The following investigation into ‘maths from a story’ started almost by chance with a conversation in a seminar with final year primary ITE [1] students. This took place just before the release of the film of the first of the Harry Potter books [2] that have found international favour among children and grown-ups. The conversation also centred on making maths motivating for children in school by drawing upon interests from outside school. The Harry Potter books were an example of a good stimulus for ideas.

It was refreshing to hear students thinking in a cross-curricular way about mathematics as a contrast to the discussion about numeracy hours. This kind of starting point, which was so familiar to teachers who trained at a similar time to myself, has ceased to play the same role in our training of students. Yet, when looking at Curriculum 2000 and the emphasis on numeracy across the curriculum, it would appear to be a good way of getting students to think about the links between subjects.

I started the ball rolling by producing a good old-fashioned topic web brainstorm. The group of students then worked on specific ideas to produce resources for use in the classroom. They were working in their own time, before their final teaching placement and I was impressed by their creativity. There is clearly a lot more that could be worked on from this particular starting point and we hope this article will provide food for thought to students and teachers alike.

For both long-standing teachers and those about to join the profession, it is reassuring to see that creative approaches are still alive and kicking in the classrooms of the future; and from non-maths specialists!

‘Collecting Candy’ board game

The aim of the game is to roll a dice to travel from start to finish on the board (see page 24). On the way, players should collect as many sweets as possible whilst faced with challenges from the fat lady and the basilisks. It is not all doom and gloom however – it is possible to overcome their challenges with the help of the moving staircases. Sweets collected must be recorded onto a tally table, which can be used to create a simple bar chart.

Good luck!

The tally table and bar chart that result from the board game can be varied to suit different children and to include different information. For example:

- intervals on the graph can increase by more than one
- children can be asked to label and choose the appropriate scale on a blank graph
- extended eg, ice mice, creamy chunks of nougat and black pepper imps

The completed graphs can be used to generate and answer questions to encourage the children to interpret the graphs. Children can also compare and contrast different representations of data eg, pie charts and bar charts.

Footnotes:
1 Initial Teacher Education
2 J.K. Rowling: Harry Potter and the Philosopher’s Stone, Bloomsbury, 1997
Collecting Candy
Devised by Nicky Lenton

START

Dropped your bag of candy. Slip back to 56

Collect 3 Fizzing Whizzbees

Collect 5 Cockroach Clusters hidden behind cauldron

Caught by the basilisk. Go back to 15

Collect 4 Levitating Sherbert Balls

Miss 2 goes to avoid being caught by Snape

Collect 4 Levitating Sherbert Balls

Caught by the basilisk. Go back to 15

Avoid being caught by Peeves. Collect 7 Toothflossing String Mints

Collect 2 Cockroach Clusters in mail. Climb to 85

Climb the Moving Staircase to 87

Miss 2 goes to avoid being caught by Snape

Collect 2 Exploding Bonbons

Jump on broomstick and fly to 66

Collect 2 Exploding Bonbons

Use the Invisibility Cloak.

Go up the Moving Staircase to 34

Stop to look at school map. Miss a go

Collect 5 Cockroach Clusters hidden behind cauldron

Collect 6 Levitating Sherbert Balls

Miss 2 goes to avoid being caught by Snape

Collect 6 Levitating Sherbert Balls

Climb to 95

Avoid being caught by Peeves.

Collect 7 Toothflossing String Mints

Well done for avoiding Peeves. Move on 2 spaces

Collect 2 Exploding Bonbons

Bonus. Collect 8 Exploding Bonbons

Nothing drops the mail. Miss a turn

Hedwig drops the mail.

Climb the Moving Staircase to 87

Nothing drops the mail. Miss a turn

Hedwig brings 3 Cockroach Clusters in mail. Climb to 85

Collect 2 Levitating Sherbert Balls

Collect 8 Exploding Bonbons

Collect 3 Fizzing Whizzbees

Go up the Moving Staircase

Caught by the basilisk. Go back to 15

Caught by the Fat Lady. Miss a go

Stop to look at school map. Miss a go

FINISH
Wizarding Money
Devised by Jane Farncombe

Currency at Hogmeads consists of galleons [g], sickles [s] and knuts [k].
In the novel ‘Harry Potter and the Philosopher’s Stone’;
1 gold galleon is equal to 17 silver sickles.
1 silver sickle is equal to 29 knuts.
The exchange rate can be altered according to the abilities of the children. For example of problems see p26.

HONEYDUKES PRICE LIST
1 galleon is worth 5 sickles. 1 sickle is worth 5 knuts

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chocolate frogs</td>
<td>3k</td>
</tr>
<tr>
<td>Hot butter beer</td>
<td>2s</td>
</tr>
<tr>
<td>Acid pop small bottle</td>
<td>1s</td>
</tr>
<tr>
<td>Acid pop large bottle</td>
<td>2s</td>
</tr>
<tr>
<td>Drooble’s best blowing gum</td>
<td>1s</td>
</tr>
<tr>
<td>Tooth flossing string mints</td>
<td>1s</td>
</tr>
<tr>
<td>Ice mice each</td>
<td>2k</td>
</tr>
<tr>
<td>Exploding bonbons 1 packet</td>
<td>2s</td>
</tr>
<tr>
<td>Blood flavoured lollies 1 costs</td>
<td>3k</td>
</tr>
<tr>
<td>Levitating sherbet balls 1 costs</td>
<td>4k</td>
</tr>
<tr>
<td>1 packet of 4</td>
<td>3p</td>
</tr>
<tr>
<td>Bertie Botts every flavoured beans small packet</td>
<td>2k</td>
</tr>
<tr>
<td></td>
<td>2p</td>
</tr>
</tbody>
</table>

FLOURISH AND BLOTTS (Booksellers) FIRST YEARS’ PRICE LIST

<table>
<thead>
<tr>
<th>Item</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>The standard Book of Spells (grade 1)</td>
<td>10s</td>
</tr>
<tr>
<td>A History of Magic</td>
<td>2g</td>
</tr>
<tr>
<td>Magical Theory</td>
<td>1g</td>
</tr>
<tr>
<td>A Beginners’ Guide to Transfiguration</td>
<td>5g</td>
</tr>
<tr>
<td>One Thousand Magical Herbs and Fungi</td>
<td>2g</td>
</tr>
<tr>
<td>Magical Drafts and Potions</td>
<td>4g</td>
</tr>
<tr>
<td>Fantastic Beasts and Where to Find Them</td>
<td>6s</td>
</tr>
<tr>
<td>The Dark Forces: A Guide to Self Protection</td>
<td>18s</td>
</tr>
</tbody>
</table>
Hogsmeade Shopping Trip

The following questions were devised for KS2 pupils to accompany the 'Honeydukes price list' (page 25). They are designed for the national numeracy strategy and national curriculum requirements for pupils to solve word problems involving money.

- Hermione has 2 sickles, how many Chocolate Frogs can she buy? How much change will she have?
- How much change would you have from a Galleon if you bought 2 bottles of hot butter beer?
- How much would it cost for 2 Blood Flavoured Lollies, 2 Ice Mice, 1 large bottle of Acid Pop and a small packet of Bertie Botts Every Flavoured Bean?
- Neville Longbottom wants to buy some Levitating Sherbet Balls. In his pocket he has 2 sickles and 9 knuts. How many can he buy?
- Hermione and Ron decide to buy Harry some Bertie Botts Every Flavoured Bean. They have 13 knuts between them, which packet size can they buy?
- How many packets of Droobles Best Blowing Gum can you buy with 17 knuts?

Gringotts Bank Exchange

Converting money

When Harry Potter starts at Hogwarts he has to convert his 'muggle' currency to wizard money.

An exchange rate can be given, eg: £1.00 is worth 1 galleon and 2 sickles.

Children could be asked to find £3 and £5 worth of 'wizarding' money.

Today’s exchange rate at Gringotts Bank is £1.00 to 5 sickles and 5 knuts

- At the end of term Harry changes 1 galleon, 8 sickles and 25 knuts, how much would he have in sterling?
- If Harry was given £3.00 at the Exchange how much wizard money had he changed? How many knuts would this give him altogether?
- Find out how much Harry and his friends would have paid in ‘muggle money’ for each of the books on Flourish and Blotts first years’ price list (p25). Handy Hint: find the value of the book in Knuts before trying to calculate the cost in ‘muggle money’.

Answers for an exchange rate of 1 gold galleon = 17 silver sickles
1 silver sickle = 29 knuts are given on p39
Other ‘Wizard’ Ideas

- 3 times table using ‘Fluffy, the three headed dog’ e.g. each head has 2 eyes, $3 \times 2 = 6$, each mouth has twelve teeth, $3 \times 12 = 36$
- How old is Professor Dumbledore?
  Mr Flamel was 665 years old last birthday. Dumbledore is 10% older.
  When was he born? How old is he?
  When was Mr Flamel born?
  How old was Mr Flamel when Dumbledore was 597?
  In 1945, Dumbledore discovered 12 uses for dragon’s droppings, how old was he then?
- What other questions can you ask?
  - Explore ratio using different sized books from ‘Flourish and Blotts’.
    Some are the size of postage stamps others are the size of paving slabs . . .
    and many sizes in-between.
  - If it takes the Hogwarts’ Express 3 1/2 hours to reach Hogsmeade station, at what time will it need to leave platform 9 3/4 in order to get there at (1) 10:30pm and (2) 22:30?
  - If Harry’s Nimbus 2000 is travelling at 10 metres per second, how long will it take him to catch the snitch? If it is
    1. 200m away
    2. 100m away
    3. 325m away
- If each owl can carry up to 5kg of post, how many owls will be needed to carry the Christmas presents from Mrs. Weasley to Harry, Hermione and Ron? If the presents weigh . . . 50kg . . . 65kg . . .
- Use the ‘Mirror of Erised’ to explore reflection
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