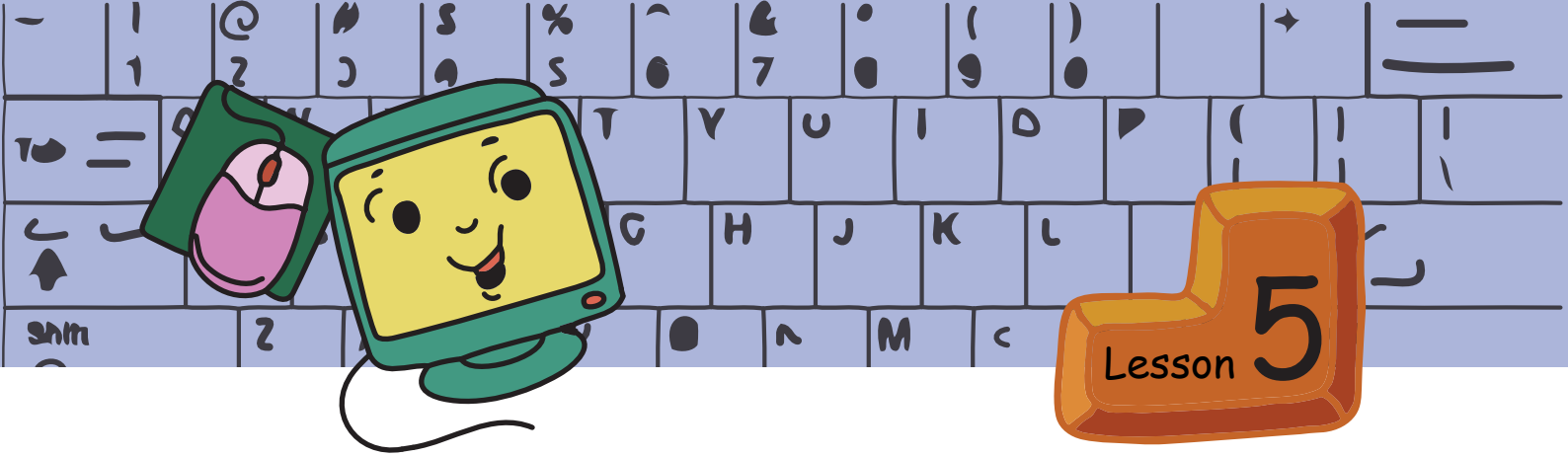
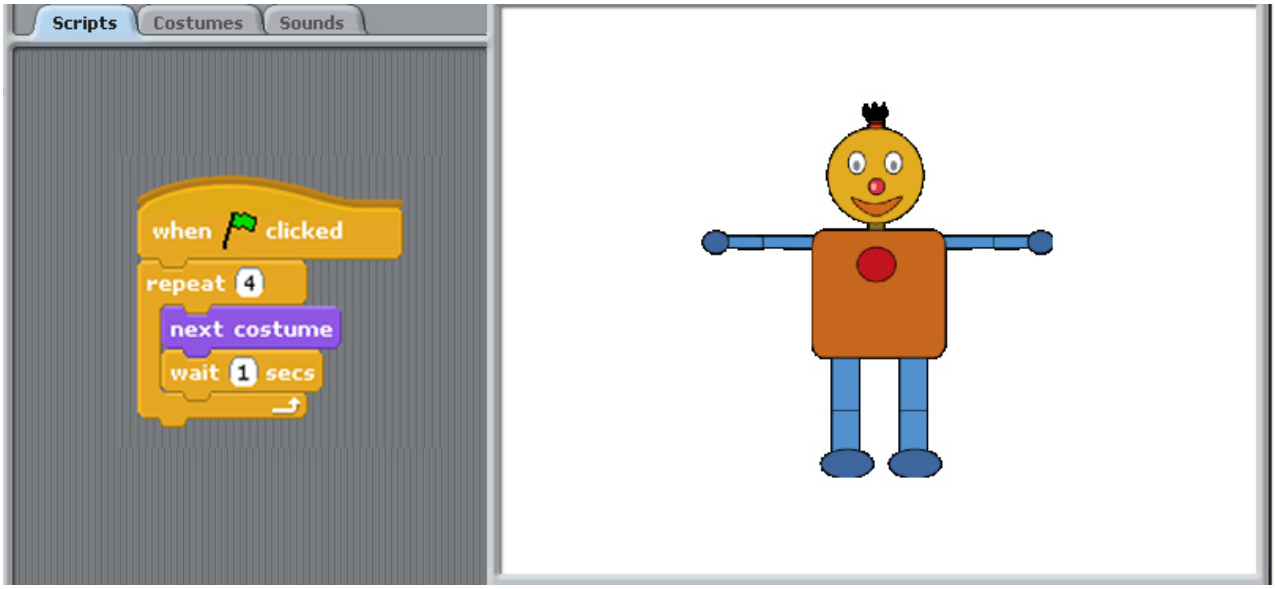


More Activities using Scratch

Aim

In this lesson you will learn:
To use various blocks of Scratch.
Explore a variety of programs that you can build, like animations, teach what you know, toy demos, making interactive cards, narrating a story.

1. **Make the robots exercise:**
   Create atleast two robot Sprites, using shapes. Paint various Costumes for each of the robots. Write a program in Scratch to make the robots demonstrate atleast two of the asanas you have learned.



2. **Each one teach one:**
   Teach one of the following to class I students using Scratch program:
   - Uses of computers.
   - Dos and Don'ts of computers.
   - Parts of computers.

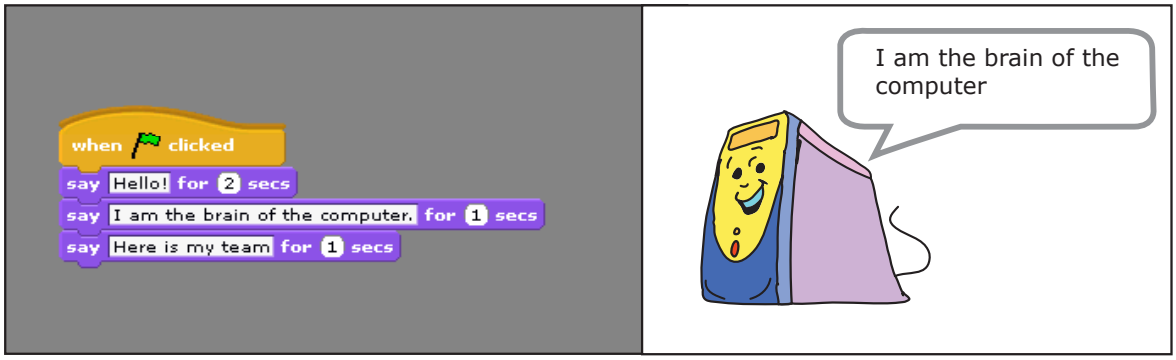
Example:
Parts of Computers: Brainy the CPU, is introducing the parts of a computer. CPU, monitor, keyboard, mouse, printer, and speakers are all Sprites.

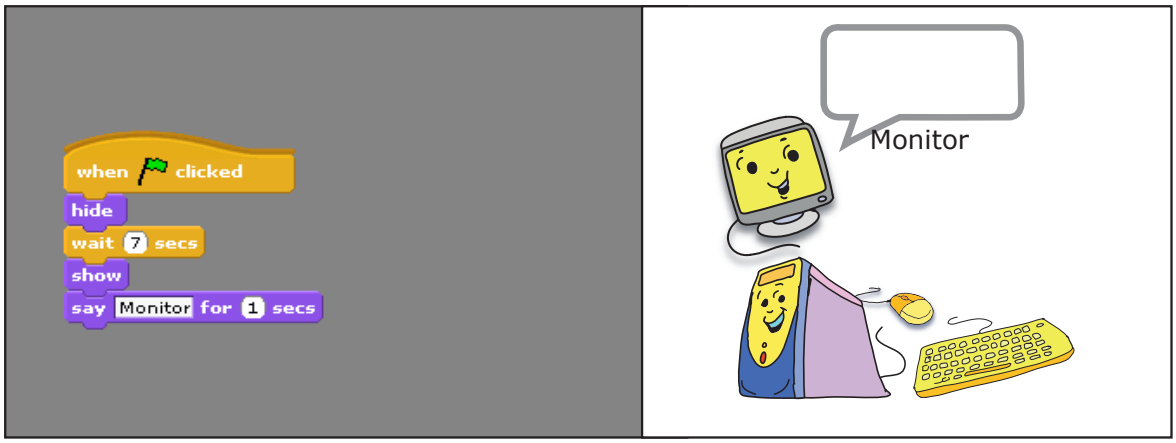
Program plan:

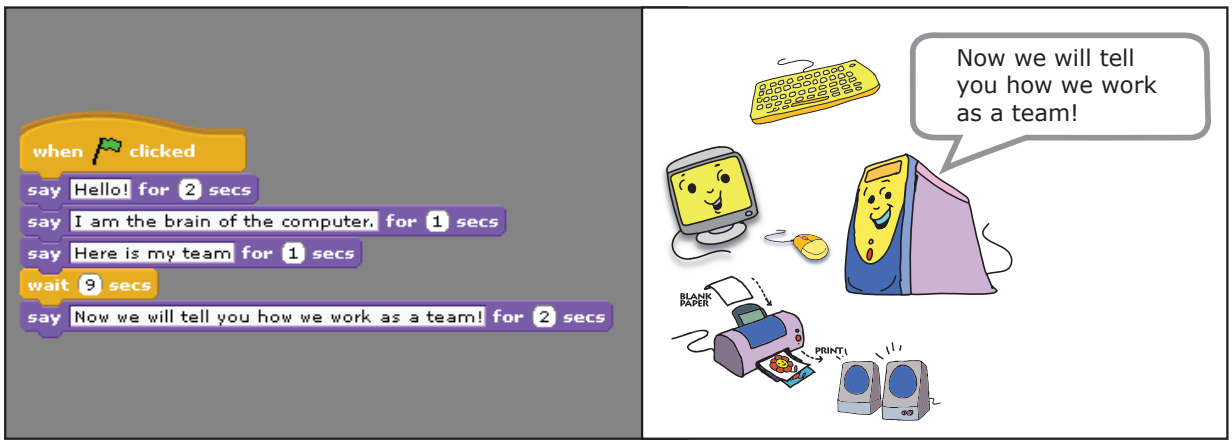
1. Brainy introduces itself.
2. Parts of the computer appear one by one and introduce themselves.
3. Starting with CPU each part explains its functionality.

A few screens and Scratch Scripts are given below:

BRAINY'S TEAM





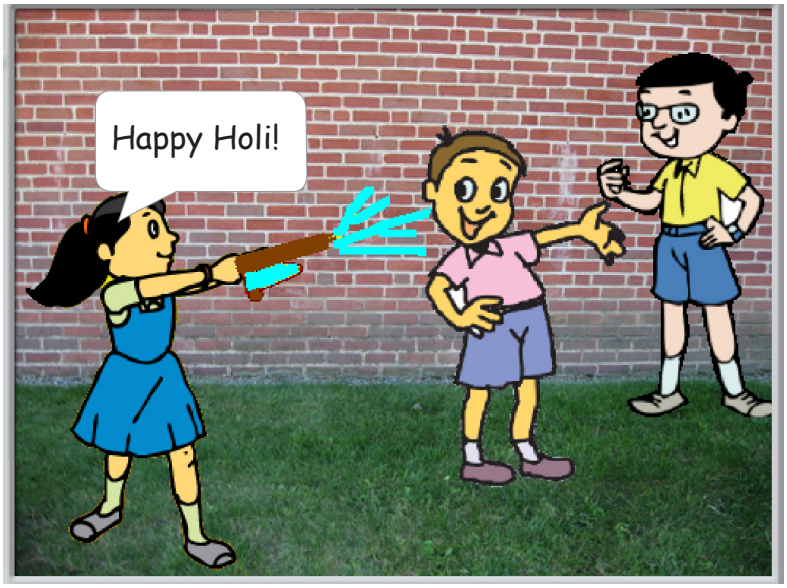


3. Interactive cards:

Divide the class into groups of five students each. Each group picks one of the following celebrations and write two projects.

Project A: An interactive invitation to the celebration.

Project B: An interactive greeting card for the celebration.



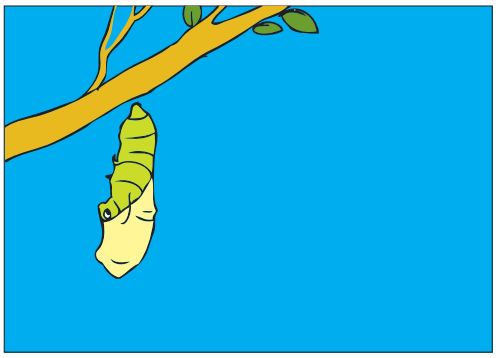
- Birthday
- Diwali
- New Year
- Christmas
- Ramzan Eid
- Holi

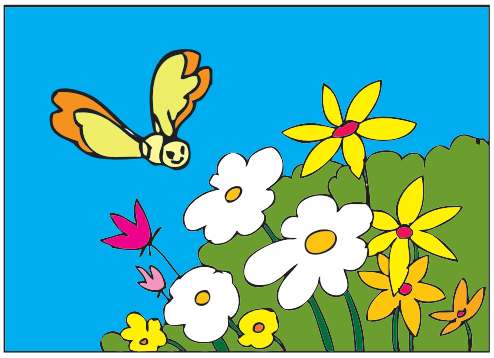
Hint:

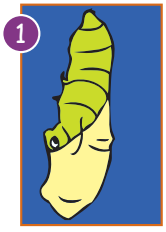
Use Sound block, Looks block, Pen block, Control block. You can record a song and use it in the greeting. Use looks to say something. Make the Sprite dance!

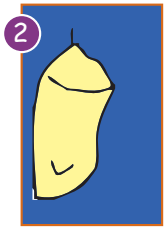
4. Evolution of a butterfly:

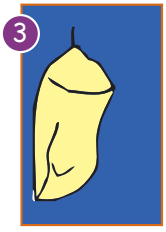
Students in Class II are interested to see an animation of the evolution of a butterfly. Write an animation project in Scratch to demonstrate how a caterpillar changes to a butterfly. At the end of the demo make many butterflies fly around the stage and drink honey from some flowers.

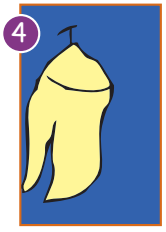


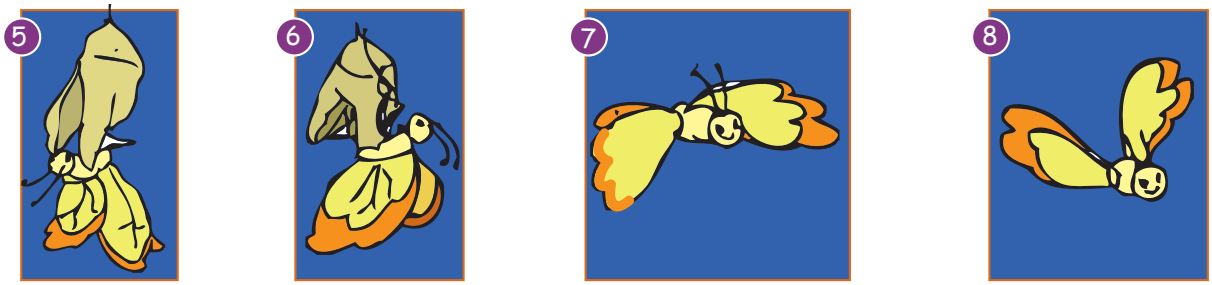












Hint:

Use Costumes and instructions from Costume block. For explanation of each stage of the evolution, create a text Sprite and place it on the stage. Use Motion block to make the butterfly fly around the Stage and drink honey from flowers. You can also make the butterfly fly from one Background "into" another.

5. Tell me a story:

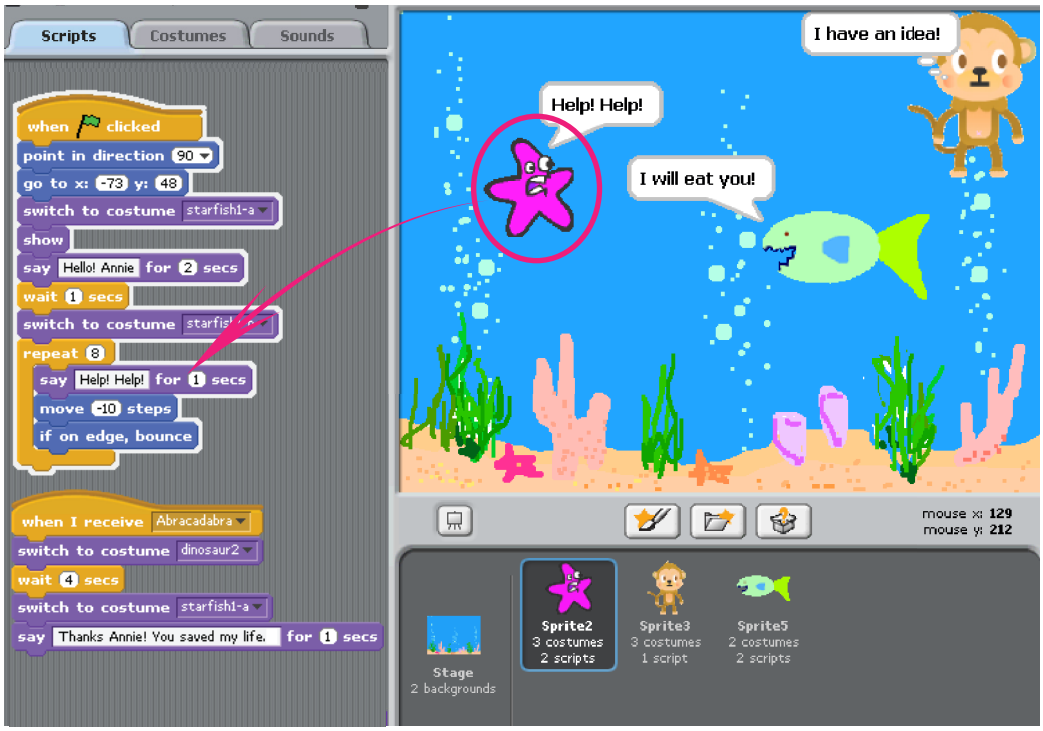
Write a story using the animal Sprites, available in Scratch.
Write a program in Scratch to tell the story.
Example:

Annie saves Smiley

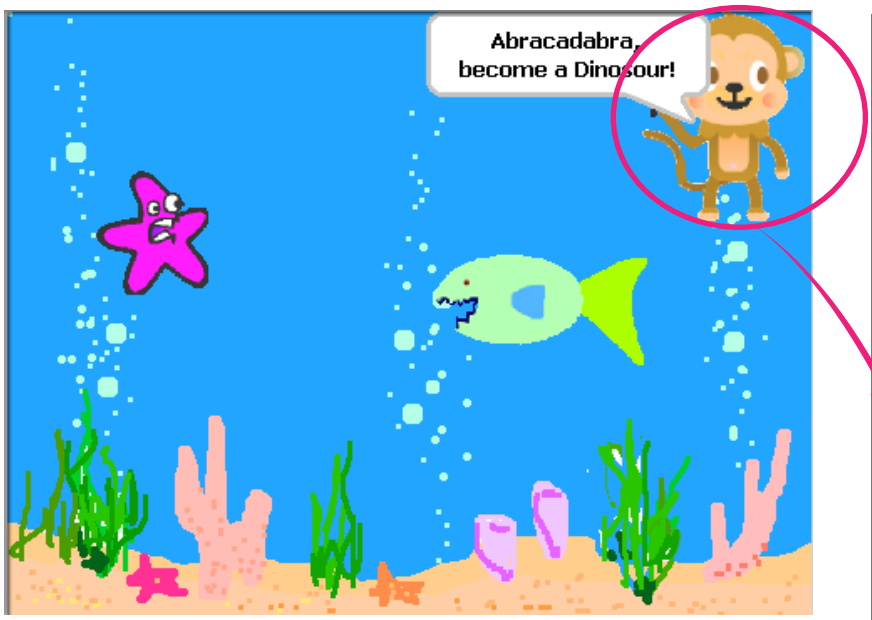
This is a story of how Annie the monkey saved Smiley the fish. Annie is a magician. One day Annie went to the beach. Annie saw a big shark chasing Smiley. Annie wanted to save Smiley. Suddenly the shark turned back and went away. What happened?

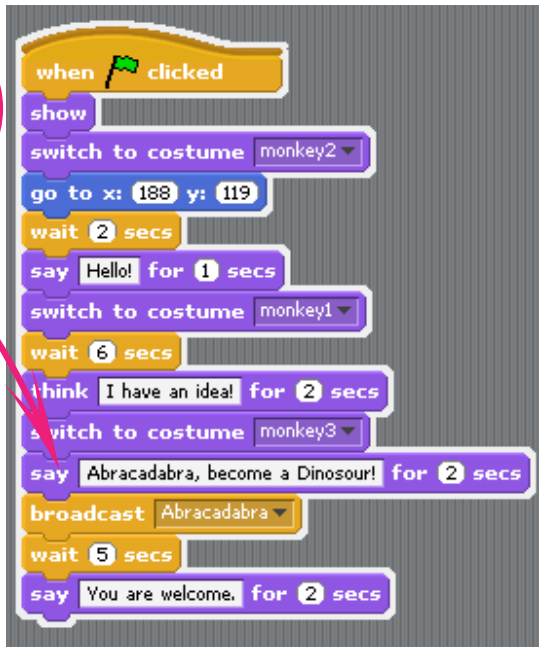
The following Scripts show how Smiley was saved.

Smiley scripts

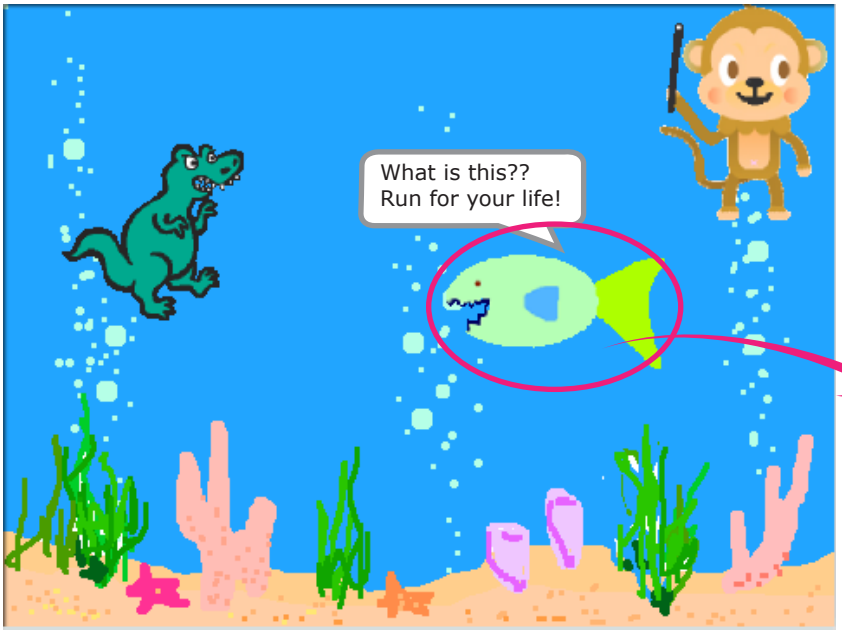


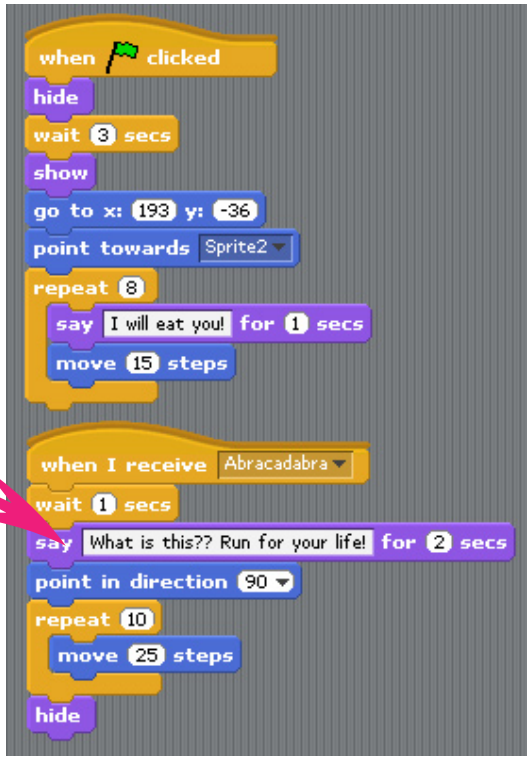
Annie scripts





Shark scripts





6. **Gaming with Scratch:** Build your own computer game.

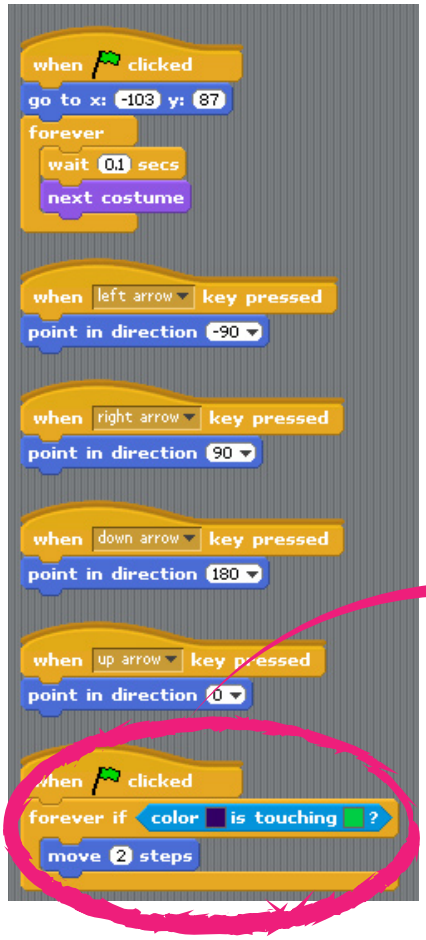
Example:

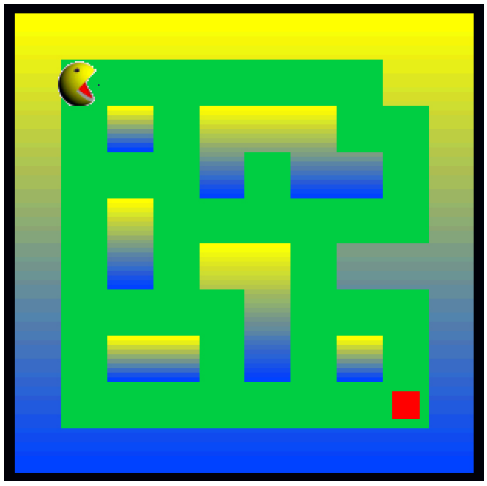
Play "Conquer the Maze!" with your friends. Manoeuvre Roller ( ) through a maze using arrow keys. If Roller touches the wall of the maze then the player is out. Record the time each player takes to move Roller to the exit of the maze.

Hint:

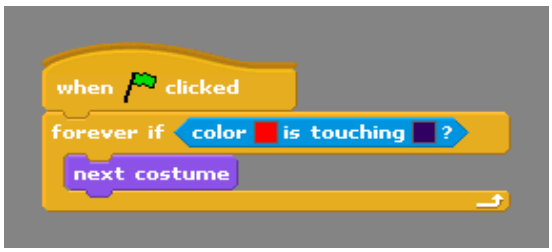
Use Motion block, Control block, Sensing.

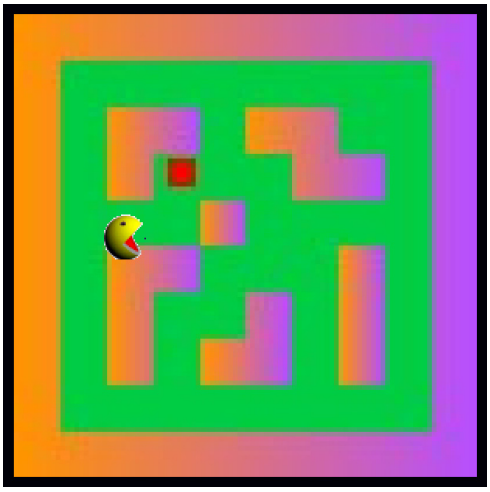
Roller script





Maze script

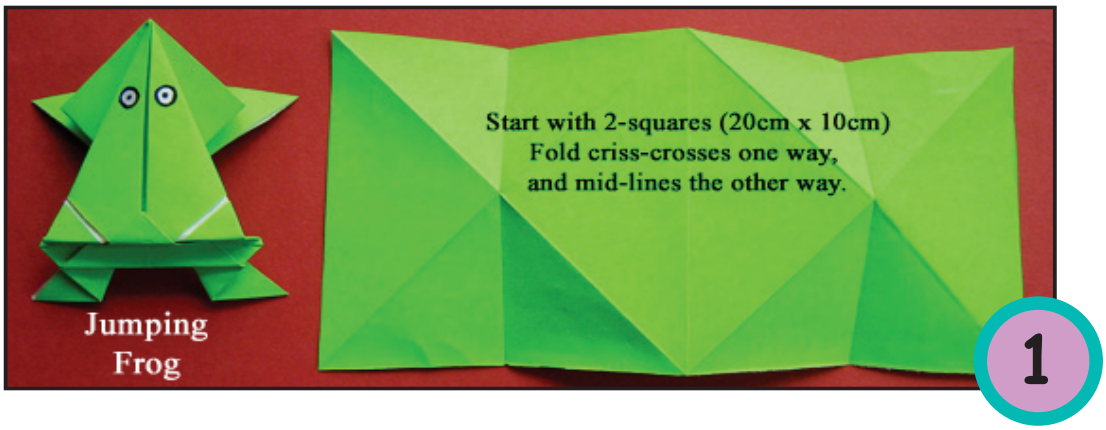


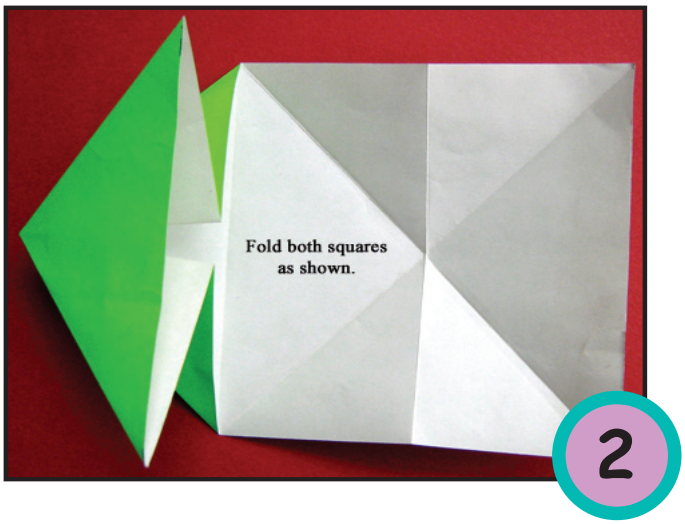


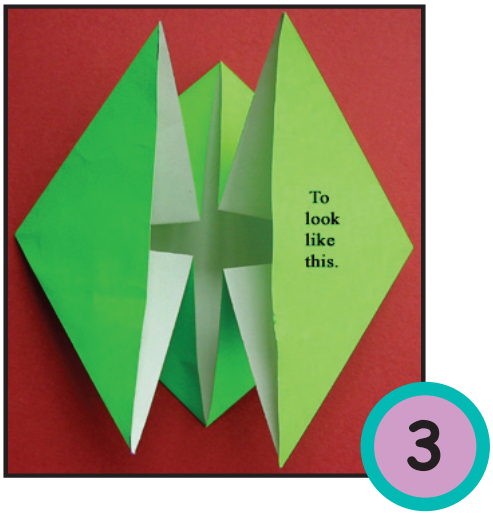
Group Activity:

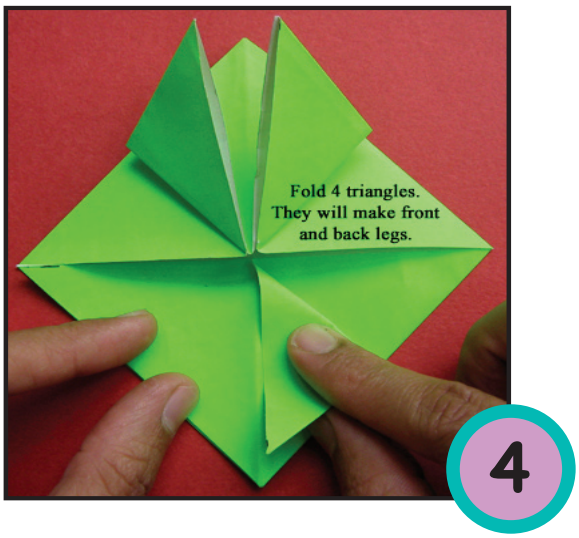
7. Jumping frog:

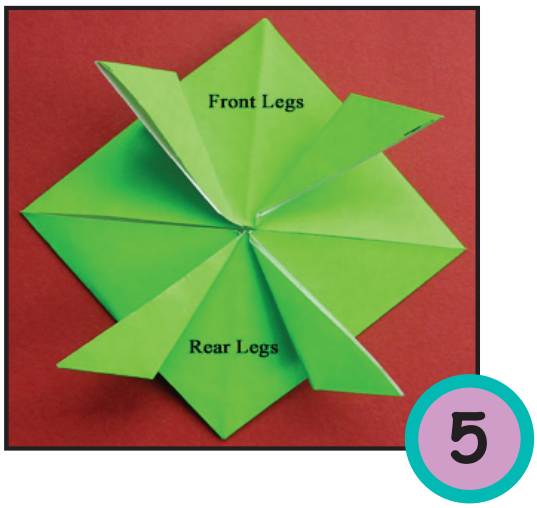
Divide the class into groups of five each. Each student can make a frog in different colour. Jumping Frog is an amazing paper toy. It needs a special size of rectangular paper where the length is double the width. The frog has a special spring folded from the paper itself. When you press the spring it makes the frog leap and jump. Instructions for making the toy are given below. Devise games with the frogs and have fun.

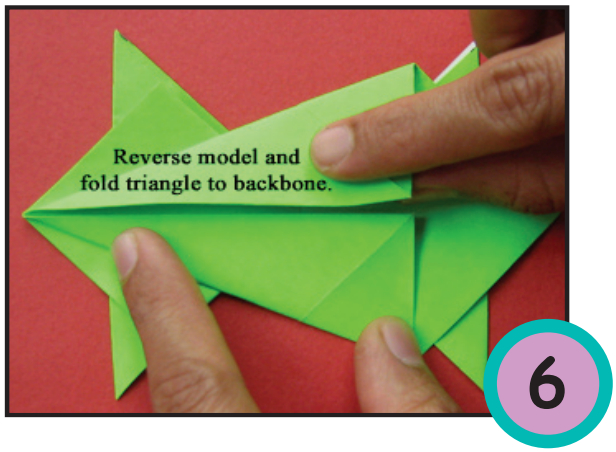


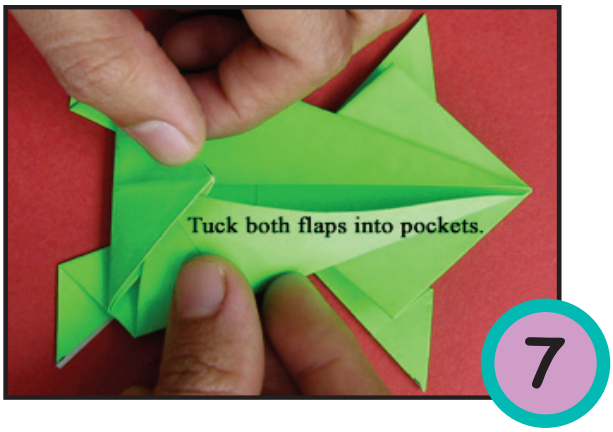






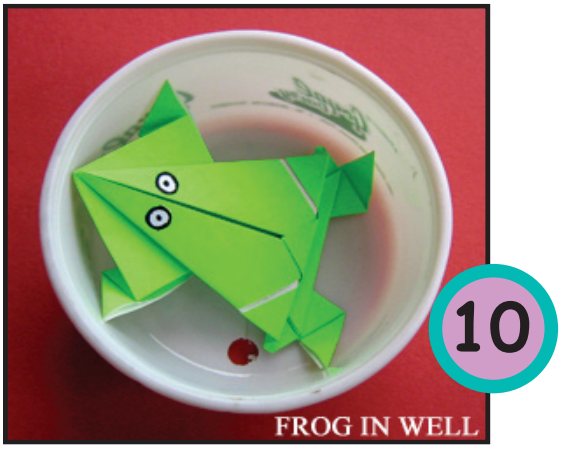


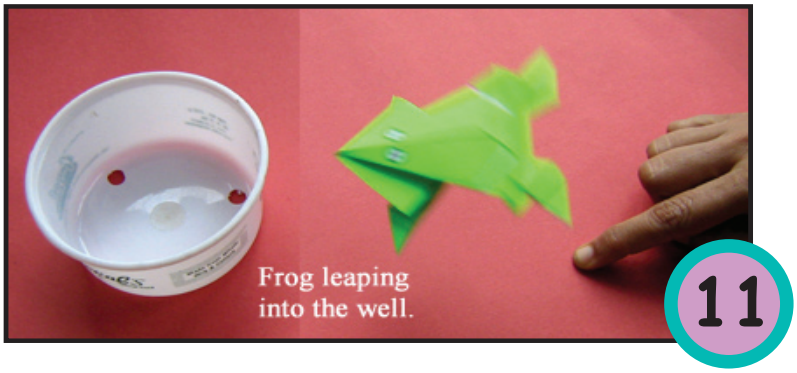

Reverse model and
fold triangle to backbone.
6


Tuck both flaps into pockets.
7

Fold
SPRING
as shown.
DECORATE
8

Press spring with finger
to make the frog
jump into the well!
9


10
FROG IN WELL


Frog leaping
into the well.
11

8. Demonstrate a toy:

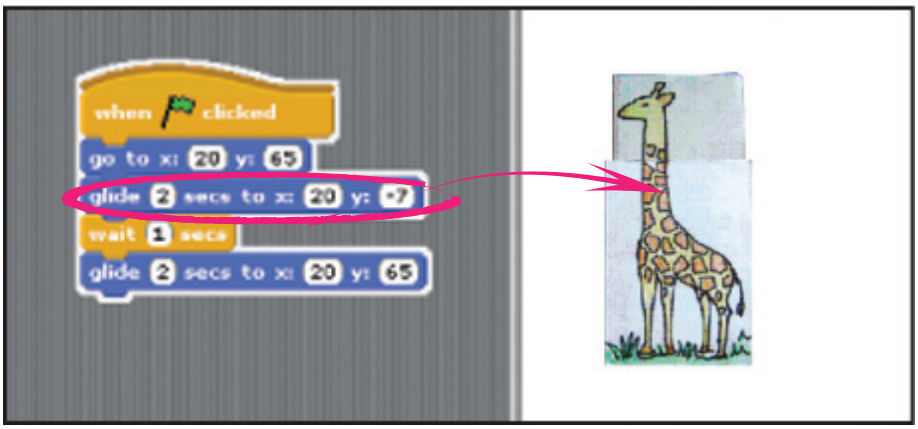
Take a picture of any animal and make its head disappear and appear. You can try these out with vehicles. Use your imagination. Here is an example of how a Giraffe's neck and head disappears and appears using a Match box. Write a program in Scratch to demonstrate the toy.

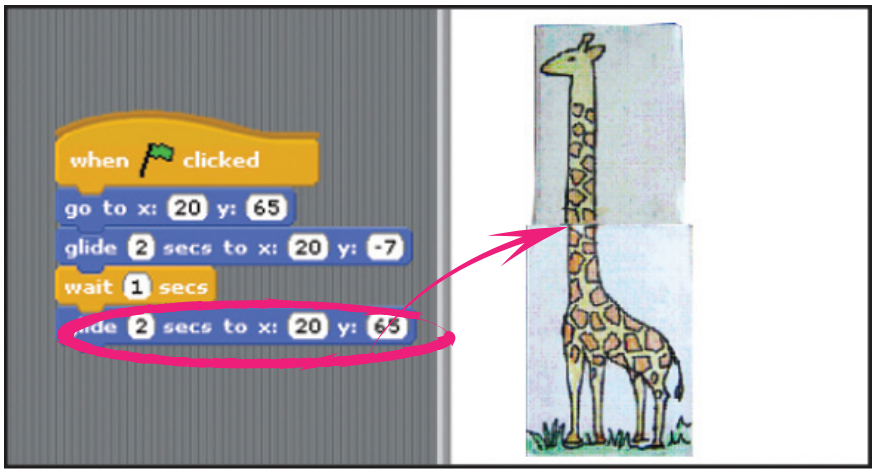
Hint:

Pressing Up arrow key reveals the neck and head of giraffe.

Pressing Down arrow key makes it disappear.

Repeat this activity using a match box.





Project

Do project 4 given in lesson 7.

Explore!

1. Write a Scratch program to show our Solar system.
2. Explore the instructions that you have not used till now from control, looks, sound, motion, pen using help. Start using these instructions and have fun with Scratch.

- The purpose of this lesson is to provide a wide set of activities that students can do in Scratch.

- Students have been using Scratch and are familiar with various instruction blocks. Start the class by asking students questions about what they have liked the most about Scratch, a particular project that they enjoyed doing and so on. Tell them that with Scratch they will be able to do animation and show movements as they see in cartoons. Mention that they can also make their own computer games using Scratch. They will be thrilled with this and eager to learn more.

- Revise the different instructions in Scratch that students have already used. You can use the Scratch cards and ask them to write projects (*http://info.scratch.mit.edu/Support/Scratch_Cards*). Use this opportunity to assist students who are less confident of using Scratch. Bring Book 3 to the class and allow the students to read the Scratch chapters. Ask students to open an existing project, make changes to it and observe its effect.

- You can also ask the students to read the help screens (click on tab – want help?) to revise the function of the different blocks.

- Ask students to open one of the projects and add the different sensing options in the control blocks. Ask them to note the edges of different sensing blocks to find out which blocks can fit into the control blocks. Let them explore and test the effect of adding the different sensing blocks to the existing project. Explain the function of different sensing blocks and demonstrate this to them.*

- In order to give appropriate practice of the different instruction blocks, allow the students to do the different activities listed in the lesson. Tell them that they can use Scratch to do projects of other subjects, such as showing life cycle, solar system and so on. Besides, these projects can be shown as a slide show. Steps to convert Scratch projects into presentations is available at http://scratch.mit.edu/forums/viewtopic.php?id=10122

* Note: Depending on what version of Scratch you have installed, there might be slight changes in the menu and instruction blocks.

Further Reading:
http://info.scratch.mit.edu/Support
www.arvindguptatoys.com