

# Magnificent machines



Give your children a lot of explaining to do with these inventive non-fiction activities from **Pie Corbett...**

## The 'Teacher-Pleaser' machine

Do you suffer from a grumpy teacher? If so, then use the 'Teacher-Pleaser' machine and soon your teacher will become the jolliest person in school. How does the machine work?

■ To start the machine running, you have to wind up the clockwork handle. This provides enough energy to turn the large wheel which causes the apple dispenser to work. As the wheel spins, this also causes the tea mug to heat up so that a fresh, warm cup of tea can be served. When your teacher receives a lovely cup of tea and an apple, she will feel in a good mood instantly.

■ If the wheel begins to slow down, you must turn the handle again. As a result, the clockwork machinery will speed up the wheel. This means that you can turn on one of the best features of the 'Teacher-Pleaser'. Press the red button on the top of the machine. This will result in starting up the pencil-sharpener. Therefore in 30 seconds you can sharpen every pencil!

■ Furthermore, if you press the green button then a spinning brush appears which will sweep up and recycle any pieces of paper so that your class can be clean and tidy. The 'Teacher-Pleaser' also

writes notes saying, "You are the best teacher in the world". Finally, there is an in-built calendar which alerts you to your teacher's birthday so that you can remember to buy a present.

Use one of these amazing machines because it will keep your teacher happy. Therefore your school life will be a breeze!

## The 'Tidy Your Bedroom' machine

Does your bedroom look as if a gorilla has been on the rampage? Has keeping your room tidy become an issue? If so, you could use a 'Tidy Your Bedroom' machine to keep your parents happy. But how does it actually work?

■ Take your machine into the bedroom and place it on the floor. It is quite easy to carry because it is made of a light metal called aluminium so that children can easily use it.

■ First of all, it is important to start the machine. Pull down the red handle and release it. This causes the spring to bend. When you release the handle, the spring shoots up. The power from this pushes the machine into life. As a result of this surge of energy, the machine will have sufficient strength to grab clothes, close

doors and even sweep the floor.

■ If the spring is set in motion again, the extra power will allow the machine to polish any surfaces. The additional boost of energy also means that it can extend a metallic 'grabber-arm' which can pick up books, old pieces of clothing and toys. The arm is extendable because it may need to reach under the bed for lost socks.

■ However, the machine will need careful programming because it cannot think for itself and therefore the results can be disastrous. Be careful to use the small computer to give specific instructions so that the machine does tidy your room rather than destroy it.

If you treat the 'Tidy Your Bedroom' machine with care, it will last for years. Make sure that the spring is not over-used or it runs the risk of breaking. This will mean that you will have to tidy your own mess!

## Free resource

**GET A WHITEBOARD-FRIENDLY VERSION OF PIE'S INSTRUCTIONS...**

If you would like to share this example with your class on the whiteboard, you can download a copy from the following website [teachprimary.com/magnificentmachines.php](http://teachprimary.com/magnificentmachines.php)







**Read the explanations on pages 18–19 and then try the following activities**

### Introducing the topic

Children have a natural inclination towards being 'inventors'. The idea of designing machines can be used in an imaginary way or real machines might be made. One Y5 class I taught designed marble sorting machines. The idea was to design and make a machine that could sort marbles by their sizes.

One word of warning – because children enjoy drawing their inventions so much, it's easy to forget that you are also teaching them to *explain* how it works. It helps to keep the key language feature in your mind, causal connectives – words such as *this causes, this means that, so, when, as a result, therefore, because*. Children often muddle instructions with explanations. Explanations tell the reader 'how' things work or 'why' things happen. They are about one thing resulting in another – cause and effect.

### Explanation warm-up

Most explanatory writing that children are asked to do is rather dull. As a fun warm-up provide them with the list of challenges below. They have to work in pairs and explain any of these to their partner; but, they have to use the words 'as a result'.

Explain to your partner why:

- rainbows don't wobble in the wind
- mice live in holes
- cats purr
- the moon changes shape
- ostriches bury their heads in the sand
- the wolf pretended to be granny

For example:

*It is a little known fact that ostriches are very nervous birds. They do not like sudden noises. If an ostrich happens to be near someone who shouts this makes them very frightened. As a result, they bury their heads in the sand so that they cannot hear or see what is happening.*

### Working with the texts

To begin the topic, you might ask the children to think of different machines that help us in our lives, e.g. cars, washing machines, bicycles, etc. Then make a list of machines of the future – robots and machines that would be handy to have such as a 'homework' machine which completes your homework in seconds!

Begin by working on the 'Teacher-Pleaser' as it is a simpler model. Ask the children to read the explanation and then draw the 'Teacher-Pleaser', labelling its key parts. In pairs they should then explain how it works. To do this they will need to have carefully read the explanation and use the causal connectives. Have these on cards so that the children can rehearse their sentences. They could role-play this, with one of them in role as a salesperson explaining to the customer how the machine works.

The children could then design their own 'Teacher-Pleaser', adding other features and following the same structure and language features to create simple explanations. Once they've written and illustrated their explanations, these could be swapped and their writing partner might check to see if they have managed to write a clear explanation, focusing on how their machine works. It helps if they underline the actual explanatory sentences, where the connectives are used.

The 'Tidy Your Bedroom' machine is harder. Read and discuss, using the following ideas to help the children deepen their understanding of the text and to internalise the language patterns.

- Read and draw the machine, labelling it.
- Read through and underline the causal connectives.
- Work in pairs. One of you is the child who has just been given the machine, the other is the parent who has to explain how it works.
- Pretend you are an interviewer on a programme called *How Do They Do That?*. Interview the designer of the machine, asking them to explain how it works.

Work with the children to develop 'the ingredients for writing an effective explanation'. Use the list as a guide for the class shared writing, the children's own writing and evaluation. They will notice such key points as:

- Use a clear title so the reader knows what the explanation is about.
- Begin with an opening that makes the reader want to read on. A good 'hook' to use is a question.
- Make the explanation easy to follow.
- Use the causal connectives to show how one thing leads to another.
- Simple drawings help the reader if sections are hard to explain in words.
- You may need to use 'time' connectives to organise the sequence in which things happen, e.g. *first, next, after that, etc.*
- Use *you* or *your* to talk to the reader.

End the explanation with any key points, reminders or ideas.



**Use the list as a guide for the class shared writing, the children's own writing and evaluation.**