

Lesson 9: Sensing things II



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

- ✓ Use if_then_ blocks to check if something has happened or not
- ✓ Create simple games
- ✓ Create their own blocks (optional)

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.



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).

Let them debug any one of the two projects. Both projects are about conditions.

- ✓ 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.



2. Getting ready for the lesson (5 mins)

Ask students to read the **Getting ready for the lesson** section (page 2). They should

- ✓ **Sign in to student accounts**
Students often struggle with the CAPTCHA
- ✓ **Change color mode to high contrast**
High contrast blocks are much easier to read
- ✓ **Explore the backpack**
Students use backpack to get sprites from other projects



3. Exploring starter projects (15 mins)

Ask students to go through the **Let's explore some examples** section (page 2). Ask students to explore any one of the two starter projects. Both projects are simple games.

- ✓ Students 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.
- ✓ Students tend to spend time playing these games instead of studying them. Challenge them to modify the game and introduce something new to it.
- ✓ Nudge to pay attention to the if...then... block. There's a more advanced if...then...else... block that interested students can explore.

This lesson also introduces student to the concept of **conditions**. This lesson focuses on the if_then_ block. Watch this video to learn more: [09. Scratch - Using the IF Statement](#)

Some students might finish working on their starter project before the given time. Ask them to work on the other project.



4. Let's create some simple games (45 mins)

Ask students to go through the **Let's create some simple games** section (page 3).

- ✓ Three prompts are provided to help students with ideas for their projects. Allow students to work on a different idea if they want to but make sure it's not too ambitious considering their skills with Scratch and the available time. Many children are used to playing advanced games on phones and computers at their homes so they tend to come up with ideas that are way too advanced.
- ✓ Ask these questions to help students think about their game design.
 - ✎ How will the viewers play your game?
 - ✎ Can they win or lose the game? If so, how?
 - ✎ How do the objects in your game interact with the surrounding? for example, the ball might have to bounce after hitting the floor...
- ✓ Ask students to explore the blocks provided as suggestions. It's a good idea for them to revisit one of the starter projects to see how it was made. It'll be more helpful after they start working on their projects and struggle with something.

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 project to go through the **More things to explore** section (page 5 & 6).

This section guides students on creating their own blocks. Games often require longer codes. Creating their own blocks to perform actions such as walk, jump, shrink etc. makes the code shorter and easy to modify. This video explains these custom blocks in detail: [Scratch My Blocks, Part 1: Create Custom Blocks | Tutorial](#)

This section is also useful if you need to repeat this lesson on making games. The students who have already learnt the concept of if_then_ and basic game making can work on creating their own blocks, or any debugging or starter project they haven't explored.

6. Reflection (10 mins)

Ask students to go through the **Let's Reflect** section (page 6). 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: Reflecting on their learning experience helps students notice things they might have otherwise missed. Listening to the reflections of their peers helps students see things differently and relate to their peers better.