Project 50

DP EDUCATION
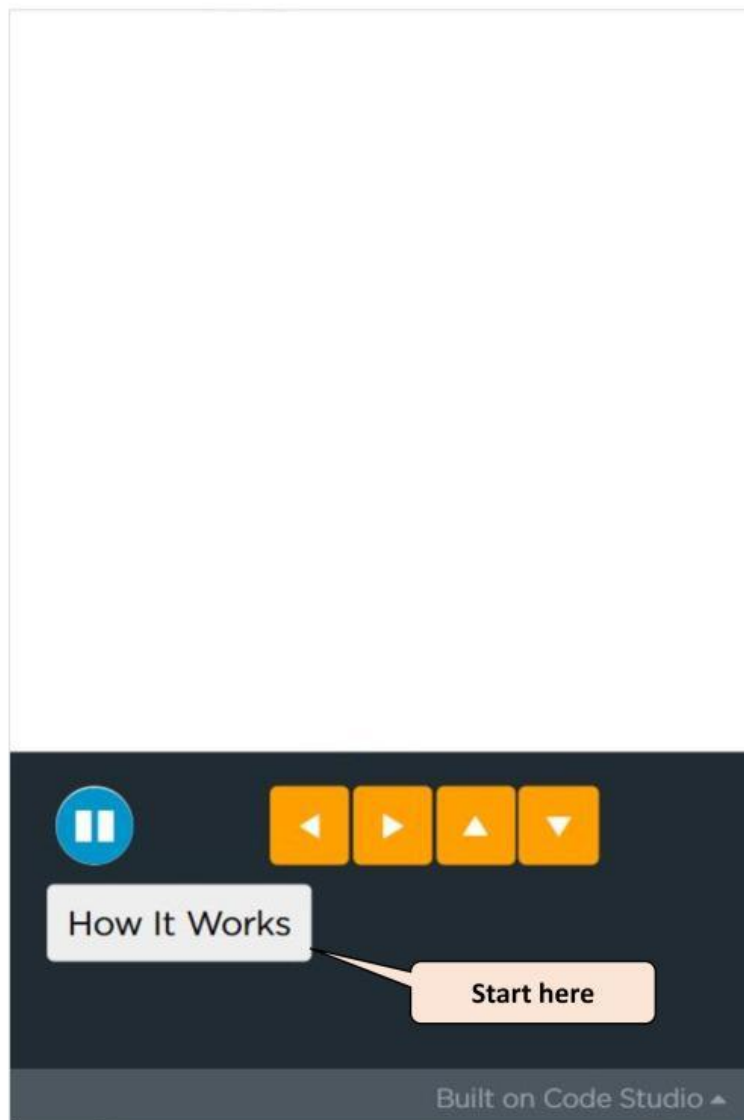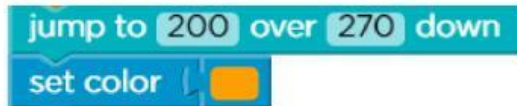
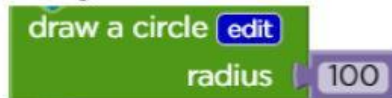## Coding School

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Let's create the structure of atom "H".

❖ For this, let's place the artist first. Use the "Jump to over down" block to move the following blocks. Choose the orange colour to create the first energy level of the H atom. Use the "set color" block for that.

`jump to 200 over 270 down`

`set color ▮`

❖ Then draw a circle of radius 100 using the draw a circle block to create the first energy level.

`draw a circle edit`
`radius 100`

❖ After creating the first energy level, set the artist's location as follows.

`jump to 200 over 200 down`

❖ Use the same blocks as above to make the core colour blue.

❖ Draw a circle of radius 30 using the draw a circle block to create the nucleus.

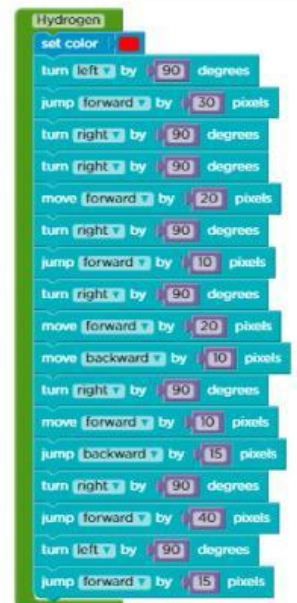`draw a circle edit`
`radius 30`

❖ After creating the nucleus, set the artist's location to be X=200 and Y=190 using the jump to over down block as follows.

`jump to 200 over 190 down`

❖ Create a function as Hydrogen by creating a function in Functions as follows.

```
Hydrogen
set color ▮
turn left by 90 degrees
jump forward by 30 pixels
turn right by 90 degrees
turn right by 90 degrees
move forward by 20 pixels
turn right by 90 degrees
jump forward by 10 pixels
turn right by 90 degrees
move forward by 20 pixels
move backward by 10 pixels
turn right by 90 degrees
move forward by 10 pixels
jump backward by 15 pixels
turn right by 90 degrees
jump forward by 40 pixels
turn left by 90 degrees
jump forward by 15 pixels
```

❖ After creating H, apply the following blocks to make the artist turn left by 90 degrees and jump forward by 140 pixels.

`turn left by 90 degrees`
`jump forward by 140 pixels`

❖ Use the same blocks as above to make the electron colour black.

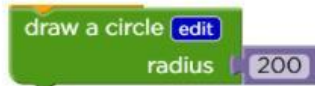❖ To create the electron in Hydrogen, create a circle of radius 5 as follows

draw a circle [edit]
radius [5]

❖ Take the artist to the upper left corner of the screen by the "Jump to position" block. Use the value "top left" for this.

jump to the [top left ▼] position

Choose the correct answer.

1. Select the desired block to create a circle with a diameter of 200 pixels.

draw a circle [edit]
radius [200]

draw a circle [edit]
radius [50]

draw a circle [edit]
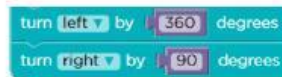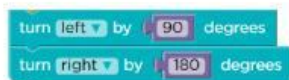radius [100]

2. jump to the [top left ▼] position   What does this mean?

   Jumps to the top left corner of the screen.

   Jumps to the bottom left corner of the screen.

   Turn left and jump up.

3. What blocks should be used to turn the artist facing the east direction to the west direction?

turn [left ▼] by [90] degrees
turn [right ▼] by [180] degrees

turn [left ▼] by [360] degrees
turn [right ▼] by [90] degrees

turn [right ▼] by [180] degrees

4. Select the block to apply to get the red colour for the brush colour.

comment: red

set color ⬛🟥

set length ▾ to ⬛🟥