

# Starting from stories: *Jim and the Beanstalk* by Raymond Briggs

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## Introduction

There are many different starting points for developing themes for use within the primary classroom: the environment; a child's question; a television programme. Often a story written for children can provide a rich source of ideas for developing particular concepts. *Jim and the Beanstalk* by Raymond Briggs is one such story.

The background to the story is the familiar one. A young boy awakens one morning to find a beanstalk growing in the garden and he decides to climb it to see where it goes. The difference is that it is many hundreds of years since the beanstalk was last climbed and this new adventurer, Jim, finds the castle inhabited by a very old Giant!

The Giant provides Jim with breakfast, and soon they strike up a conversation. The Giant bemoans the fact that old age has set in and failing eyesight means he is no longer able to read his favourite poetry. Jim immediately sets about measuring the Giant for a pair of reading glasses, and taking a giant gold coin with him, sets off to get the oculist to make up the Giant's prescription.

The Giant is delighted with his new spectacles, but quickly realises, as he looks at himself in the mirror, that his once handsome head of red hair has disappeared. Jim once again calms the Giant down and sets about measuring the Giant's head for a new curly wig. The wigmaker receives a giant gold coin and sets about making the wig to Jim's specifications. It fits perfectly and the Giant casts himself many admiring glances in the mirror.

The only thing missing now is the Giant's wonderful set of teeth. No problem! Jim measures the Giant's mouth and once more carrying a giant gold coin, he sets off to have a set of false teeth made for the Giant. They fit perfectly and the Giant is eager to test them out. 'Three fried boys on toast, that's what I used to enjoy!' says the Giant. Jim does not hang about any longer, he runs to the beanstalk and climbs down as quickly as he can. Seizing an axe he chops the beanstalk down. As he does so a giant

note falls to the ground. It is wrapped around a giant gold coin and it thanks Jim for his help and kindness and it is signed 'Your friend the giant'.

Not only is this an entertaining story for children, it can also be used as a starting point for developing a wide variety of activities including the use of ICT. The nature of the story itself can lead to some exciting collaborative writing using an Overlay Keyboard with a word processor and might develop into adventure games using an Adventure Generator program. Activities such as these will provide you with an opportunity to carry out your assessment of ICT capability.

There are undoubtedly other ideas that might be developed, and those outlined here are meant simply to give a flavour of work which is possible with children at Key Stages 1 and 2.

## Measuring and recording – non-standard measures

Talk to the children about 'non-standard measures'. While they are measuring, encourage them to consider some of the drawbacks of using non-standard measures.

Using a data collection sheet that you have prepared, or better still, one that the children have designed themselves, ask the children to work with a partner to do the following:

Name	James	Kirsty
Hand span	16 cm	15.5 cm
Foot area		
Shoe size	9	10
Height	1.43 m	
Seated height		
Shoulder width		42 cm

- Draw round one of their hands. Measure their span and record the information on the data collection sheet.

- Draw round one of their feet on 1 cm squared paper. Work out the area. Record the area and their shoe size on the data collection sheet.
- Measure their height. Record it.
- Sit on a chair and measure their height from the floor to the top of their head. (All the children will need to agree on a standard chair to do this.) Record it.
- Measure the width across their shoulders. Record it.

All the measurements should then be entered on a data collection sheet which is large enough to include the measurements for the whole class. This information will be needed to allow the setting up of a database file or spreadsheet.

### Sorting beans

You can buy mixed packs of beans and pulses in most supermarkets these days and children get a lot of pleasure from sorting the beans in different ways. If you have time, you might also want to encourage the children to grow their own beans in school. They will be amazed at how quickly some of the beans grow.

#### *Before you start*

Think about how you might introduce this activity to the children and consider:

- The skills the children would need to bring to the task.
- The skills the task would develop or reinforce.

Encourage the children to work in groups of three or four to sort and identify each of the beans. Explain to the children what is meant by a Binary Tree and ask them to sort the beans into a Binary Tree by asking questions which can only be answered yes or no.

- Explain to the children that the computer can be used to store and represent their Binary Tree and that it can then be used to identify each of the beans. Using a program like *Flexitree*, *Tree*, or *Sorting Game*, explain to the children how to set up a file which will identify all the beans.
- Ask the children to enter their Binary Tree on to the computer and to test it. (Some groups may need help the first time they try this activity.)

#### *Beans and pulses*

The following descriptions may help the children to identify the beans they are sorting. (They may prefer to create their own descrip-

tions of the beans and only refer to this list if they have any difficulties.)

Aduki beans	tiny, round, dark green
Borlotti beans	small, beige, speckled with brown
Black beans	middle-sized, black, shiny
Black-eyed beans	small, creamy-white, with a black eye
Butter beans	big, white
Chick peas	cream, small, lumpy
Flageolet beans	pale green, small
Green lentils	greenish-brown, whole, small, flat
Haricot beans	small, white
Red lentils	tiny, orange, split, flat
Red kidney	middle-sized, dark red, smooth, beans shiny
Yellow beans	round, small, yellow, smooth

### Creating a database

Before attempting this activity with your children you will need to ensure that they have completed the 'Measuring and Recording' activity. You may need to spend some time with the children explaining how a database functions – particularly explaining the importance of field names and encouraging them to think about what sort of information they want to retrieve, and which questions they might want to ask.

- Encourage your children to work with a partner. They will need to use a simple database program to create a file called GIANT. Using the information on the large data collection sheet they will need to enter the data for the whole group.
- Once the children have created their database (they might need some help from you the first time they do this) they can use the database and a calculator, if necessary, to work out the data about the Giant. The children should then add the Giant's measurements to the database.
- Some clues/questions like these will help them (you can of course make up your own):
  - The Giant's hand span is 15 times bigger than the biggest in your group.
  - The area of the Giant's foot is 20 times larger than the average of those on your database.

- The Giant is 40 times taller than the shortest person on the database.
- When he sits down, the Giant is 30 times taller than the tallest person on the database. Do you think his legs are long or short?
- For his tea, the Giant likes three fried people on toast – what size would the slice of bread have to be to fit three average people on? Should they be laid shoulder to shoulder, or top to tail?

### Using a spreadsheet

Before attempting this activity with your children, you may need to give them some help in understanding how to create, use and interpret a spreadsheet.

- Provide a factsheet for the children which builds on some of the facts the children have discovered already about the Giant. For example, you might talk about the fact that the Giant enjoys at least 10 cups of tea per day and that his teacup holds 30 times as much tea as an ordinary tea cup. Ask the children to work with a partner to explore *Factsheet* and to make a note of any measurements or other facts they find. In light of the measurements they find out about the Giant, they will need to measure and record some additional details about the group.
- Using a simple spreadsheet program the children can create a spreadsheet of the group's measurements, using the data they have collected. (The children may need your help with this the first time they undertake the activity.)
- Using the facts they have found out about the Giant and the data they have collected about the group they can begin to build up their spreadsheet. For example, once the data has been entered about HANDSPAN, the children will need to find out which child in the group has the biggest hand span. They can now start to build the formula to calculate the Giant's hand span. If the biggest hand span is in cell D23 on the spreadsheet then the formula would be something like: = (D23\*15) You will need to check exactly how formulae have to be written in the spreadsheet you are using. Once the children have calculated all the Giant's measurements you may wish the children to make a full-size or scale model of the Giant. Thinking about the extra facts about the Giant and his cups of tea, you might want to tell the children how much sugar and milk he has in his tea and the

relationships between his teaspoon or milk bottle and a normal ones. Using any suitable method, the children then could calculate how much sugar the giant would use:

- in a week
- a month
- a year

How many cups of tea the Giant would drink in a year. How many litres of tea would this be? How many bottles of milk the Giant would use:

- each week
- each month
- each year

### Adventures in the castle

What is it like inside the Giant's castle? Talk about it, describe in:

- words – poems, prose, newspaper reports
- pictures – drawings, paintings, collage
- sounds – song, percussion, computer sound
- Children might make a map of the castle from their ideas. These maps or plans might be transferred on to grids for co-ordinate work.

There are undoubtedly other ideas that might be developed, and those outlined here are meant simply to give a flavour of work which is possible with children at Key Stages 1 and 2.

Create a Keyboard overlay based on children's ideas. (Or use a multimedia authoring program such as *Hyperstudio*) This might be used later to create your own adventure.

The overlay, or interactive hypertext pages, might show a general outline of the castle and its rooms with an indication of the scale shown. Children can explore the overlay/plan to find the names of rooms, position of doors and windows, artefacts and maybe mathematical puzzles which point towards treasure hidden in some of the rooms.

The messages might use compass points and/or directions for moving left, right, up and down.

When exploring, it would be a good idea to make sure that the groups will come across investigations which would lend themselves to practical mathematical activities to be carried out away from the computer, for example:

- You are in the Great Hall. Find envelope B. The message in envelope B might say:  
There are four shields on the wall, each patterned in equal amounts of two colours. Make your own shield to match the set. (Squared paper, gummed paper etc. is available.)

### Mathematical investigations

An Overlay or multimedia file can be used as a stimulus which can direct children to practical mathematical investigations away from the computer. This offers the teacher an opportunity to set up activities to cover particular skills and concepts within an interesting context.

Many other ICT-related activities could be generated from the castle scenario. The following suggestions focus on the mathematics within tiling patterns, for example.

- Design floor tiles for the Great Hall. What size would they be? How many would be needed? What patterns would be needed? What patterns can be made by laying the tiles in different orientations?
- Use a tiling program like *Versatile* to explore concepts of symmetry – reflection, rotation, pattern and scale.

#### *Scale and enlargement*

- As the children discover the layout of the castle, groups could transfer the information to a larger scale grid on the floor or the wall.
- Models of the furniture and artefacts found, could be added.
- A 3-D model of the castle might be feasible.
- Children might develop their own games based on the castle maps.

### Exploring with floor robots

Several floor robots are available (Pip, Roamer, floor turtles, for example) which might be used by children to extend the ‘adventures’ around the castle. Robots could be ‘dressed up’ as Jim or a friend of Jim’s, and children might devise exploratory tasks for each other.

Children could create their own adventure in the Castle using a Multimedia Authoring

program (such as *Hyperstudio*) Here are some example activities:

- Create a large-scale floor map of one of the levels in the castle, with 3-D doorways for the robot to move through. Send your robot from the south-east corner to the northern-most edge of the castle.
- Design your own castle, make a floor map of it. Take a robot for a walk around it, visiting each room.
- Use a floor turtle to draw a scale plan of the ground floor of the Giant’s castle. Can you find the shortest route between two places in the castle? Is it also the route which involves the smallest number of instructions?

### Treasure hunt

Where has the Giant hidden his store of gold coins? A treasure hunt can be incorporated into this topic in many different ways.

- Start with a ‘secret message’ hidden on the computer. This might lead to a hunt around the school or classroom (as the castle) using compass directions, and so on.
- A floor robot could be the treasure hunter, moving from one location to another collecting clues laid face down on the floor map.

Beginning from the point labelled START, the children follow the instructions given, collecting letters on the way, which will eventually provide a clue to lead the ‘hunters’ to the place where the final clue is found (for example, collecting the letters [K O L A B C X B] and rearranging them will lead to treasure inside a BLACK BOX somewhere in the classroom.

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