Lesson 6: Make Characters Move - II

By the end of the lesson, students will be able to

✓ Better animate sprites by changing the costumes
✓ Use parallel programming with Scratch blocks

Things to do before the class

✓ Make sure all the computers that the students will use have decent internet connection.
✓ Make a list of usernames and passwords for each group's Scratch account. Some students might not remember their usernames or passwords.
✓ Read the student guide and engage with the given activities.
✓ Have a whiteboard and marker to write things down.
✓ Read the lesson plan and watch the videos linked inside. These videos are meant for teachers to help them learn Scratch as they run these lessons for their students.

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0.   Access the student guide (5 mins)

✓   Ask students to type this URL in the address bar: **cd8.notion.site**

Note: Because students have typed the address in the last class, the browser will usually auto complete the address when they type the first few characters.

1.   Debugging exercise (10 mins)

Ask students to read till the **Let's start with debugging!** section(page 1 to 2).

Let them debug any one of the two projects. Both projects are based on concepts learnt in the previous lesson.

✓   Provide hints if needed but avoid giving direct solutions.

✓   It's okay if students aren't able to debug their projects successfully. What matters is that they engage with the bugs and try to understand the code.

✓   Some students will debug their projects sooner than their peers. Ask them to try debugging the other project too.

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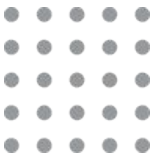
2. Getting ready for the lesson (5 mins)

Ask students to read the **Getting ready for the lesson** section(page 5). They should

✓ Sign in to student accounts

✓ Change color mode to high contrast

✓ Check the backpack
Ask students to check what's in their backpack. It's a simple exercise to get them aware of this useful feature. Watch this video to learn more about **backpack.**

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3. Exploring starter projects (15 mins)

Ask students to go through the **Let's explore some examples** section(page 3). Ask students to explore any one of the two starter projects.

- ✓ They might face difficulty in understanding the instructions written on the project page. Explain briefly if necessary.
- ✓ Ask students to "see inside" the project, play with the code, change it and create something slightly different.
- ✓ Some students might finish working on their starter project before the given time. Ask them to work on the other project.

A key concept to be introduced in this lesson is of **parallel programming** - a sprite's code is divided into multiple scripts. These scripts run together, and do their own work separately. It's useful when two or more blocks disturb each other's work.

4. Let's create better animations (45 mins)

Ask students to go through the **Let's create better animations** section(page 4 & 5).

- ✓ Ask students to create animations that not only move sprites from one place to another, but also make the sprite look alive; through movement of arms and legs, changing facial expressions etc.
  - ✎ Watch this video to learn more about using costumes to animate sprites: **Scratch Tips - Create Costumes for Animations**
- ✓ Encourage students to use parallel programming. Ask them to think on these questions:
  - ✎ What kind of scripts would your sprite need?
  - ✎ What is the function of each script?

Note: While using parallel programming, each script students create must have its own function. Creating multiple scripts arbitrarily won't work.

Some students might finish their project sooner than their peers. Ask them to work on the **More things to explore** section.

5. More things to explore (Optional)

This section helps you differentiate learning in your class. Ask students who completed their animation project to go through the **More things to explore** section(page 6). Let them experiment with the different graphic effects sprites. Ask them to think about how they can use these features in their projects.

✓ Using these graphic effect blocks in combination with repeat blocks results in some cool effects. One such project is given as an example in the student guide. Encourage students to experiment and find something that they like. This video on Looks blocks covers the use of these blocks too: **02. Scratch - Looks Blocks**

If you need to repeat this lesson for the class, some students who have already learnt it can work on this section, or work on the challenges, or bugs they couldn't complete.

6. Reflection (10 mins)

Ask students to go through the **Let's Reflect** section(page 7). Ask students to think on the questions and discuss with their group member. If you can, provide them with pen and paper to note their reflections.

✓ Before students leave, ask them to exchange their reflections with two students other than their group member.

Note: It's important for students to take time to reflect on these questions. It's also important that they listen to the reflections of their peers.

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