

Setting up a recycling scheme: Cash for cans

Recycling scheme: Teacher notes

This resource is aimed at **key stage 4** students in **enterprise / work-related learning**.

It can form the basis for an enterprise activity in which students set up a school-based Cash for Cans scheme.

The activities can be delivered in a variety of ways. For example, as separate, stand-alone activities or as part of a half-day or full-day enterprise activity.

The suggested time allocations should be considered as minimum requirements for each activity.

It allows students to look at:

the process involved in the Cash for Cans aluminium can recycling scheme;

listen to a range of personnel who work in the Novelis aluminium recycling facility and

consider the steps and structures needed to set up a recycling enterprise in school.

develop the process to recruit a team to organise and run a recycling scheme.

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Activity summary Detailed teacher notes are provided with each activity.

Introduction / starter activity (5 minutes)

The PowerPoint presentation describes some of the uses of aluminium.

It briefly describes the production of aluminium from the raw materials, bauxite, and also from recycled cans.

The Cash for cans scheme is outlined.

Recycling loop video (6 minutes)

Shows the process involved in the collection of aluminium waste and its recycling into aluminium ingots for re-use. It sets the scene for audio interviews with personnel from the recycling plant.

Audio interview: Commercial manager (15 minutes)

Short interview with the Commercial Manager who talks about his role and also gives advice on the structures needed to run a drink cans recycling scheme in school.

Students listen and answer questions.

Round-up discussion to itemise a 'checklist' of what should be done to set up a recycling scheme in school.

Audio interviews: roles in the recycling plant (25 minutes)

Further short interviews (2 – 3 minutes) with personnel working in the Novelis recycling plant at Warrington, UK. Personnel describe their jobs and give advice on what is needed to set up a successful recycling scheme in school.

The people interviewed are:

Production manager

Marketing manager

Finance (internal auditor)

Information systems manager

Marketing services (administration)

Directed questions help the students to understand the key points of each interview.

Plenary / feedback (10 minutes)

Discussion to highlight the structure necessary for a recycling scheme within the school.

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Setting up a Cash for Cans recycling scheme (extended period of time)

Students use the information from the interviews to devise and set up their own school-based cash for Cans scheme.

This activity involves much detail and thought on the defining of roles, recruitment of suitable participants, delegation, reporting and an on-going management of the scheme.

Curriculum links

Work-related learning

learn about the way business enterprises operate, working roles and conditions in the workplace

use work as a context for learning within the curriculum

undertake at least one business challenge, problem-solving or enterprise activity.

Resources

The following resources are supplied in this pack or can be downloaded from the Think Cans web site (www.thinckans.com)

Introduction (PowerPoint presentation).

Recycling loop video.

Audio interviews with recycling plant personnel.

Activity cards to examine the various roles of plant personnel and set up a recycling scheme.

Task cards for groups to set up various teams needed to run a recycling scheme.

Video, interviews and presentations are found on the accompanying media or at the web site: www.thinkcans.com

The resource also requires access to:

Computer with Microsoft PowerPoint, connected to data projector to show introduction presentation

Computer with loudspeakers, connected to a data projector to show the video and listen to audio commentaries.

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Cash for cans - Presentation notes

Also see www.novelisrecycling.co.uk and www.thinkcans.com for more information.

Slide	Notes
Cash for cans	Presentation will look quickly at how aluminium, how drink cans are made and recycling using the cash for cans scheme.
Aluminium cans	Most recycled food container. 13 million used each day. Recycling saves 95% of the energy needed to produce a can from the raw materials.
Uses of aluminium	Aluminium is very versatile. Just some uses are listed on the slide. Basically anything where saving weight has an advantage. Transport Wheelchairs and walking frames Ladders Building materials (window frames, protective cladding, electrical wiring and lighting Food containers and foils Medicines packaging Antacid medicines and anti-perspirants and many more.....
Recycle or raw materials?	More details on these processes are available in the www.thinkcans.com web site. From raw materials The mineral bauxite contains large amounts of aluminium silicate. It is mined and converted into alumina (aluminium oxide). Alumina is smelted to produce aluminium metal that is cast into ingots. Aluminium ingots can be rolled and formed into cans.

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Slide

Notes

From recycled cans

Image shows the stages in recycling aluminium cans.

Some information about recycling:

Recycling saves 95% of the energy that would be needed to make the can from bauxite.

It reduces the need for valuable natural resources.

It reduces waste from mining, processing and the disposal of cans to land fill.

Cash for cans

Shows the sequence in the Cash for Cans process. More detail is in the Loop video.

Outline is that cans are collected in school. Taken to a regional collection point (or an arrangement is made for them to be collected from school). Payments are made according to the weight of aluminium. The cans are then recycled into ingots which can be used to make new cans.

Cash for cans

Contact details for the cash for cans scheme.

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Audio interviews - Running a recycling operation

Summary

Students decide on the structure needed to implement a recycling scheme in their school.

Short interviews (2.5 – 3 minutes each) with personnel who work in the Novelis aluminium recycling plant describe their job and also give advice on setting up a recycling scheme

Accompanying questions are provided to ensure that students focus on the main points for each job.

The personnel interviewed are:

1. Commercial manager
2. Production manager
3. Marketing manager
4. Finance (internal auditor)
5. Information systems manager
6. Administration (Marketing services executive)

Whole class listens to the Commercial manager and produces a check list for setting up a recycling scheme in school.

In groups, listen to remaining interviews and add detail to each role that needs to be performed.

Present / discuss structure for recycling team to the class.

Timing

Minimum of 60 minutes in class. Extend beyond session if an aluminium recycling scheme is to be set up in school.

Resources

There are two versions of the interviews available in the folder on the accompanying media:

An audio commentary and a visual slide show. They will play on a computer / interactive whiteboard connected to loudspeakers. These have the file name xxx_vid.

Audio-only versions are also given. They may be played on a computer with loud speakers connected or downloaded to students' mp3 players. These have the file name xxx_mp3.

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Activities

Question cards are supplied at the end of these notes to direct the students whilst listening to each interview.

Whole class (15 minutes)

Listen to the interview with the commercial manager and answer the questions on the question card (attached below).

Break into small groups so that each can list the key roles that would need to be done to start and run a recycling scheme in school.

Feedback question and answer with groups to identify roles that need to be performed. Should include:

Management of scheme (Commercial manager)

Publicity (Marketing manager)

Control of finances

Operations (collecting and processing cans)

Recording information

Administration support

Different jobs within the commercial recycling plant (25 minutes)

Groups then listen to the remaining interviews and answer the questions to describe the role of each person. Interviews give students an insight into the requirements of the different roles within the recycling plant.

Also includes advice on related tasks that would need to be performed to set up a Cash for Cans recycling scheme in school.

Plenary / feedback (10 minutes)

Through a class discussion, summarise what would be needed to set up a recycling scheme in the school: personnel, structures and activities.

This leads onto the extension activity which looks in a lot more detail about how a recycling team could be set up in school.

Teacher info

These answers relate to the question cards for each interview (pages 13 and 14).

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Commercial manager

1. What is the main responsibility of the commercial manager?

Collection of cans and waste to supply the plant.

Correct volume, quality and price.

Controls the team of people who work with the suppliers.

Control the budgets.

2. What does Keith suggest so that a cash for cans scheme in school would run successfully?

Think about the collection – where will they be obtained from, sorting them, storing them, crushing them.

Have a manager in charge – then a team of people underneath them.

What different roles are required? Give defined roles, e.g. marketing, operations (collection), budgets.

3. What is important when choosing people for their roles?

Match people's skills with the role they will be doing. For example, marketing and operations are different.

People skills are important.

Have people who will actually get things done.

Production manager

1. What responsibilities does the plant manager have?

Safety and deliver on commitments to customers – amounts, times and quality.

2. What types of aluminium waste does the plant recycle?

Used drinks cans and general aluminium wastes.

3. What happens to this waste?

Processes the cans to remove any paints (lacquers), re-melts them and casts into rolling ingots / slabs (25 tonnes).

Other waste is melted down and cast into slabs (10 tonnes).

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Production manager

4. **Is there any difference in the quality of the aluminium from recycled waste, compared to from the raw material bauxite?**

No difference in quality from aluminium cans.

Closed loop recycling system

5. **What needs to be done so that the processes run smoothly?**

Good maintenance, process control (burners and casting systems working optimally), quality control to test alloys and metal cleanliness. Organisation and planning. Motivate workforce and meet targets.

Marketing manager

1. **What types of activity does marketing include?**

Advertising, company materials or stories to newspapers, giving interviews, organising events and exhibitions and running the company web site.

2. **What are good ways of marketing a cash for cans scheme in school?**

Keep the message simple and focussed onto ideas that the target audience can relate to.

Do some research to see what the target audience know about recycling and what will 'hook' them into the scheme.

Plan a series of events. Don't do everything all at once but have a series of events throughout the length of the recycling campaign.

Keep the audience engaged, interested and involved with constant reinforcement.

Financial control

1. **What does the finance auditor do in her job?**

Monitor the accounts.

Keep records to see how the business is doing.

Costs and sales – give the profits.

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Financial control

2. What types of costs in the recycling plant?

Buying in the waste aluminium, people's salaries, running costs of the plant such as equipment.

3. List some of the main information needed to keep financial records, or accounts, for a cash for cans scheme.

Estimate how many people can provide aluminium cans.

Keep records of weight of cans so that you can check what payments should be for the weight of waste cans provided.

Any use of cash (coming in and also going out).

Understand the process of what is happening so that the numbers actually make some sense.

Information systems manager

1. What types of things does the IT manager in their job?

Looks after all IT equipment.

Mainframe computer and desk top / laptop computers.

Approximately 100 users on site.

2. What information needs to be collected to keep records on a cash for cans scheme.

Record cans being brought in – the weight.

Who was bringing in the cans – useful for marketing information.

Be able to check what weights are being passed to recycling company and so be able to check getting the correct amount of money back.

3. How would you set up an information system for a cash for cans scheme?

Use a database.

Think about the database design first to make sure it is suitable for the information people will want to get.

A spreadsheet is not that good for retrieving information.

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Administration

1. What types of things does the marketing services executive do in her job?

Very varied job.

Stock control, taking photographs, setting up exhibitions.

2. What would need to be done to organise a meeting of the people involved in running a recycling scheme in school?

Contact all the people involved. Organise a suitable date, time and place for the meeting.

3. What is meant by a meeting's agenda?

List of what is going to be talked about in the meeting.

Time allocations for each point and also who will talk about that particular point.

4. What is the job of the chair person in a meeting?

Keep the meeting moving on.

Go through the points in the agenda.

Invite particular people to talk about the points in the agenda and try to make sure that the discussion sticks to the times allowed.

5. What are the minutes of the meeting and what are 'action points'?

The main points that have been discussed in the meeting.

Action points are jobs that are allocated to people for them to do after the meeting. The particular task and also when it is to be completed by.

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Interview question cards

Commercial manager

Listen carefully to the interview and answer these questions.

1. What is the main responsibility of the commercial manager?
2. What does Keith suggest so that a cash for cans scheme in school would run successfully?
3. What is important when choosing people for their roles?

Production manager

Listen carefully to the interview and answer these questions.

1. What responsibilities does the plant manager have?
2. What types of aluminium waste does the plant recycle?
3. Is there any difference in the quality of the aluminium from recycled?
4. What needs to be done so that the processes run smoothly?

Marketing manager

Listen carefully to the interview and answer these questions.

1. What types of activity does marketing include?
2. What are good ways of marketing a cash for cans scheme in school?

Financial control

Listen carefully to the interview and answer these questions.

1. What does the finance auditor do in her job?
2. What types of costs in the recycling plant?
3. List some of the main information needed to keep financial records, or accounts, for a cash for cans scheme.

Information systems manager

Listen carefully to the interview and answer these questions.

1. What types of things does the IT manager do in their job?
2. What information needs to be collected to keep records on a cash for cans scheme.
3. How would you set up an information system for a cash for cans scheme?

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Administration

Listen carefully to the interview and answer these questions.

1. What types of things does the marketing services executive do in her job?
2. What would need to be done to organise a meeting of the people involved in running a recycling scheme in school?
6. What is meant by a meeting's agenda?
7. What is the job of the chair person in a meeting?
8. What are the minutes of the meeting and what are 'action points'?

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Setting up a recycling scheme in school

Summary

Students produce job specifications, targets, person specifications and interview for members of the Cash for Cans recycling team.

Groups set up 'teams' that are responsible for one of the following areas:

- Collection of cans

- Marketing of the scheme

- Monitoring the finances

- Information systems and administration

Class splits into paired groups. i.e. two groups for each area.

Each group undertakes the activities detailed on their worksheet.

Paired groups then role-play interviews with their matching team in the final (recruitment) phase.

Timing

Minimum of 120 minutes.

Resources

Group tasks worksheets supplied.

Activities

Split the class into 8 paired groups.

Work sheets are supplied to direct each group (page 17 on).

Each group has responsibility for one area. They have five tasks in order to set up their 'team':

- Define the role of their team.

- What tasks need to be completed? By when?

- Produce a job description for applicants to their team.

- Produce a person specification.

- Write a job advertisement to recruit into their team.

- Produce a framework for interviewing candidates for their team.

Each task should be allocated at least 15 minutes. If desired, there can be a brief class feedback following each task.

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Activities

Interviews (20 minutes)

In final interview task, the paired groups 'swap' personnel. So that one group interviews individuals from the paired group dealing with the same area.

In this way, all students get the experience of being on an interview panel and also of being interviewed.

Plenary / feedback (10 minutes)

Question and answer session:

How easy was it to define the roles and responsibilities?

What problems were there in making interviews fair between different candidates?

How easy was it to be an interviewer or a person being interviewed?

Extension

Once this activity is completed, the students have a strong framework on which to actually set up a Cash for Cans scheme in school.

Extending the enterprise activity can see the actual recruitment, management and running of a recycling scheme.

For further information and support, see:

www.thinkcans.com

www.novelisrecycling.co.uk

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Marketing team

You are the management team responsible for setting up a scheme in your school to collect and recycle aluminium cans.

The recycling scheme will run next term and may be extended if it proves successful.

Your task is to set up a team who will organise and run a marketing campaign for the scheme.

Task 1

Thinking about the jobs.

Make a list of the jobs (or 'actions') that the marketing team will need to do.

Indicate when each action will need to be completed by.

How many people will you need in the team?

How will the marketing team's success be judged?

Give as much detail as possible.

You may need to think about a manager to run the whole team.

Hint: listen again to the interview with the Marketing manager.

Task 2

What's involved in the job?

Write a job description for anybody who wants to apply to join the marketing team.

Include:

A clear statement of what they are expected to do.

When the tasks need completing.

How their performance will be judged.

This is called the 'Job specification'.

Task 3

Getting the right people.

Produce a list of the skills and experience you want in someone working in the marketing team.

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Which skills are essential? Which skills would be useful but are not essential?

This is called the 'Person specification'.

Task 4

Finding the right people.

Write a job advertisement to attract people to apply for places in the marketing team.

Task 5

Interviews - selecting the right people.

Think about how you will select the right people. You will need to talk to them at an interview. Before the interview you will need to decide:

What questions you will ask?

Who will ask the questions?

What answers you expect?

How can you judge the answers fairly and consistently for each person interviewed? Think about scores, grades or comments.

How will you decide fairly who is suitable to work in the marketing team?

After the interview, you will then need to give feedback to each person to say how they have done.

In feedback, do not talk about how other people did. Just talk about the person you are giving feedback to.

Tell the person where they gave good answers.

Suggest how the person could improve on areas where they gave weak answers. This needs to be positive so that they can improve for the future.

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Can collecting team

You are the management team responsible for setting up a scheme in your school to collect and recycle aluminium cans.

The recycling scheme will run next term and may be extended if it proves successful.

Your task is to set up a team who will organise the collection, storage and processing of aluminium cans in your school.

Task 1

Thinking about the jobs.

Make a list of the jobs (or 'actions') that the collection and processing team will need to do.

Indicate when each action will need to be completed by.

How many people will you need in the team?

How will the collection and processing team's success be judged?

Give as much detail as possible.

You may need to think about a manager to run the whole team.

Hint: listen again to the interviews with the Commercial and Production managers.

Task 2

What's involved in the job?

Write a job description for anybody who wants to apply to join the collection and processing team.

Include:

A clear statement of what they are expected to do.

When the tasks need completing.

How their performance will be judged.

This is called the 'Job specification'.

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Task 3

Getting the right people.

Produce a list of the skills and experience you want in someone working in the collection and processing team.

Which skills are essential? Which skills would be useful but are not essential?

This is called the 'Person specification'.

Task 4

Finding the right people.

Write a job advertisement to attract people to apply for places in the collection and processing team.

Task 5

Interviews - selecting the right people.

Think about how you will select the right people. You will need to talk to them at an interview. Before the interview you will need to decide:

What questions you will ask?

Who will ask the questions?

What answers you expect?

How can you judge the answers fairly and consistently for each person interviewed? Think about scores, grades or comments.

How will you decide fairly who is suitable to work in the collection and processing team?

After the interview, you will then need to give feedback to each person to say how they have done.

In feedback, do not talk about how other people did. Just talk about the person you are giving feedback to.

Tell the person where they gave good answers.

Suggest how the person could improve on areas where they gave weak answers. This needs to be positive so that they can improve for the future. Information and administration team

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Information and administration team

You are the management team responsible for setting up a scheme in your school to collect and recycle aluminium cans.

The recycling scheme will run next term and may be extended if it proves successful.

Your task is to set up a team who will organise the collection of information needed to run the scheme successfully and its administration.

Task 1

Thinking about the jobs.

Make a list of the jobs (or 'actions') that the information and administration team will need to do.

Indicate when each action will need to be completed by.

How many people will you need in the team?

How will the information and administration team's success be judged?

Give as much detail as possible.

You may need to think about a manager to run the whole team.

Hint: listen again to the interviews with the Information manager and Administrator.

Task 2

What's involved in the job?

Write a job description for anybody who wants to apply to join the information and administration team.

Include:

A clear statement of what they are expected to do.

When the tasks need completing.

How their performance will be judged.

This is called the 'Job specification'.

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Task 3

Getting the right people.

Produce a list of the skills and experience you want in someone working in the information and administration team.

Which skills are essential? Which skills would be useful but are not essential?

This is called the 'Person specification'.

Task 4

Finding the right people.

Write a job advertisement to attract people to apply for places in the information and administration team.

Task 5

Interviews - selecting the right people.

Think about how you will select the right people. You will need to talk to them at an interview. Before the interview you will need to decide:

What questions you will ask?

Who will ask the questions?

What answers you expect?

How can you judge the answers fairly and consistently for each person interviewed? Think about scores, grades or comments.

How will you decide fairly who is suitable to work in the information and administration team?

After the interview, you will then need to give feedback to each person to say how they have done.

In feedback, do not talk about how other people did. Just talk about the person you are giving feedback to.

Tell the person where they gave good answers.

Suggest how the person could improve on areas where they gave weak answers. This needs to be positive so that they can improve for the future.

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Finance team

You are the management team responsible for setting up a scheme in your school to collect and recycle aluminium cans.

The recycling scheme will run next term and may be extended if it proves successful.

Your task is to set up a team who will monitor the finances of the recycling scheme.

Task 1

Thinking about the jobs.

Make a list of the jobs (or 'actions') that the finance team will need to do.

Indicate when each action will need to be completed by.

How many people will you need in the team?

How will the finance team's success be judged?

Give as much detail as possible.

You may need to think about a manager to run the whole team.

Hint: listen again to the interview with the Auditor (finance).

Task 2

What's involved in the job?

Write a job description for anybody who wants to apply to join the finance team.

Include:

A clear statement of what they are expected to do.

When the tasks need completing.

How their performance will be judged.

This is called the 'Job specification'.

Task 3

Getting the right people.

Produce a list of the skills and experience you want in someone working in the finance team.

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Which skills are essential? Which skills would be useful but are not essential?

This is called the 'Person specification'.

Task 4

Finding the right people.

Write a job advertisement to attract people to apply for places in the finance team.

Task 5

Interviews - selecting the right people.

Think about how you will select the right people. You will need to talk to them at an interview. Before the interview you will need to decide:

What questions you will ask?

Who will ask the questions?

What answers you expect?

How can you judge the answers fairly and consistently for each person interviewed? Think about scores, grades or comments.

How will you decide fairly who is suitable to work in the finance team?

After the interview, you will then need to give feedback to each person to say how they have done.

In feedback, do not talk about how other people did. Just talk about the person you are giving feedback to.

Tell the person where they gave good answers.

Suggest how the person could improve on areas where they gave weak answers. This needs to be positive so that they can improve for the future.