

Grade 7 - Complete STEM Projects

1. Intro to Techno Blocks / Blix & Electronics

Aim: To design and understand the working of Intro to Techno Blocks / Blix & Electronics using STEM concepts, electronics, coding, and practical learning.

About Project: Intro to Techno Blocks / Blix & Electronics is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Intro to Techno Blocks / Blix & Electronics project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

2. Blinking LED & Arduino Recap

Aim: To design and understand the working of Blinking LED & Arduino Recap using STEM concepts, electronics, coding, and practical learning.

About Project: Blinking LED & Arduino Recap is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Blinking LED & Arduino Recap project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

3. Make Your Own Specs & Rollie Car

Aim: To design and understand the working of Make Your Own Specs & Rollie Car using STEM concepts, electronics, coding, and practical learning.

About Project: Make Your Own Specs & Rollie Car is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation

- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Make Your Own Specs & Rollie Car project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

4. Smart Room Light

Aim: To design and understand the working of Smart Room Light using STEM concepts, electronics, coding, and practical learning.

About Project: Smart Room Light is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Smart Room Light project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

5. Dancing Robot

Aim: To design and understand the working of Dancing Robot using STEM concepts, electronics, coding, and practical learning.

About Project: Dancing Robot is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Dancing Robot project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

6. Fan Speed Controller

Aim: To design and understand the working of Fan Speed Controller using STEM concepts, electronics, coding, and practical learning.

About Project: Fan Speed Controller is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Fan Speed Controller project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

7. Crank It Up

Aim: To design and understand the working of Crank It Up using STEM concepts, electronics, coding, and practical learning.

About Project: Crank It Up is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Crank It Up project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

8. Smart Farming System

Aim: To design and understand the working of Smart Farming System using STEM concepts, electronics, coding, and practical learning.

About Project: Smart Farming System is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Smart Farming System project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

9. Reciprocating Motion Mechanism

Aim: To design and understand the working of Reciprocating Motion Mechanism using STEM concepts, electronics, coding, and practical learning.

About Project: Reciprocating Motion Mechanism is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Reciprocating Motion Mechanism project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

10. Obstacle Avoiding Robot

Aim: To design and understand the working of Obstacle Avoiding Robot using STEM concepts, electronics, coding, and practical learning.

About Project: Obstacle Avoiding Robot is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Obstacle Avoiding Robot project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

11. Shift Roller Car

Aim: To design and understand the working of Shift Roller Car using STEM concepts, electronics, coding, and practical learning.

About Project: Shift Roller Car is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Shift Roller Car project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

12. Joystick-controlled Car

Aim: To design and understand the working of Joystick-controlled Car using STEM concepts, electronics, coding, and practical learning.

About Project: Joystick-controlled Car is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Joystick-controlled Car project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

13. Windmill

Aim: To design and understand the working of Windmill using STEM concepts, electronics, coding, and practical learning.

About Project: Windmill is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Windmill project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

14. Tilt Alarm

Aim: To design and understand the working of Tilt Alarm using STEM concepts, electronics, coding, and practical learning.

About Project: Tilt Alarm is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Tilt Alarm project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

15. Giant Wheel

Aim: To design and understand the working of Giant Wheel using STEM concepts, electronics, coding, and practical learning.

About Project: Giant Wheel is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Giant Wheel project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

16. Hospital Alert Model

Aim: To design and understand the working of Hospital Alert Model using STEM concepts, electronics, coding, and practical learning.

About Project: Hospital Alert Model is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation

- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Hospital Alert Model project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

17. Motion-based Security Light

Aim: To design and understand the working of Motion-based Security Light using STEM concepts, electronics, coding, and practical learning.

About Project: Motion-based Security Light is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Motion-based Security Light project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

18. Intro to Drone

Aim: To design and understand the working of Intro to Drone using STEM concepts, electronics, coding, and practical learning.

About Project: Intro to Drone is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Intro to Drone project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

19. Intro to 3D Printer

Aim: To design and understand the working of Intro to 3D Printer using STEM concepts, electronics, coding, and practical learning.

About Project: Intro to 3D Printer is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The Intro to 3D Printer project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.

20. DIY Project

Aim: To design and understand the working of DIY Project using STEM concepts, electronics, coding, and practical learning.

About Project: DIY Project is a hands-on STEM project that helps students learn real-world technology concepts through practical implementation and experimentation.

Advantages:

- Improves creativity and innovation
- Develops logical thinking and problem-solving skills
- Enhances practical electronics and coding knowledge
- Encourages teamwork and project-based learning

Real-time Applications:

- Smart home systems
- Automation projects
- Educational STEM labs
- Real-world engineering applications

Conclusion: The DIY Project project helps students gain practical exposure to modern technology and strengthens their STEM learning skills.