
*Endings....
for your lessons*

Colleen Young

What makes a good ending to a lesson?

Have you planned the end of your lesson to:

Help you confirm that learning has taken place?

Identify any misconceptions?

Help you decide what you and your students need to do next?

What was important?

What do you want to stick to?

*On the following slides, images
and/or text provide hyperlinks
to the resources*

Contents

Plan for lesson endings that will help you assess what your students have learned. The ideas and resources here will hopefully help you do just that.

page

2

What makes a good lesson ending?

page

5

Resources

page

8

Vocabulary

page

9

Questions – Resources

page

10

Mini-Tests (Self-Checks)

page

11

Here's the diagram... What's the question?

page

12

Spot the Mistake

page

13

Homework Hints and Resources

page

14

Over to the students

page

15

Endings as beginnings

Essex Maths Team

50 Ideas & 50 More

4 Summarise topic in 5 sentences – reduce to 5 words – reduce to one word

5 60 second challenge – sum up knowledge of text, or write down all the words you can think of to describe...

18 Take one minute to compose two statements in your head to explain what we have learnt and how we have learnt it

See 50 Ideas
for Plenaries –
Essex Maths
team and
Another 50
ideas for
plenaries

Contents

The Plenary Producer Mike Gershon

Plenaries

[Show me the answer](#)

[Freeze Frame](#)

[Tell me 3 things...](#)

[Just a Minute](#)

[Inside the Octagon](#)

[Design a plenary](#)

[Concept Map](#)

[Millionaire](#)

[Cross the Curriculum](#)

[Labelling](#)

[Evaluation Tree](#)

[Skills skills skills](#)

[Definition](#)

[Extra Extra](#)

[Equation](#)

[Neighbours](#)

[Mr Wrong](#)

[Objective Traffic Lights](#)

[Classified Information](#)

[Different Writing Styles](#)

[Nightmare](#)

[Musical Sentence Stems](#)

[Circle Time](#)

[Football](#)

[Mime](#)

[Forecast](#)

[Questions](#)

[Hangman](#)

[Get Creative](#)

[What do you know?](#)

[Different Shoes](#)

[Blockbusters](#)

[Pictionary](#)

[5-5-1](#)

[Self, Peer, Teacher](#)

[Brainstorm](#)

[Which Pic?](#)

[5-5-1 Deluxe](#)

[Poster Campaign](#)

[Exam Question](#)

[K.U.I](#)

[60 Seconds](#)

[The Big Match Live!](#)

[Aide Memoire](#)

[Make me your selection](#)

[Missing Sequence](#)

[Enter the Box](#)

[Video Errors](#)

[Conflict – Tension](#)

[Set your own homework](#)

[Rorrim](#)

[Points of view](#)

[Questions to ask](#)

[Classwork peer assessment](#)

[Recipe Time](#)

[Taboo](#)

[In the Spotlight](#)

[Controversial Issue](#)

[What If?](#)

[Anagrams](#)

[No to no and no to yes](#)

[Mind Map](#)

[Hot Seating](#)

[Art Schmart](#)

[VAK](#)

[Shape and Colour](#)

[Success!](#)

[Predict It](#)

[Open Question](#)

[Question? Answer. 2](#)

[Word Limit Whiteboard](#)

[Plenary Dice](#)

[Continuum](#)

[Activity Planning](#)

[Timeline](#)

[Quiz the group](#)

[Celebrities](#)

[Chinese Whispers](#)

[What's your opinion?](#)

[Pupil as teacher](#)

[Story-Time](#)

[Stop!... Mr Postman](#)

[Home Improvement](#)

[Dominoes](#)

[Txt Msg](#)

[Helpful Tips](#)

[As easy as 1,2,3](#)

[Storyboard](#)

[Draw your brain](#)

[Sculpture Vulture](#)

[Beat the Teacher](#)

[Play Doh](#)

[Txt Msg](#)

[Show and Comment](#)

[Publishing Mogul](#)

[Chop and Sort](#)

[How, where, when, why, what](#)

[Graph It](#)

[Odd One Out Maker](#)

[Question Tennis](#)

[Partnering](#)

[Re-draft](#)

[Musical Styles](#)

[Animal Magic](#)

[Word Fill](#)

[Instructions](#)

[True/False](#)

[Bingo Sheets](#)

[Get in Character](#)

[My word!](#)

[Flow-Chart](#)

[Question? Answer.](#)

[Quick-fire](#)

[Comic Strip](#)

[You're Bard!](#)

[PLTS](#)

[Pyramid](#)

[Targets](#)

[Flow-Chart](#)

[Random Feedback](#)

[Probing Questions](#)

[Same...Different?](#)

[Everyday People](#)

[Material](#)

[Pyramid 2](#)

[Voice Over](#)

[Charades](#)

[What? How?](#)

[Camera Action](#)

[Change the world](#)

On TES
Resources

The Plenary
Producer

130
suggestions for
any subject!

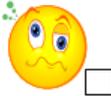
Contents

TES Resources

Exit Tickets

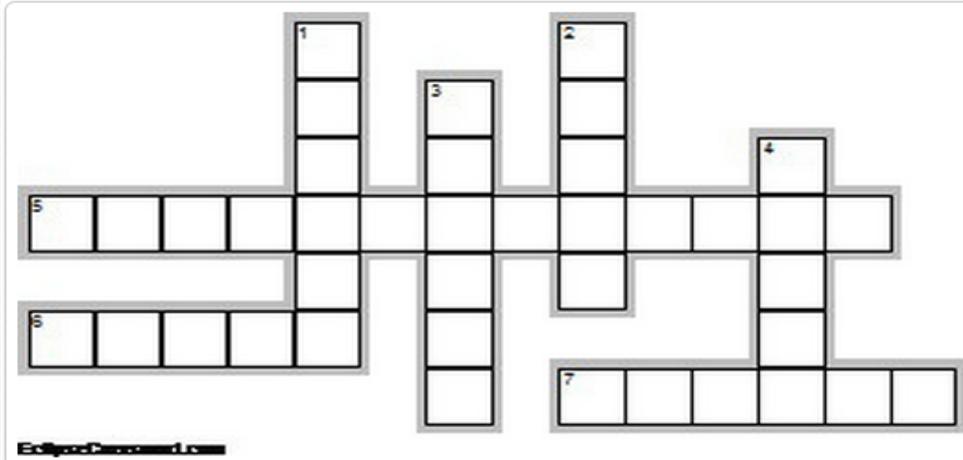


teachitmaths.co.uk
MATHS TEACHING ONLINE

Exit Ticket	
Name:	Grade:
$6x - 12 = 24$	$5x - 4 = 3 - x$
$35 = \frac{10(x + 5)}{2}$	
How I feel about today's work:	
 <input type="checkbox"/>	 <input type="checkbox"/>
 <input type="checkbox"/>	 <input type="checkbox"/>
Topic:	Grade:

TeachIt Maths (all pdfs are free if you register for this site) have a collection of starters and plenaries.

Vocabulary



Sum up the
key notation
and vocabulary
from the lesson.

Contents

Questions

$3(x+4)$

A) $7x$ B) $3x+4$

C) $12x$ D) $3x+12$

www.coopsonline.co.uk

Diagnostic Questions from Craig Barton and Simon Woodhead are excellent as not only do they allow you to check learning, they can also reveal misconceptions.

Why not ask the students to write their own diagnostic question?

Generate new sheet

Write each expression in its simplest form

Variables	
SHOW ANSWERS	<input checked="" type="checkbox"/>
Number of questions (minimum 10, maximum 25)	25
Subsection	
Number of variables	2
Allow negative coefficients of letters in final answer?	<input checked="" type="checkbox"/>
Allow constant terms?	<input checked="" type="checkbox"/>
Allow question to begin with a negative number?	<input type="checkbox"/>
Allow squared letters e.g. 'x ² ' ?	<input checked="" type="checkbox"/>
Allow "mixed" letters e.g. 'xy' ?	<input checked="" type="checkbox"/>

1) $6c + 10d - c + 1 - 7 - 6d$	$5c + 4d - 6$
2) $3h - 7 - h + 9 + 4h^2 - 3h^2$	$2h + h^2 + 2$
3) $4t - 11 + 10 + 3t^2 + t^2$	$4t + 4t^2 - 1$
4) $10y + 8y^2 - 12y - 4 - 6 - 3y^2$	$-2y + 5y^2 - 10$
5) $8t + 9t^2 - 13t + 9 - 1 - 13t^2$	$-5t - 4t^2 + 8$
6) $9p + 10p^2 - 9p + 6 - 8 - 13p^2$	$-3p^2 - 2$
7) $7q - 2 - 11q + 10 + 8r - 5r$	$-4q + 3r + 8$
8) $5v + 1 + 7 + 3w - 5w$	$5v - 2w + 8$
9) $b + 8 - 6c + 9c + 4b - 5$	$5b + 3c + 3$
10) $5q - 7 - 11r + 7r - 3q + 10$	$2q - 4r + 3$

Dynamic Maths – David Watkins

David Watkins has provided an extensive, easily searchable collection of Excel Mathematics worksheets on dynamicmaths.co.uk. These worksheets can be customised to suit a particular class. As well as a class activity, these could make excellent starters or plenaries,

Mini-Tests

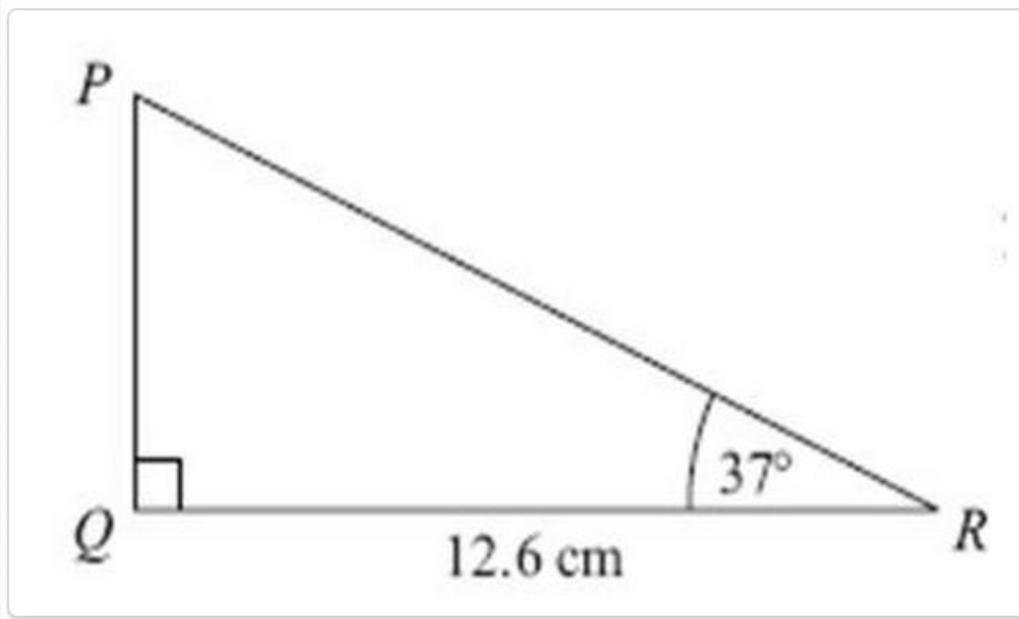
Trying an exam question and then checking / discussing the mark scheme can be a very appropriate lesson ending. Or you might want to have a slightly longer ending, with the all important idea of **making things stick** and give them a **mini-test**. Reading **Make it Stick** (The Science of Successful Learning) which discusses the use of testing as a learning tool convinces me even more that **mini-tests** are a good idea! Students need to recall information and the evidence suggests that testing is a better way of doing this than simply rereading material, a method often favoured by students. Students like the alternative name 'Self-checks' which I hope helps them realise they are as the authors suggest a **learning tool, not something to be stressed by.**

“exercise in repeatedly recalling a thing strengthens the memory.”

Aristotle

Making it stick

Here's the
diagram.....



*What's the
question?*

Provide a diagram, students write a question
...and a mark scheme.

Further resources

Contents

Spot the Mistake

 Nikki	<u>Tick or Trash</u>	Gavin 
$3x + 2y$	$3(x + 2y)$	$3x + 6y$
$2ab - 3ac$	$a(2b - 3c)$	$2ab + 3ac$

Tick or Trash from Interactive Maths

A great way to get students thinking about mistakes and misconceptions and hence deepen their understanding of topics is to have them mark the work of others. There are some great resources hosted on TES.

[Spot the Mistake Resources](#)

[Misconceptions in Mathematics](#)

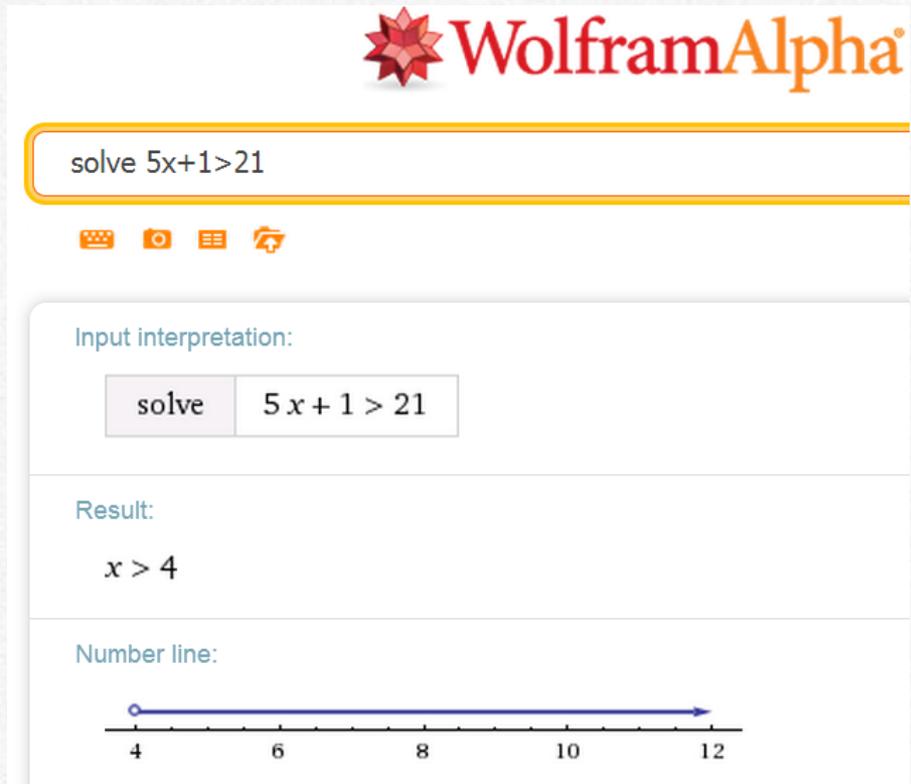
Can your students identify common errors?

[Contents](#)

Homework

You may want to use the end of a lesson to make sure students are clear on their homework task or tasks. You could perhaps let them start homework.

Why not show them any resources such as [WolframAlpha](#) or the [Desmos Graphing calculator](#) or perhaps some of the other [calculators here](#) they could use to check their work?



The screenshot shows the WolframAlpha interface. At the top is the WolframAlpha logo. Below it is a search bar containing the text "solve 5x+1>21". Underneath the search bar are four icons: a keyboard, a camera, a list, and a refresh symbol. Below the icons is the "Input interpretation:" section, which shows a button labeled "solve" followed by the input "5 x + 1 > 21". Below that is the "Result:" section, which displays the solution $x > 4$. At the bottom is the "Number line:" section, which shows a horizontal number line with tick marks at 4, 6, 8, 10, and 12. A blue circle is placed at the number 4, and a blue arrow points to the right from this circle, indicating the solution set $x > 4$.

Over to the students

Perhaps hand over to a student or students to summarise the main points of the lesson. This could be planned ahead if you wish.

For a novel plenary – plan ahead with a student – let them know they will be giving a vote of thanks for the lesson! This can include what has been learned and refer to any members of the class, perhaps comment on someone who asked a great question for example. This can work really well and the lesson may well end with everybody clapping!



Thank You!

Contents

Endings as beginnings

Why not end the lesson by explaining what you wish them to start working on the minute they come into the room for the next lesson.

On the subject of calm starts to lessons

..see Bell Work

And so many starters also make good endings!



What next?

Contents

Colleen Young

<https://twitter.com/ColleenYoung>

Mathematics, Learning & Web 2.0

Mathematics for Students