

**Kode**

**KLIX**

Coding, Electronics and Fun!

# Ideas Book Two



**Oscar is late for school**

**A night light for Possum**

**A gift for Oscar**

**A “thank you” for Possum**

**Possum keeps her stuff safe**

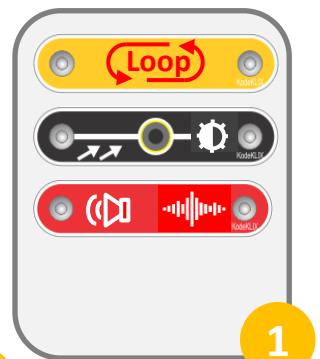
# Oscar is late for school

Oscar had a busy weekend playing with the other animals. On Monday morning he was so tired, he forgot to wake up... He was very late to get to school.

That afternoon Oscar decides to build himself an alarm. He asks his friend Possum for help. Together they think about what they could do. Possum had a great idea.

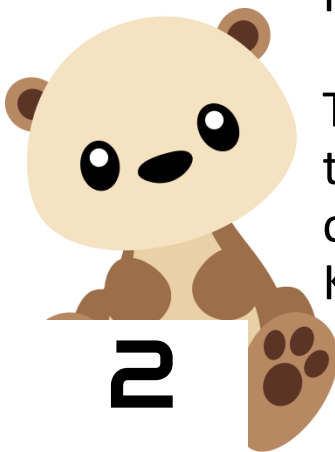
Possum explained that she goes to sleep when Oscar wakes up; this is because the sun is too bright for her little eyes. She thought it would be a good idea to use the morning light to make Oscar's alarm ring.

**Do Build 1**



Oscar and Possum tested the alarm by putting it in the dark, and then listening to it sound when it was put into the light. This was great, but Oscar wondered if there was a way that instead of an alarm, the wake-up could be some music. Possum suggested that this would be possible if they could use the tune KLIX piece.

**Do Build 2**



This was great; it was Oscar's favourite tune. But, Possum was not so sure... can you help Possum use the modify KLIX to select a different tune?

# A night light for Possum

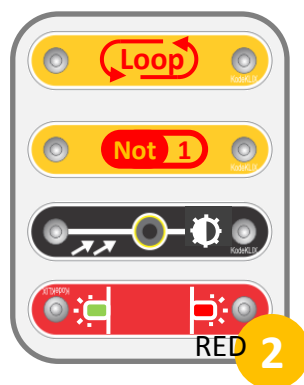
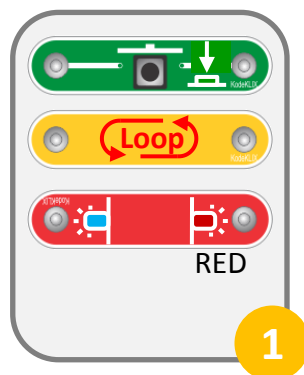
Possum sleeps during the day and she is awake during the night. Even though Possum can see very well in the dark, sometimes there is no moon and so she needs just a little more light to do her school work.

Oscar decides to build and code a desk light that stays on once the button is pressed. He remembers that Possum likes the **red** light, and not the bright **blue** light.

**Do Build 1**

Possum really likes the desk light. But, sometimes Possum is forgetful and forgets to turn off the light when the sun comes up. This means the batteries go flat before she can use it the next day.

Oscar and Possum think really hard about how to fix this. They decide to add a light sensor to detect darkness. For Oscar's alarm, the sensor detected light; to detect darkness instead the NOT modifier is used.



**Do Build 2**



# A gift for Oscar

Oscar's birthday is coming up soon. Possum would like to get him a gift, but doesn't have a lot of pocket money. She asks Oscar's mum if she can borrow his KodeKLIX® set to make and code him a gadget.

Possum has an idea to make Oscar a music player. She wants it to play a different tune each time. She decides she needs to use the RANDOM\* part to randomise which song is played.

## Do Build 1

This works ok, but Possum wants to make the gadget easier to use. It should keep playing different tunes once Oscar starts the code.

Possum decides she can do this by putting the code into a loop.

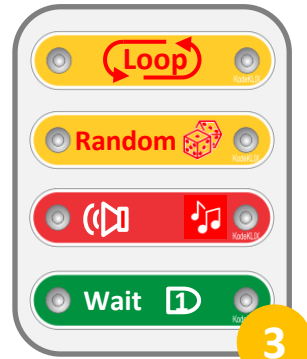


## Do Build 2



This is getting much better, but the different tunes play like they are just one big one. A final feature would be if there was a small pause between songs, to let Oscar know when one tune finishes and the next one starts.

**Do Build 3**

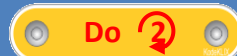


### \* More about Random

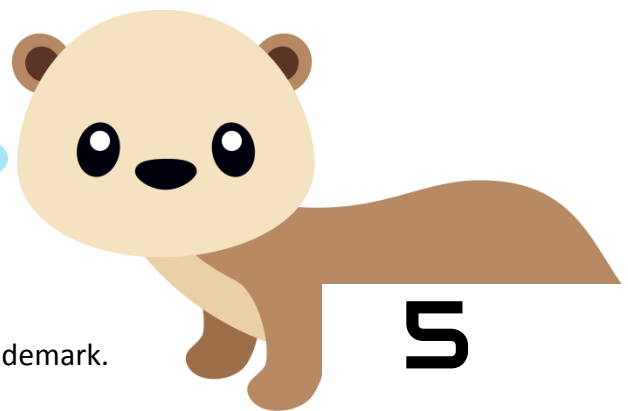
Random behaves like a rolling dice; sometimes you get the same number twice. Rolling the dice will give you a number between [1] and [6].

Did you know that you can sum a number modifier to the random value by putting them before the random KLIX?

This sequence selects numbers between [3] and [8].



Use this to discover what other TUNES and SOUNDS are possible!



# A “thank you” for Possum

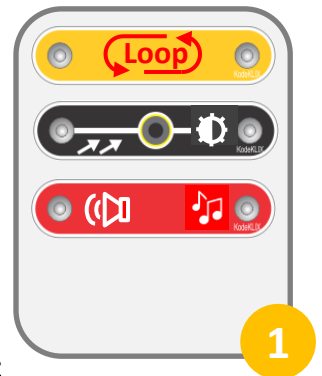
Oscar really liked his birthday present – he used it all the time. He wanted to make a gift to say thank you. Possum has a box in her room where she keeps her special stuff. “What if when she opened the box it would play a tune”, Oscar thought... When the box is closed, it is dark inside. When Possum opens the box, the light can be used to play a tune.

## Do Build 1

Oscar put the gadget into a dark box to test if the code works when the box is opened. It works great, but he thinks that Possum may not like the tune it plays. He remembers that he can modify which tune is played by using a modifier KLIX before the tune KLIX.

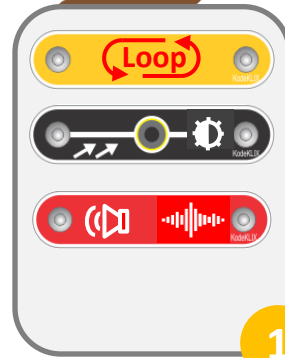
## Do Build 2

Can you change the code to play a different tune that you would like in your music box?



# Possum keeps her stuff safe

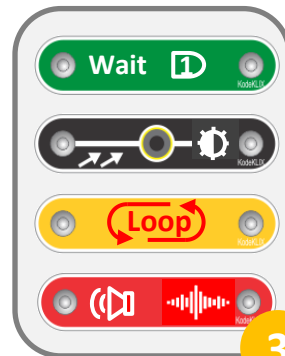
Possum really likes the music box and thinks this code could be modified to make an alarm sound if one of the other critters tries to have a look at the stuff in her box. She makes a change to the code to replace the TUNE with a SOUND. **Do Build 1**



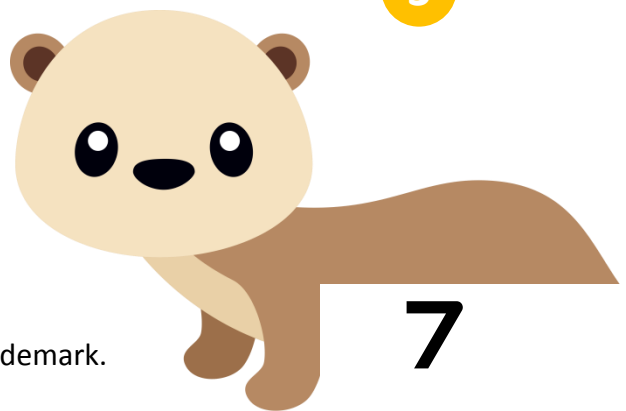
This works ok, and when the box opens the alarm rings out. But the problem is when she closes the box the alarm stops ringing. This is not what she wanted. “Hmmm...”, she thinks. “What if the sensor was before the loop!” **Do Build 2**



This works, but she has to be quick to put the gadget into the box, as sometimes it starts ringing the alarm before she closes the lid. One more little tweak to the code and it will be perfect. Can you guess what the change is? Yep, add a Wait KLIX before the sensor code!



**Do Build 3**





## Want more stories?

Do you enjoy the adventures of Oscar and his friends Possum, Baxter and others?

Want to see what they get up to next?

How about you think about some adventures they can have and see if you can create some gadgets and code to help them have fun and discover answers to their questions.

Did you know with four coding steps and just 14 coding KLIX that there are over 25,000 coding possibilities! Have a play and see what fun and useful things you can create.

## Decoration and construction ideas

Many of the projects and coding stories could be even more fun if you decorate the KodeKLIX® code block? Trying making the stories come to life by decorating a cardboard box to put over your KodeKLIX. Maybe you could make your box from play bricks such as Lego, Duplo... maybe it has wheels, or maybe it has wings. Let's see what your imagination can come up with!