

Ideas Book Three



Oscar's other friend

Oscar's toy light sabre

Playing games

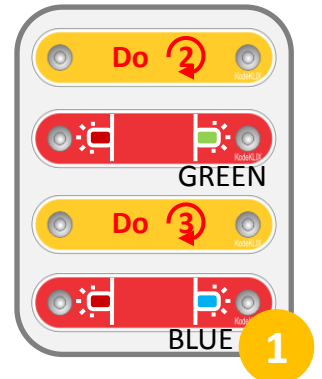
Lights for Christmas

Playing more tunes

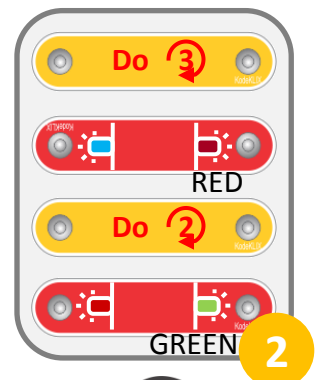
Oscar's other friend

Oscar has another friend Baxter who is a dog. Baxter doesn't live in the forest; he lives in a house across the road. At night, Oscar and Baxter "talk" by sending each other secret codes using coloured lights patterns that they code.

The first code is to say "hello". Their code for "Hello" is 2 flashes of the **green** light followed by 3 flashes of the **blue** light. What does the code for this look like? **Do Build 1**



The code for "goodbye" is 3 flashes of the **red** light followed by 2 flashes of the **green** light. **Do Build 2**



What other code words can you make with different flash patterns of the three LED colours?

How about you make a list other secret code words and their patterns.

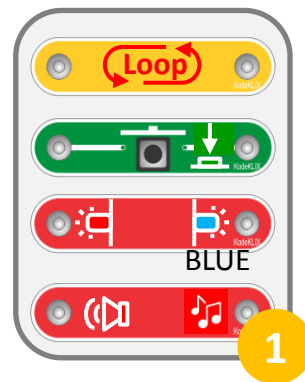


Oscar's toy light sabre

Oscar and Baxter really like the Star Wars movie. What they liked the most was the light sabres. Baxter asks Oscar if they could build a light sabre using the kit and some code.

What colour light should the sabre be? “**Blue** of course”, says Oscar, “we are the good guys”.

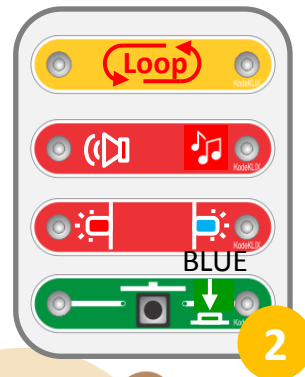
The friends set out to build the code. They decide that when they press the button the **blue** LED should glow and then the Star Wars tune should play. **Do Build 1**



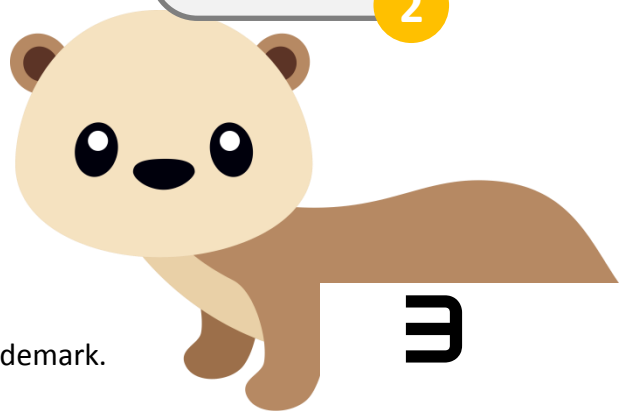
To make it look more like a light sabre, they roll a tube with a piece of white paper and place this over the LED light.

The friends play with this for a while, and then wonder if they changed the code would they get more time to play with the blue light.

They decide to change the order of the code KLIX to keep the **blue** light on until the button is pressed. **Do Build 2**



Which version of the light sabre code do you like the most?



Playing games

Oscar's friends come over to his place after school to play some games. Oscar has a great collection of board games like snakes and ladders. To play it you roll a dice and then move the number of spaces shown. The winner is the one who gets to the end of the trail first.

The friends work together to setup the board to play, but they cannot find the dice. "How about we make one with your KodeKLIX® set", says Baxter to the others.

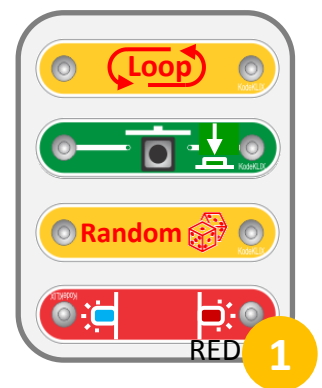
They make a plan and decide to use the number of flashes of the **red** LED light to tell them what the value of the dice roll was. They look at each other and check that they all know how to count to 6; one, two, three, four, five, six! They put a Button KLIX at the beginning of the loop, and can then count the number of flashes the dice rolls.

Do Build 1

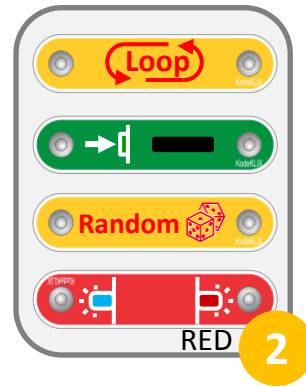
Possum looks in the box at all the remaining coding KLIX. There is

one that they have not used yet. It is green and has the picture of an arrow on it.

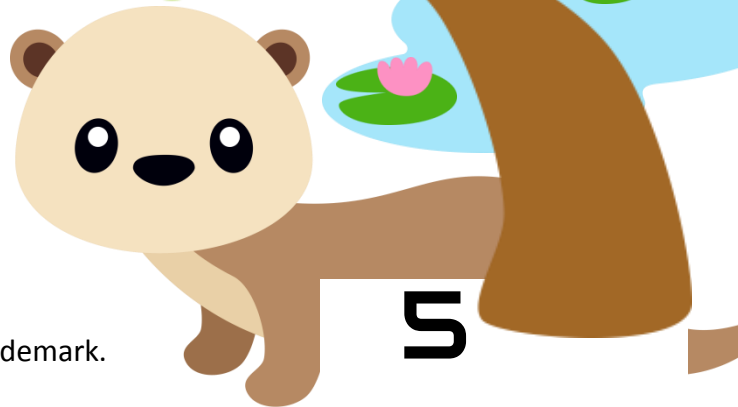
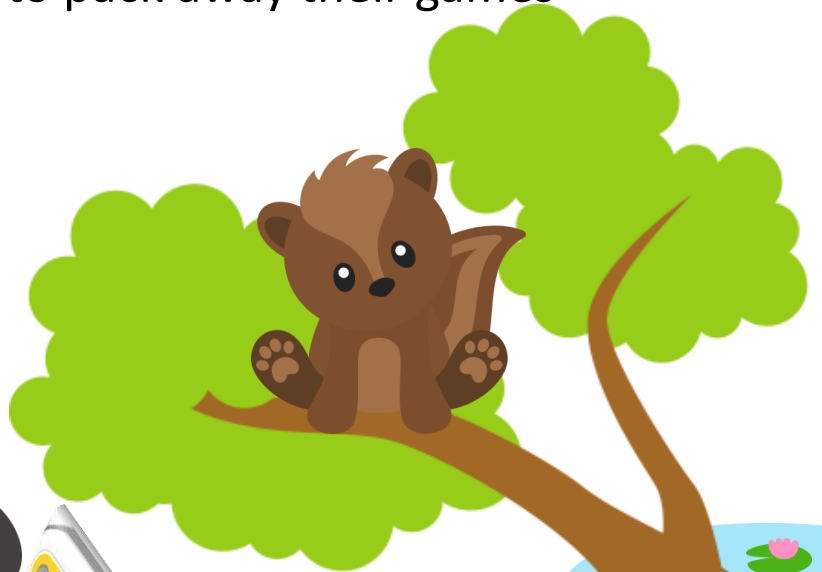
As she rocks it from side to side she can hear what sounds like a ball rolling back and forth.



“Hey, this could be a tilt switch”, she says to her friends. “How about we put this in instead of the button? It would be really cool to just tilt or shake the code brick to roll the dice.” The friends agree to make the change, and to test it out. **Do Build 2**



The three friends have fun playing with this. They realise that they can rotate the part to change the direction which acts as the “on”. The arrow points the way. They can make it tilt right and tilt left. They had so much fun that it was soon dinner time and time to pack away their games and coding kit.



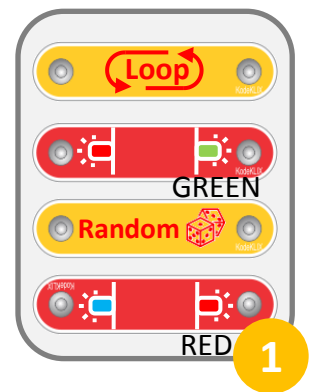
Lights for Christmas

It's Christmas time and what better fun to have than to decorate the tree. All three friends gather at Oscar's house to put up the tree.

Oscar wants to use his KodeKLIX kit to decorate the tree with pretty red and green lights. He remembers how he used these lights to make an aeroplane, but this time he wants to do something a little more since he knows a lot more about coding now.

Possum suggests he can use the RANDOM part to make one of the colours flicker differently each time. **Do Build 1**

These lights looked pretty, but Baxter and Possum couldn't agree if this was the best design. Should the green light flash or should they change the colours around altogether. They wanted to try all sorts of combinations.



Can you help them find out how many different ways they can mix the coloured lights and flash combinations?



Playing more tunes

Being Christmas, Baxter wanted to sing some Christmas carols. He asked Oscar if his gadget could play any Christmas tunes. Oscar thought it might, since one of the random tunes he had heard on his music player was Jingle Bells.

Oscar tried different combinations of the modifiers until he could count to the tune number that it was. It was the 5th tune, so he needed parts [2] and [3] to sum to [5]. **Do Build 1**

Possum wanted to know just how many tunes the KodeKLIX[®] gadget knew, and especially if there were any more Christmas tunes. She could only find one more modifier KLIX in the box. This would only let her count to six summing parts [1], [2], and [3].

She then had an idea to use the random KLIX in addition to other pieces. This would mean a different tune would play each time, but would let her hear at least five more tunes.



Do Build 2





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!