



Robots: Design and Technology KS2

| | Objective | Activity | Further Questions | Resources |
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| Lesson 1 | To design and make a robot with a purpose using scrap and recyclable materials. | <ul style="list-style-type: none"> Students will consider the purpose of robots and design their own robot. The robot needs to have a purpose e.g. what can it be used for cleaning, excavator or litter picking. Students then can design and make their own robot using recyclable materials. | <ol style="list-style-type: none"> Can students suggest reasons why robots are important in society? Can students explain what their robot will be used for? Can students explain what moving parts are needed for the robot to complete the activity. i.e. hand/arm movement to pick up litter. | Power Point Presentation (PPP) Student workbook – activity 1 Teachers notes Recyclable materials (see teacher’s notes) |
| Lesson 2 | To design and make a draw/doodle/scribble bot from recyclable materials. | <ul style="list-style-type: none"> In small teams’ students will research and understand the purpose of drawing robots. They will then design their own draw bot. The draw bot needs to be able to draw once the activity is completed. Students then design and make their own draw bot using recyclable materials. | <ol style="list-style-type: none"> Can students explain what their draw bot will be used for? Can students explain what parts are needed for the draw bot? | PPP Student workbook – activity 2 Teachers notes Recyclable materials (see teacher’s notes) |
| Lesson 3 | To design and make a bristle bot from the kit available. | <ul style="list-style-type: none"> Students will consider the purpose of a bristle bots and then design their own bristle bot using the kit provided. Students can add additional recyclable materials to their design. | <ol style="list-style-type: none"> Can students explain what their bristle bot will be used for? Can students explain what moving parts are needed for the bristle bot work? | PPP Student workbook – activity 3 Teachers notes Bristle Bot kits Recyclable materials (see teacher’s notes) |



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| Lesson 4 | To design and make a bristle bot race track using scrap and recyclable materials. | <ul style="list-style-type: none">• Students in small teams will design their own race track.• The track needs to have 4 lanes.• In groups students design and make their own race track using recyclable materials. | <ol style="list-style-type: none">1. Can students suggest why measuring the race track is important?2. Can students explain what is the best way to record the race results? | PPP Student workbook – activity 4 Teachers notes Recyclable materials (see teacher’s notes) |
| Lesson 5 | To design and make a robot that uses LED’s | <ul style="list-style-type: none">• Students will understand the purpose of a circuit and how these could be used in their robot design.• They will then either design or amend an existing robot to add LED’s in the design. | <ol style="list-style-type: none">1. Can students explain how adding LEDs will improve their robot design?2. Can students explain what parts are needed for the LED robot? | PPP Circuit handout Student workbook – activity 5 Teachers notes Recyclable materials (see teacher’s notes) |