



# TEACHING FUNCTIONAL SKILLS MATHEMATICS

## WEBINAR 2: KEEPING IT REAL

NAME

## LEARNING OUTCOMES FOR WEBINAR 2

Participants will:

- Identify implications of the 2018 Functional Mathematics Subject Content (delivered from September 2019)
- Identify links between maths and vocational or everyday tasks
- Use Fermi questions to promote realistic approaches to Functional Maths
- Understand the tasks and assessment criteria for the 15 credits at L5 (optional accreditation)

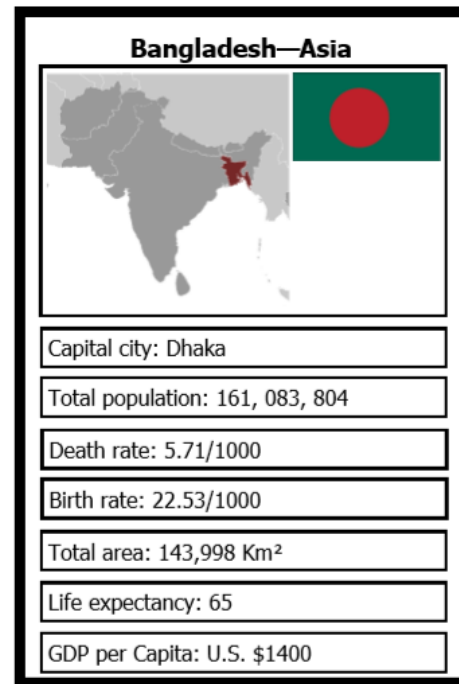
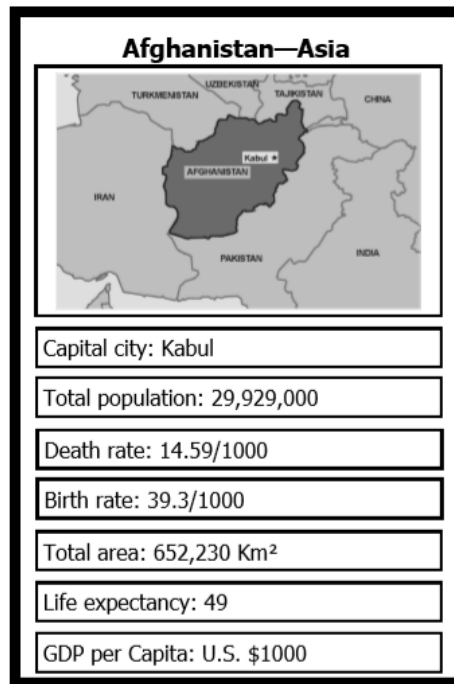
## THE PRE-WEBINAR TASKS FOR WEBINAR 2

Before this webinar you were asked to

- Complete: Self-assess Subject Knowledge
- Sample: Top Trumps
- Watch: Why do I need to learn maths?

# TOP TRUMPS

- Take a card containing data for a particular country
- Line up in order ...



# FEEDBACK

- What do you like about the activity?
- What skills and knowledge are used?
- Could you use it (or adapt it) with your learners?
- What other data could be used that would be relevant or of interest to your learners?

## FUNCTIONAL SKILLS ... A BRIEF HISTORY

2004	Functional Skills originally specified as part of <a href="#">14-19 reform</a> as a key aspect of core learning for young people
2007	First set of <a href="#">Functional Skills Standards</a> set, with qualifications piloted over 3 years
2012	Replaced Key Skills and <i>Skills for Life</i> qualifications
2015	<a href="#">ETF review</a> found that Functional Skills are benefitting learners in acquiring skills valued by employers – but recommended changes to ensure their relevance, rigour and value
2018	DfE publish new <a href="#">new Functional Skills subject content</a> as a basis for reformed qualifications
2019	New qualifications introduced from September

# FUNCTIONAL SKILLS 2018 SUBJECT CONTENT

- Produced following widespread consultations with employers, teachers and other stakeholders
- Replaced Ofqual (2011) *Functional Skills Criteria for Mathematics*
- Provides the basis for the development of Functional Skills qualifications introduced in September 2019.

<https://www.gov.uk/government/publications/functional-skills-subject-content-mathematics>

# FUNCTIONAL SKILLS 2018 SUBJECT CONTENT

- In what ways has the subject content changed?
- What challenges does it create?
- What are the advantages of Functional Skills over other maths qualifications?

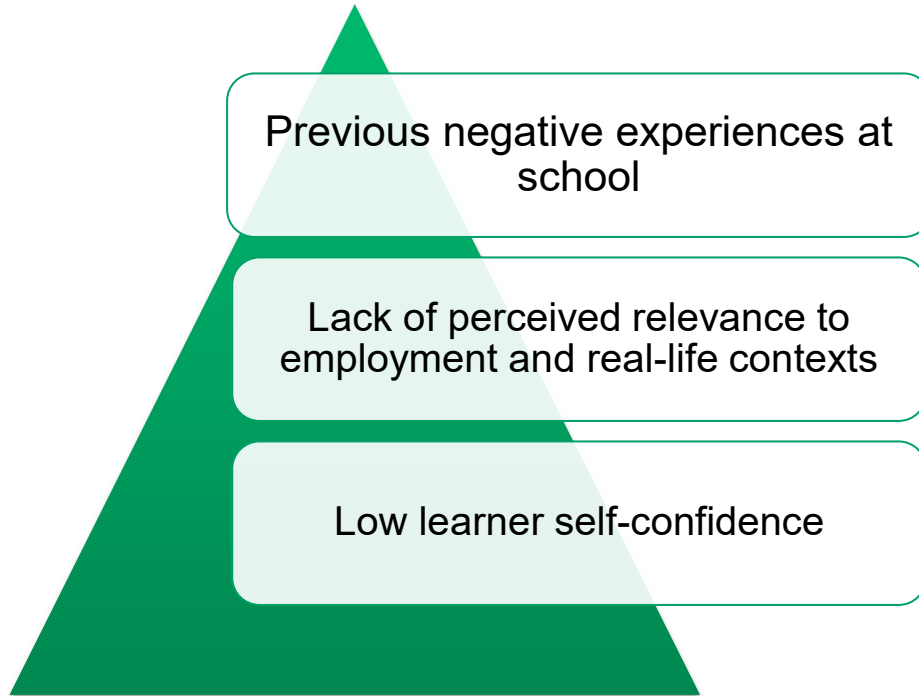


## Functional Skills reform

25% weighting for **underpinning skills** : 75% weighting for **problem solving**

- A reasonable balance between ‘underpinning skills’ and ‘problem solving’ in both calculator and non-calculator assessments
- What are ‘underpinning skills’ and why are they being explicitly tested in the reformed Functional papers?

# WHAT ARE THE BARRIERS TO ENGAGING WITH MATHS?



ETF (2014) *Effective Practices in Post-16 Vocational Maths*

## ***“WHY DO I NEED TO LEARN MATHS?”***

As a pre-webinar task you asked to watch the first 3.5 minutes of a video from ‘National Numeracy’:

<https://www.youtube.com/watch?v=pDP-ZYAxFbs>

## Quiz

There will now be a short quiz based on the video

## SHORT BREAK

Take 5 minutes away from the screen

Leave the zoom meeting running but turn on 'mute'

Remember to unmute yourself when you return

# PICTURING THE MATHS



# PICTURING THE MATHS

- Choose a picture as a group
- Breakdown the **vocational** tasks involved in the picture
- Add these to the picture as a spidergram using 'annotate' in blue
- Now think about the **maths** anybody carrying out each task might use or might need to learn
- Add these to the spidergram in red

## PLENARY DISCUSSION

- Were you surprised at how many maths skills were evident?
- Would these maths skills be used in the same way in the vocational context as in the classroom?
- Which of the maths skills listed are your learners likely to have difficulty with?

## PLENARY DISCUSSION

- How might you use this activity with your learners? Could you develop it further?
- What other ideas and activities do you use to help learners see how maths is relevant to them?
- BBC Bitesize Maths at Work has a series of videos: <https://www.bbc.co.uk/bitesize/topics/z6j47nb>



# FERMI QUESTIONS

How many items of luggage pass through Heathrow airport each day?



## HOW MANY ITEMS OF LUGGAGE PASS THROUGH HEATHROW AIRPORT EACH DAY?

You may access the internet to search for information. Make note of the **assumptions** you made and the **methods** you used.

### Ground rules for break out rooms

1. Put on your video and introduce yourselves in turn
2. Decide on a spokesperson who will feedback
3. Make sure all members of the group contribute

## PLENARY DISCUSSION

- What was involved in doing the activity?
- How did the activity encourage you to use knowledge of the real-world?
- How does the activity promote problem solving skills?
- How could you adapt this activity for your learners?
- How might you support your learners with this activity *without telling them what to do?*

# LOW-FLOOR/HIGH CEILING

- A *low floor/high ceiling* activity is one where everyone in a group can work at their own level, but which has lots of possibilities for the participants to do much more challenging maths.
- LFHC activities are usually open problems, and allow a variety of approaches (rather than following a set method)
- LFHC activities allow learners to show what they **can** do, not what they can't.
- **How is this different to traditional approaches to differentiation?**
- **What are the advantages and disadvantages of this approach?**

## ADDITIONAL REFLECTIONS AND GOALS

Before webinars 1 and 2 you were asked to self-assess using two ETF online tools:

- Professional Standards  
(<https://www.foundationonline.org.uk/enrol/index.php?id=39>)
- Maths Pathways  
(<https://www.foundationonline.org.uk/course/index.php?categoryid=19>)

- How useful were the tools?
- What targets have you set yourself as a result?

## REFLECTIONS

After the webinar, reflect on the session e.g:

What did we do that was helpful?

What could I apply in my teaching?

What could I do differently?

Record your reflections in your Reflective Diary and set your self a goal

# REMINDER OF PRE-WEBINAR TASKS

Before webinar 3:

Complete: a) Subject Content for Whole No

Complete: b) Developing alternative strategies

Sample: Hexagon Jigsaw (pp 17 – 23)

Watch: Kentucky Math



# TEACHING FUNCTIONAL SKILLS MATHS

## OPTIONAL L5 CREDITS INFORMATION



# OVERVIEW OF THE L5 FUNCTIONAL SKILLS MATHEMATICS COURSE CONTENT

- **Understand how to address barriers to learning functional mathematics**
- **Use a range of assessment strategies to support functional mathematics learners**
- **Plan inclusive teaching and learning for functional mathematics learners**
- **Deliver inclusive teaching and learning for functional mathematics learners**
- **Evaluate own practice in planning, delivering and assessing functional mathematics**

*These are the learning aims which will be assessed in the tasks.*

# THE TASKS AND ASSESSMENT CRITERIA

- The awarding body is Ascentis
- 15 credits are awarded at Level 5 (it is not a full level 5)
- To be successful you must pass 3 tasks
- Each task may be resubmitted once if necessary
- Refer to the handbook 'Accreditation guide for Ascentis level 5 unit' for essential guidelines

# TASK 1:

## MEETING THE NEEDS OF LEARNERS

**‘Present case studies of two of your learners. You should choose two learners who differ significantly in their backgrounds and needs in order to demonstrate the breadth of your knowledge and understanding.’**

**You must cover all of the assessment criteria for task 1 in order to pass this task. Useful tips 1) Write about the two learners throughout the task so that you can make comparisons 2) Aim towards the maximum wordcount to help you cover all required assessment criteria.**

# TASK 2: APPROACHES AND ACTIVITIES FOR TEACHING FUNCTIONAL MATHEMATICS

**‘Analyse different approaches to teaching and learning Functional Skills Mathematics, drawing on recent ideas and research, and providing examples of the application of these approaches in your practice.’**

**You must cover all of the assessment criteria for task 2 in order to pass this task. Useful tips 1) You must include theory and practice and link them together 2) Aim towards the maximum wordcount to help you cover all required assessment criteria.**

# TASK 3:

## REFLECTIVE DIARY AND ACTION PLAN

**‘Keep a reflective diary for the duration of the course and update it at regular intervals.’**

**You must cover all of the assessment criteria for task 3 in order to pass this task. Useful tip 1) Ensure that your Reflective Diary is kept up to date and that tasks are completed between sessions**

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**THANK YOU**  
**ANY QUESTIONS?**