







1-10.3 Clean Up

Activity Page

Infant K1 Coding Pack: 1-10.3 Clean Up

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This is the third of Roamer's four labours. The students use Roamer to clean up some objects by pushing them out of the way.

Subjects	Age	Roamer Expertise	Student Grouping	Lesson Time	Availability
Art and Design Computing Science	Year 2 Year 1				

Infant K1 Roamer Coding Pack

Description

The Augean stable labour inspired this task. Place several small, light cardboard boxes at various locations in a work area. The students should program Roamer to sweep them away. The pupils can design and make something to bulldoze the boxes out of the work area.

Objectives

Students will have the opportunity to:

1. Write and test simple programs
2. Design and test a product to meet a design brief
3. Develop and understanding of the Design Process

Secondary Objectives

Students will have the opportunity to develop and test their:

1. Creativity
2. Teamwork skills
3. Communication skills

Vocabulary

1. Found Materials

KS1 Computing Pack

[Index to KS1 Computing Pack Activities.](#)



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Lesson Plan and Assessment

Preparation

1. Gather Resources.

1. Gather 5 small light boxes (for each team).
 - a. You can use paper cups if they do not fall over when hit by the Roamer.
2. Gather found materials to make and attach bulldozer blade.

2. Set Up the Lesson

1. Place the boxes on the Clear Grid Mat.
2. Set Up the Video.
3. Hand out [Traffic Light cups](#).



Activity

1. Introduce the Activity.

1. Read the story.
2. Show the video.
3. Discuss the problem with the students:
 - a. What problems do they have to solve in this task.
 - b. Find a way to make the bulldozer blade.
 - c. Find a way to attach it to Roamer.
 - d. Create a set of algorithms and program to remove the boxes.
4. Establish Learning Intentions and Success Criteria.



2. Write a Design Specification for the Bulldozer Blade.

1. Split the class into groups.
2. Tell the students the design brief:
 - a. Design a blade that can fit onto Roamer and help it remove the boxes,
3. Each group split into buddy pairs,
4. Each pair should think of at least 3 things the design has to do:
 - a. It has to help remove the boxes.
 - b. It has to be strong (in what ways?)..
 - c. It has to fit onto Roamer
5. Get the pairs to share their ideas with their group.
6. Get them to write a group specification.
7. Monitor the class as they do this:
 - a. Intervene with questions and advise if necessary.



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Lesson Plan and Assessment

Infant K1 Roamer Coding Pack

3. Design and Make the Blade

1. Tell students to sketch their ideas.
2. They should decide what they will design.
3. Make it.
4. Attach it to Roamer.
5. Test it.



4. Program Roamer to Clear the Boxes

1. Remind students of the Traffic Light System.
2. Let the students do this with minimal guidance.
3. Observe what they are doing, but keep intervention:
 - a. Respond to red traffic light only,
4. Observe what the groups do,



Assessment

1. Whole Class Discussion.

1. Get each group to discuss and prepare a report:
 - a. Were they successful?
 - b. What did they learn?
 - c. What did they like about what they did?
 - d. What could they do better?
2. Each group to report to the whole class,
3. Discuss the reports,



2. Complete the Evaluation Form

1. Did the students think they were successful?
2. Summarise observations?





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Teacher's Notes

Subject Comments

In general, the Activities in this package follow this pattern:

1. Introduce an idea.
2. Consolidate an idea.
3. Extend understanding of an idea.
4. Challenge students to use an idea.

This is a typical spiral curriculum. This particular task is a challenge. Using skills gained in previous tasks students can solve the problem in many different ways and show what they've learnt.

We informally introduce students to the Design Process. We encourage students follow the steps, but do not demand they do so.

Prior Knowledge

1. Students should have experience of using basic tools
2. Students should know basic tool safety procedures
3. Students should be familiar with the skills developed by the Activities in this pack.

Classroom Tips

1. Gather a selection of found materials for designing Roamer characters.
2. Students use traffic light signals to tell the teacher if they need help.
3. You can also use them to classify tools:
 - a. Green tools use without reference to the teacher.
 - b. Yellow tools use without reference to the teacher only after passing a competence test.
 - c. Red tools only use when the teacher is watching.

Training Links



[Roamer as a Vehicle for Design Education in Schools](#)



[Design Technology - Found Materials](#)



[Design Technology - Attaching Things to Roamer](#)



[Design Technology - Safety](#)



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Teacher's Notes

Science of Learning

A spiral curriculum is a teaching method which involves students revisiting topics. Each visit:

1. Looks at more complex topic features.
2. Increases a student's topic understanding.
3. Improves a pupil's ability to apply topic knowledge to solve problems.

Although no clear evidence shows the overall effects of this method, research links individual features to improved student learning and performance.

References and Useful Links

[🔗 The Spiral Curriculum: Research into Practice.](#)



The Spiral Curriculum Research into Practice



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Resources

Resources for Roamer Activities

This page lists the resources needed for this Roamer Activity. Note that you will access some resources by following the hyperlink. Others you will find on the Activity pdf.



CD Users: Click on Link icon to access links.

Roamer Products

[1520-402 Infant K1 Roamer](#)

[1526-103 Clear Grid Mat](#)

[1522-116 Roamer Fixing Kit](#)

Teacher's Materials



This video is about bulldozer robots.

Other Materials

Tools

General art and craft tools
Hole Punch
Glue
Pencils, Rulers, etc.

Found Materials

Small cardboard boxes
Paper cups
Cardboard
Sticky tape

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Student Resources

Infant K1 Roamer Coding Pack