



Santa's Scrapheap



Creative Thinking and Problem Solving: to play with and build ideas





Generic Task

Mrs Armitage's Ideas



Learning objective

Creative Thinking and Problem Solving: to play with and build ideas

Introducing the task 3 minutes

Read the story 'Mrs Armitage on Wheels' (details below). Ask the children to talk about what they think was special about Mrs Armitage.

Emphasise that nothing seemed impossible for her and that she would often play with ideas and do whatever she could to make it them reality. She looked at things and considered how to improve their 'workability'.

Ask the children if they think this is a good thing? Explore the pros and cons of Mrs Armitage's approach.



Running the task 10-12 minutes

You need: to sit in a circle, facing inwards, a helper or a leader.

Explain that this activity is based on the 'When I went to shop' game that they may have played before. They will need to come up with ideas in a playful way and together they will build on those ideas. Emphasise that the game is fun and they should help each other out where necessary.

1. Start the game by starting the story:

"Mrs Armitage was out on her bicycle when she thought to herself 'What this bike needs, is...'"

The person starting the story adds one idea/thing they think the bike could need.

2. The person to their right follows on the story by saying, "Mrs Armitage was out on her

bicycle when she thought to herself 'What this bike needs is...' they repeat what the first person says and adds one idea of their own.

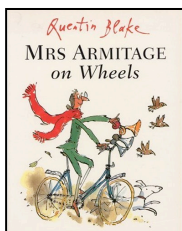
3. Develop the game going round the circle adding ideas. Support each other in remembering the order of all that Mrs Armitage adds to the bicycle.
4. Change the context if desired to Mrs Armitage going out:
 - in her car
 - on her motorbike
 - on a scooter
 - in a truck
 - on a tractor
 - to take a walk in new shoes
 - for a walk with her dog
 - on a horse
 - on roller skates
 - on a pogo stick

Resources

Mrs Armitage on Wheels by Quentin Blake

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Science Embedded Task

Santa's Scrapheap



Learning objective

Creative Thinking and Problem Solving: to play with and build ideas

National Curriculum: Sc1 1: 1a, Sc3: 1a

Ideas and evidence: to think creatively to try to explain how things work and to establish links between causes and effects

Grouping and classifying materials: to compare everyday materials and objects on the basis of their material properties and to relate these properties to everyday uses of the materials.

Success criteria

To be successful the children will:

- think creatively to come up with ideas for reusing and recycling a range of objects;
- build on one idea, describing how the object can be reused or recycled;
- relate the suggested new use of the object to the properties of the materials it is made from.

Introducing the task 5 minutes

Explain to the children that this challenge is about thinking creatively. In this instance by coming up with a range of different and unusual ideas and then building on one idea to provide more detail of how it might work. Relate this back to the story of Mrs Armitage on Wheels, by drawing out the idea of coming up with ideas and then

building on them to put them into practice. Were any of Mrs Armitage's ideas unusual and creative? What does that mean to you?

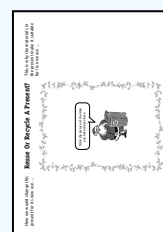
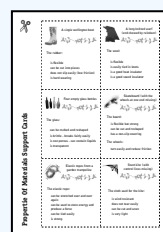
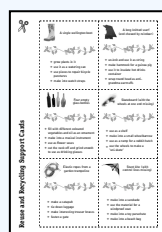
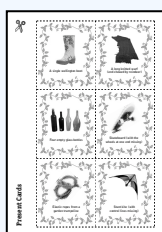
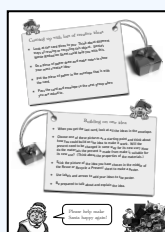
Running the task 50 minutes (plus time for presentations if desired)

1. Organise the children into teams of four or five.
2. Discuss with the children the idea of reducing waste by reusing and recycling objects. (refer to Santa's Waste Reduction Sheet) Is this a good thing? Ask for examples of reusing or recycling. Emphasise that how an object can be reused or recycled may depend on properties of the material it is made from, e.g. glass can be melted and reshaped into a new object, paper can be shredded and remade into cardboard, etc. Explain that reusing objects can sometimes be better than

breaking them up and recycling the materials they are made from, as this sometimes uses less time and energy, but that both reusing or recycling are better than wasting the materials by throwing them away. Give out and then read Santa's Scrapheap.

3. For the 'Coming up with ideas' part of the task, give each team one of the Present Cards with an envelope attached. Explain that they should describe their idea for reusing or recycling the present on a piece of paper and then place it in the envelope (5 minutes suggested. Santa's Waste Reduction Sheet should be available to 'scaffold' this process on paper sheet or whiteboard screen. NB: Reuse and Recycling Ideas Support Cards could be used at this stage.

Resources





4. Ask teams to pass their card and envelope to another team. Repeat the process of until each team has seen five or six cards.
5. When the teams get their last card they empty the envelope and work on the 'Building on one idea' task. Give out the Reuse or Recycle a Present! sheet copied on to A3 paper to form a poster. Remind the children to think about how the present they chose would need to be changed and how the properties of the materials it is made from suit the new use.
6. After ideas are presented ask the class to vote on the idea they feel is best, choosing an idea they think could be developed easily and which makes good use of the properties of the materials.

Reviewing the task

Discuss and decide which of the ideas they thought were particularly creative. What were some ideas they saw from other groups that they would not have come up with themselves? Did anything help them come up with creative ideas? What did they think were some good examples of changing an object to a new use? What were some examples of how properties of materials suited an object or material for a different use? How did it feel to be given a time limit? Did that help them be creative?

Involve the children in making an overall judgement about how they worked on the task using the assessment for learning Smart Grid.

Extended School/Family Learning

This activity could be incorporated by using the posters to start up a school Recycling-Reusing campaign. Display the posters in a prominent place and ask parents, teachers, other classes to vote.



Santa's Scrapheap Mrs Santa speaks...

Santa can be grumpy after Christmas. He shouts at the elves and even ignores Rudolph. He's not his usual cheerful self at all. To make things worse, he goes to look at the Scrapheap...

The Scrapheap is a pile of presents that he wasn't able to deliver. They came unwrapped, fell off the sleigh or got trodden on by the reindeer.



Santa really hates waste. You can help us by:



coming up with lots of creative ideas to reuse or recycle these things



building on one idea and explaining how it might work.





Coming up with lots of creative ideas

- * Look at the card given to you. Think about different ways of reusing or recycling this object. Santa's Waste Reduction Sheet could help you with this.
- * On a piece of paper draw and make notes to show your most creative idea.
- * Put the piece of paper in the envelope that is with the card.
- * Pass the card and envelope to the next group when you are asked to.



Building on one idea

- * When you get the last card, look at all the ideas in the envelope.
- * Choose one of these pictures as a starting point and think about how you could build on the idea to make it work. Will the present need to be changed in some way for its new use? How do the materials the present is made from make it suitable for its new use? (Think about the properties of the materials.)
- * Stick the picture of the idea you have chosen in the middle of the Reuse or Recycle a Present! sheet to make a poster.
- * Use labels and arrows to add your ideas to the poster.
- * Be prepared to talk about and explain the idea.



Please help make
Santa happy again!





A single wellington boot



A long knitted scarf
(end chewed by reindeer)



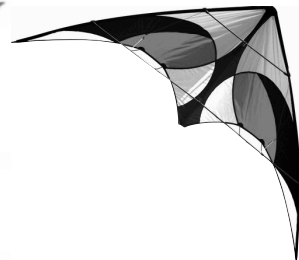
Four empty glass bottles



Skateboard (with the
wheels at one end missing)



Elastic ropes from a
garden trampoline



Stunt kite (with
control lines missing)

Santa's Waste Reduction Sheet



Re-use or recycle? It's much better than throwing it away!

Re-use?

When something is reused you don't need to change it much. Perhaps it will need to be cut or reshaped but you can still tell what it was in the first place.

For example, a plastic bottle could be cut in half to make a flower pot.



Recycle?

When something is recycled it is usually changed completely. It could be cut into small pieces or even melted.

For example, a drinks can could be crushed and melted and the metal used to make a spoon!



We want your creative ideas for Reusing and Recycling presents from Santa's Scrapheap. You could think about:



Where could you reuse or recycle? At school, in the garden, in the house, in the car, in the park, on the street, . . .



Who could reuse or recycle? Mum, dad, granddad, grandma, teachers, doctors, gardeners, little brother, little sister, . . .



When could you reuse or recycle? When you're playing, cooking, making something, cleaning, tidying up, shopping, . . .



How could you reuse or recycle? By cutting up, by folding, by changing shape, by joining together, by melting, . . .

Reuse and Recycling Support Cards



A single wellington boot



- * grow plants in it
- * use it as a watering can
- * use pieces to repair bicycle punctures
- * make into watch straps



A long knitted scarf
(end chewed by reindeer)



- * un-knit and use it as string
- * make hammock for a guinea pig
- * use it to insulate hot drinks container
- * wrap round head as anti-grandma earmuffs



Four empty glass bottles



- * fill with different coloured vegetables and oil as an ornament
- * make into a musical instrument
- * use as flower vases
- * cut the neck off and grind smooth to use as drinking glasses



Skateboard (with the wheels at one end missing)



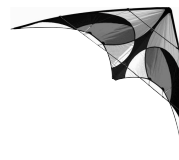
- * use as a shelf
- * make into a small wheelbarrow
- * use as a ramp for a rabbit hutch
- * use the wheels to make a 'uni-skate'



Elastic ropes from a garden trampoline



- * make a catapult
- * tie down luggage
- * make interesting trouser braces
- * fasten a gate



Stunt kite (with control lines missing)



- * make into a sunshade
- * use the material for a windproof coat
- * make into a toy parachute
- * make into a beach bag



Properties Of Materials Support Cards



A single wellington boot



The rubber:

- * is flexible
- * can be cut into pieces
- * does not slip easily (low friction)
- * is hard wearing



A long knitted scarf
(end chewed by reindeer)



The wool:

- * is flexible
- * is easily tied in knots
- * is a good heat insulator
- * is a good sound insulator



Four empty glass bottles



The glass:

- * can be melted and reshaped
- * is brittle - breaks fairly easily
- * is non porous - can contain liquids
- * is transparent



Skateboard (with the
wheels at one end missing)



The board:

- * is flexible but strong
- * can be cut and reshaped
- * has a non-slip covering

The wheels:

- * turn easily and reduce friction

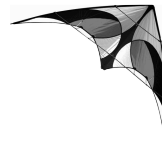


Elastic ropes from a
garden trampoline



The elastic rope:

- * can be stretched over and over again
- * can be used to store energy and produce a force
- * can be tied easily
- * is strong



Stunt kite (with
control lines missing)



The cloth used for the kite:




- * is wind resistant
- * does not tear easily
- * can be cut and sewn
- * is very light

How we would change this
present for its new use ...

Reuse Or Recycle A Present?

This is why the materials in
the present make it suitable
for its new use ...



| | | |
|---|--|------------------------------|
|  We were great at the task because... | <p>we had creative ideas for reusing and recycling the presents, e.g. . . .</p> <hr/> <p>we built on one idea for reusing and recycling a present. This idea we chose was . . .</p> <hr/> <p>we described our ideas for changing the present for its new use e.g. . . .</p> <hr/> <p>we thought about how the properties of materials helped our idea for reusing or recycling, e.g.</p> | <p>Next time we will ...</p> |
|  We were good at the task because... | | |
|  We were okay at the task because... | | |

