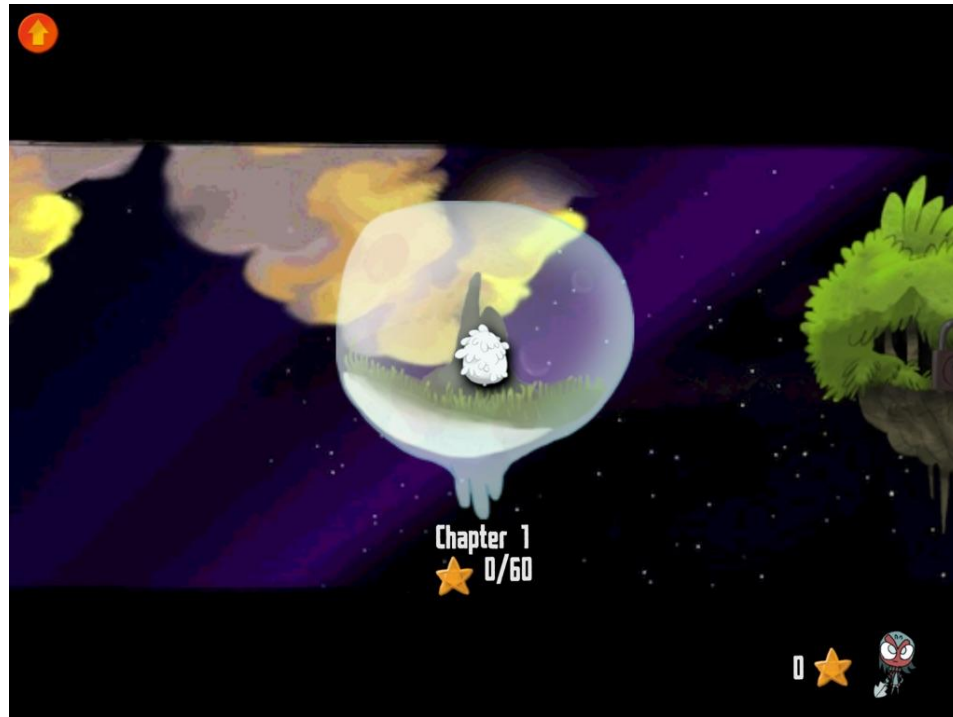


General Features of [DragonBox 5+](#)

- Perfect for kids starting out with algebra.
- App includes 200+ levels, 5 chapters, and covers the basics of algebra.
- Chapters are unlocked as levels are completed but if you name your profile ALLOPEN then all chapters are unlocked and a student may start at any level.



Example: Step-by-Step How-to for DragonBox 5+: a few levels in Chapter 1





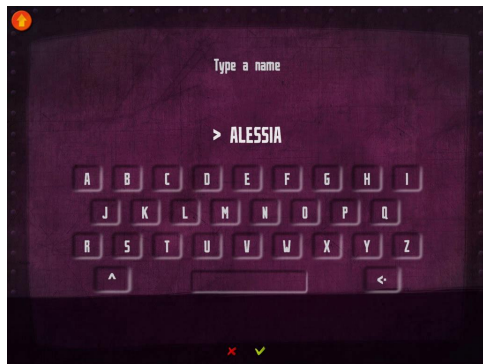
First, click “play” on the App.



Choose an avatar by clicking “create” (note: top left corner the red circle with the yellow arrow will bring you back to the previous page).



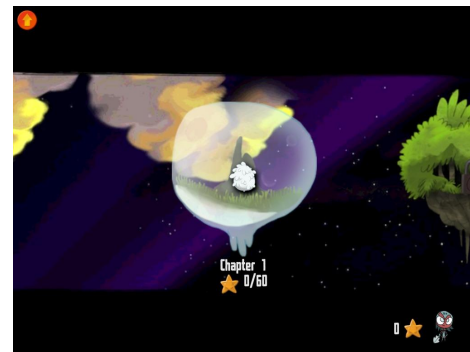
Slide avatars to choose one of 26 avatars then click the green check mark at the bottom-middle of the page.



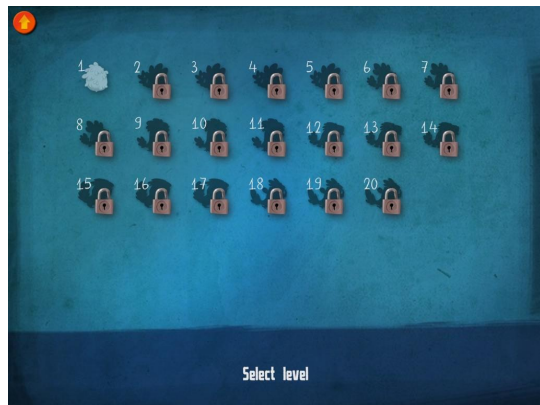
Type in the avatar's name and click the green check mark (can always click the red "x" to "redo").



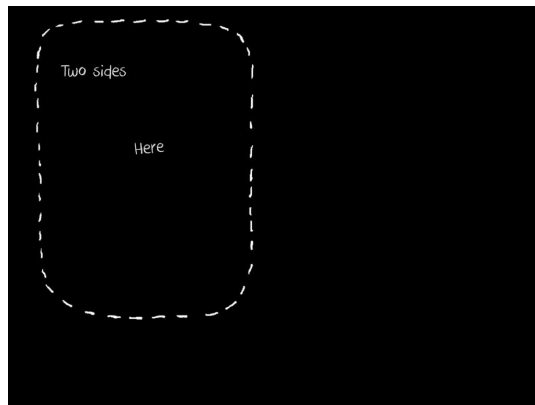
If this is your avatar then click "play" to start.



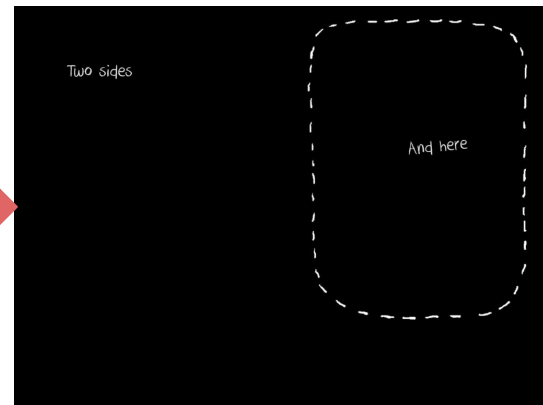
This is chapter 1: click on the white egg (goal is to hatch and grow your dragon) and begin.



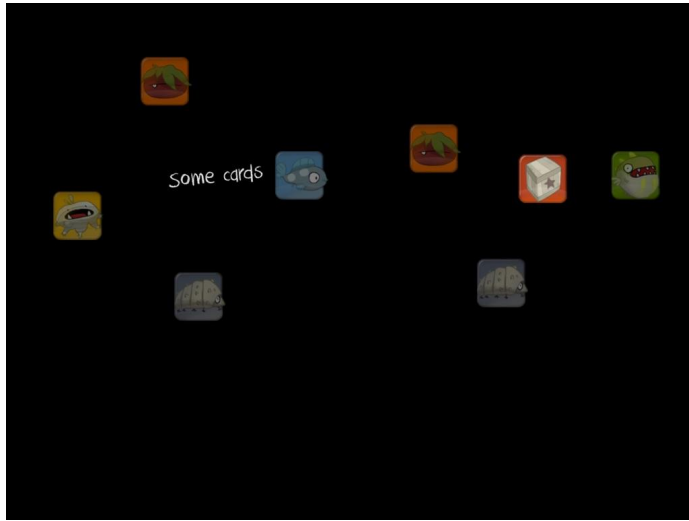
There are 20 levels a student may complete. Click on the egg (level 1).



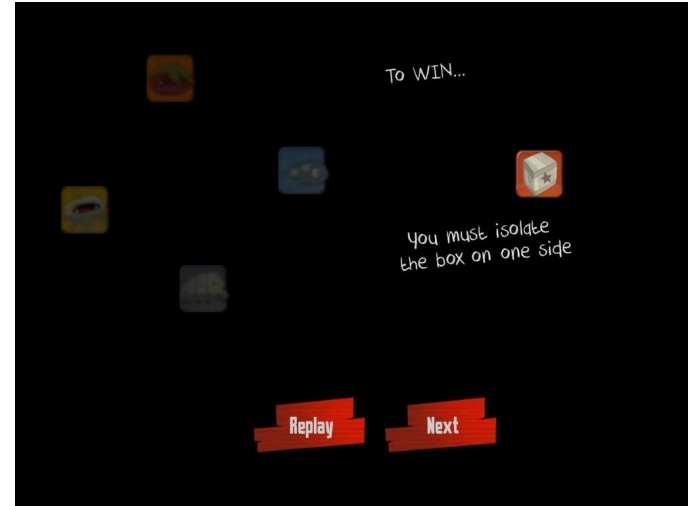
The screen has two sides, each representing one side of an equation (this is the left side).



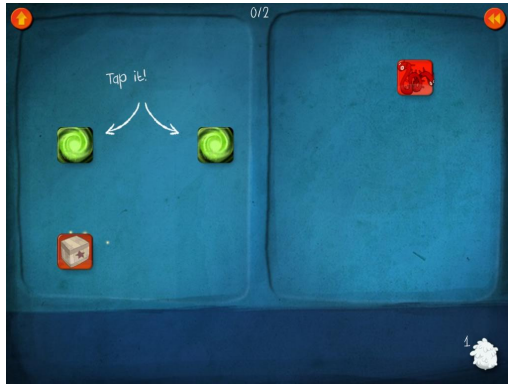
The screen has two sides, each representing one side of an equation (this is the right side).



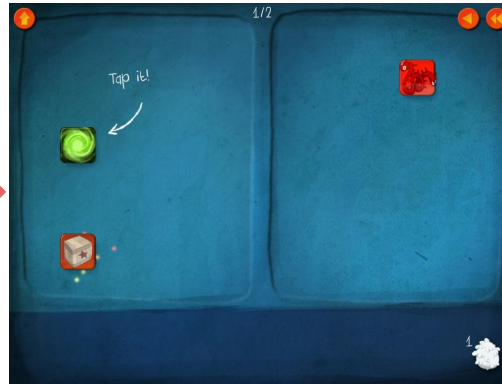
Cards can be on either side.



To win, the student must isolate the crate with the star on it. Click "next" if the directions are clear, if not click "replay" to review.



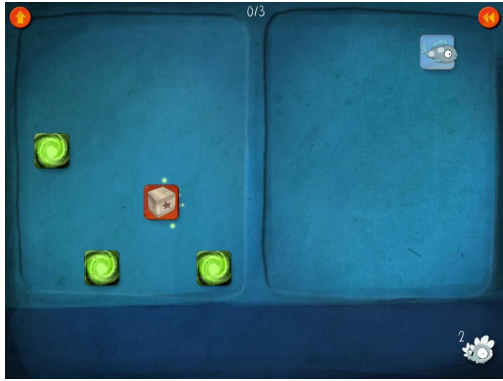
In the top middle there is a fraction: $0/2$. This means this problem should take a student 2 moves. When cards are matched (opposites), a green swirl appears that you tap to make it disappear.



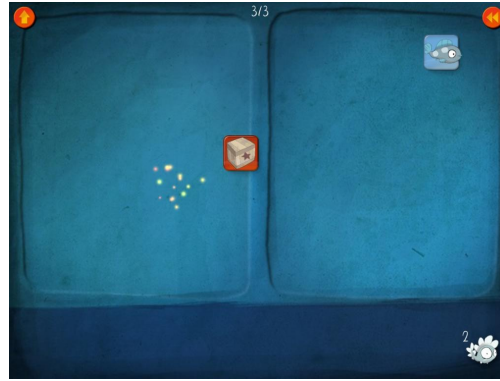
Notice, one green swirl is gone, now tap on the 2nd swirl representing your 2nd move.



Once complete, success is achieved if the box is alone, the right number of moves happen, and the right number of cards are used. The maximum number of stars possible with each individual game is 3 stars. As the student moves through the levels of the chapter, the dragon grows!



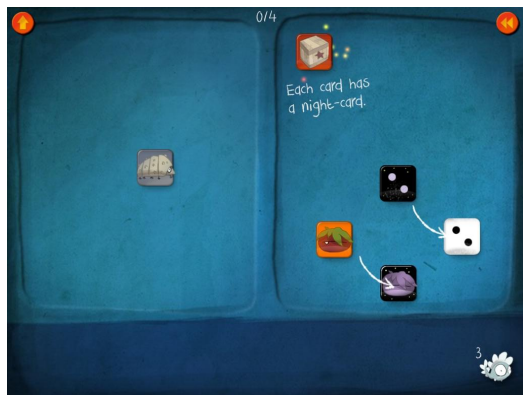
This is the very 1st level. The student taps on all 3 green swirls. Note: on the top right there are “reverse” arrows which allow you to go back to the previous screen. In the top-middle there is “fraction” (0/3). The denominator is the total # of steps allowed for the problem and the numerator is how many steps the student took to solve it.



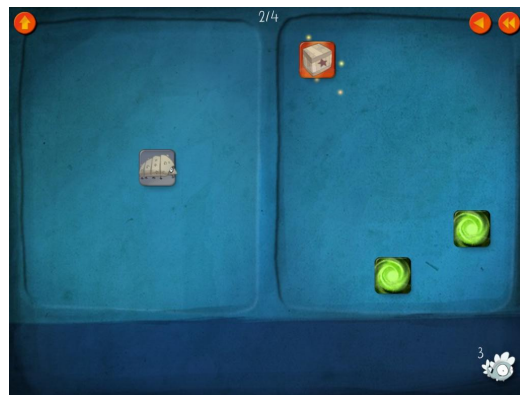
And the crate is isolated. Notice the student took 3 steps to solve it and 3 were allowed (3/3). Note: the crate will sound as if it is eating the swirls and eating whatever is left on the opposite side—this is the hungry dragon!



The student scores 3 stars for completing each of the 3 criteria.



In this level, students are introduced to the concept of opposites presented as “each card has a night-card” or opposite matching card. The goal is to make matches.



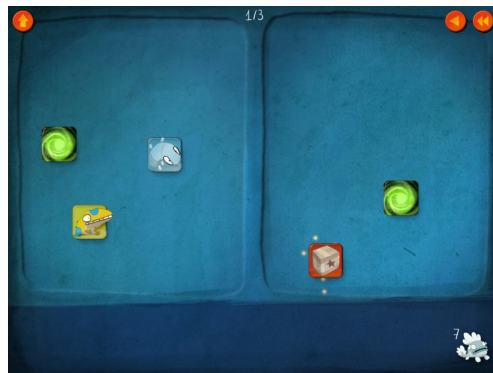
Once day/night cards are matched, then the green swirls appear. Tap on the green swirls.



Notice the crate is now isolated on one side and a sole hard-shelled creature is on the other side. The crate will move towards the creature and “eat” it.



The levels get increasingly harder. This is level 7. Here, students need to get rid of the useless cards (essentially they are solving the equation by getting rid of everything on the side with the crate).



A look at the game progression.



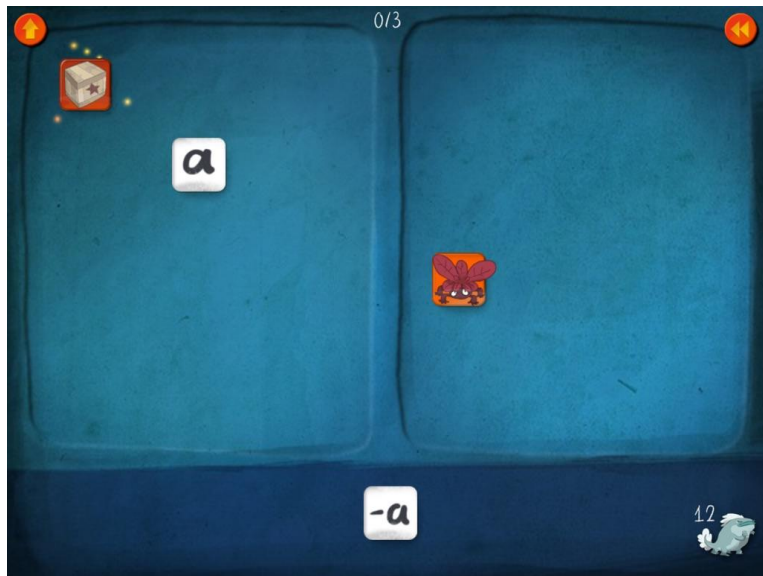
Notice, the student uses the right number of moves but not the right number of cards and thus loses one star.



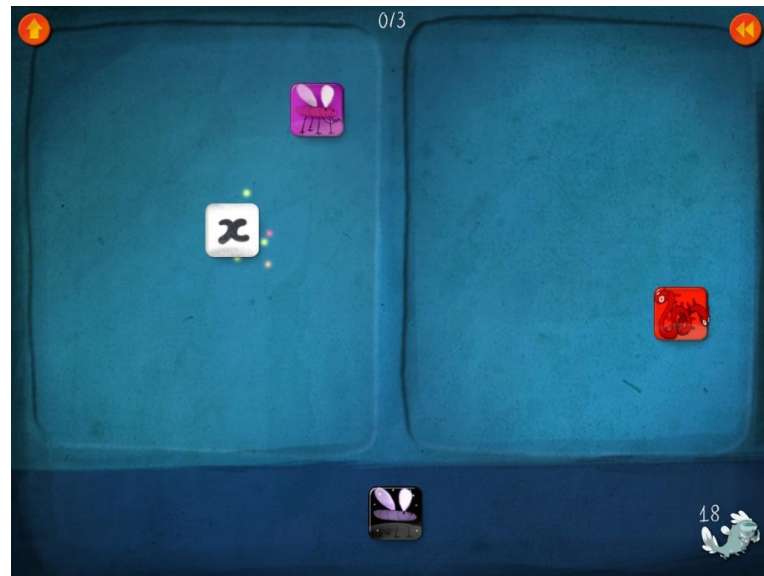
This is level 9. A student can now add a card from the deck to help get rid of day/night matches and solve for the crate.

If a card is added to one side it must also be added to the other side (of the equation but students do not even realize they are working with algebraic concepts!)

Notice how big the dragon is growing!



In level 12, actual variables are introduced to replace the dragon's food. Here we have "a" and "-a".



And by level 18, "x" is introduced replacing the crate with the star on it which means students are solving for "x".



Students can stop and look at their level progress. You can see here the student is working on level 16 and has 4 locked levels. Notice how the dragon grows and changes at each level.



When a student completes a chapter, their dragon is fully grown and they may move on to the next chapter.



A student can move on even if they do not receive a perfect score. A student can also go back and repeat levels from a completed chapter. Here the student received 53/60. Click on “chapter 2” to continue to increase algebraic complexity.

DragonBox Rules & Tricks (only if student gets stuck!)



Can click on the link for a PDF of the rules:

<http://wewanttoknow.com/wp-content/uploads/dragonbox/rules-tricks.pdf>

(or look at the next 4 slides)

DragonBox Rules 1 & 2

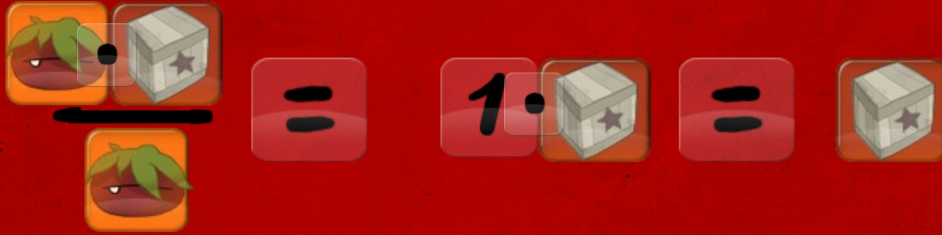


DragonBox Rules 3 & 4



DragonBox Rules 4 bis & 4 ter

RULES No 4 bis


$$\frac{\text{plant box} \cdot \text{star box}}{\text{plant box}} = 1 \cdot \text{star box} = \text{star box}$$

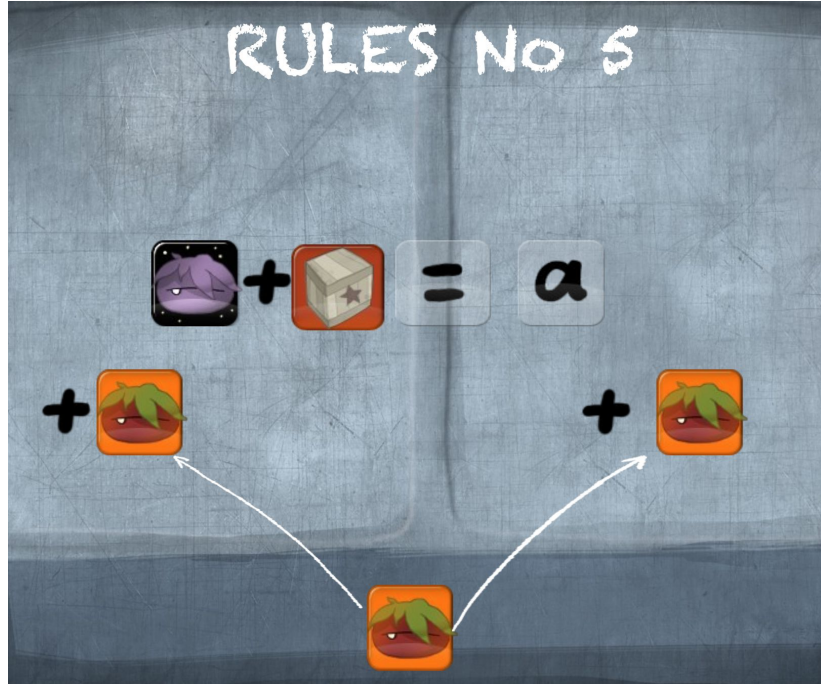

$$\frac{a \cdot d}{a} = 1 \cdot d = d$$

RULES No 4 ter

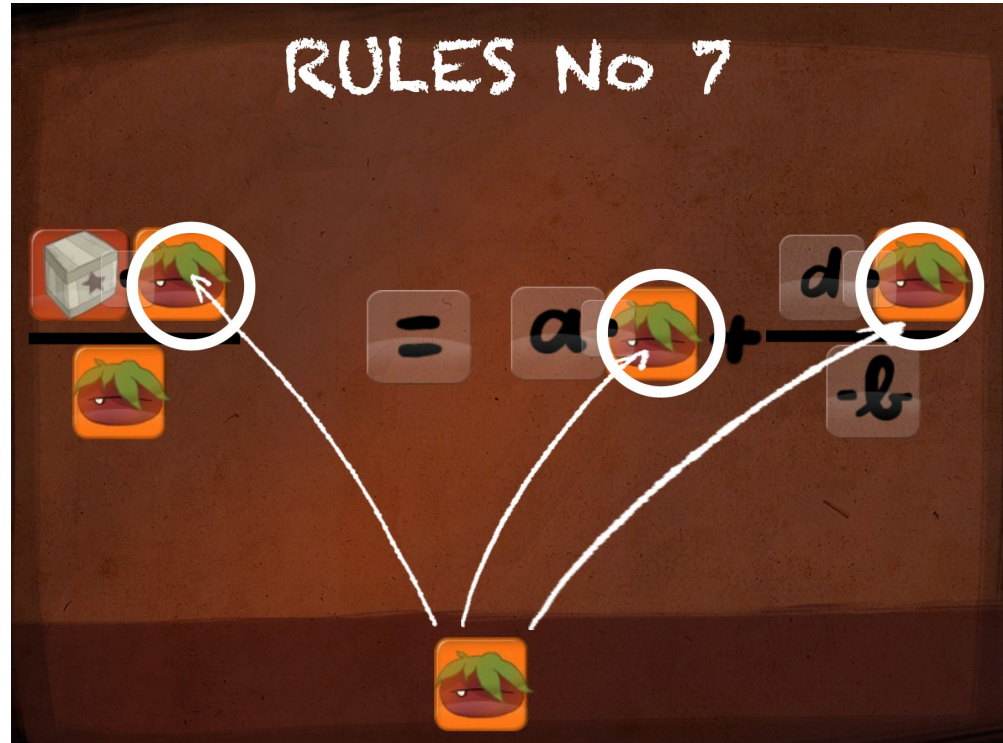

$$\frac{\text{plant box}}{\text{plant box} \cdot \text{star box}} = \frac{1}{\text{star box}}$$


$$\frac{a}{a \cdot d} = \frac{1}{d}$$

DragonBox Rules 5 & 6



DragonBox Rule 7



DragonBox Trick 1 & 2

Tricks No 1

$$\frac{a}{\boxed{\text{box}} = \frac{d}{-b}$$

If the box is down,
multiply everything
with the box

Tricks No 2

$$\boxed{\text{box}} \cdot \boxed{\text{box}} + \boxed{-b} = d$$

Always get rid of
single terms first!