EDUCATION & TRAINING FOUNDATION

Apprenticeship Workforce Development: Collaborative Project
Functional Skills – Changing the Paradigm

TUTOR GUIDE TO SKILLS SCAN

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Introduction

This document is a tutor guide on how to use the Skill Scan with learners for both maths and English. Examples and web links are included for tutors who are less familiar or confident with the subject matter. This guide should be used alongside the Skill Scan Excel file.

Tutor Guide to Maths Skill Scan

- This guide is to be used in conjunction with the Skill Scan and can be used to support discussions with learners and provide additional questions.

- The scoring system has been designed to be learner friendly and learners at all ends of scale should be encouraged to develop further.

- Some learners will have a natural affinity with maths and it is useful to identify these learners as they can support in sessions where you are embedding aspects of maths into your delivery as you know they will be able to help explain methodology to their peers. These learners should be scoring 4's and 5's on the Skill Scan and should be encouraged to extend their mathematical skills further in the workplace.

- Other learners may not be quite as competent/confident but will be able to recall how to perform calculations with a little prompting. The Skill Scan is not meant to be a test and as such BBC BiteSize and other links provided are an extra resource that can be used as prompts and reminders. These learners will probably fall into the 3's category with maybe some 2's and 4's.

- There will be learners who have a real fear or aversion to maths for many legitimate and valid reasons. These will be scoring at the 1's and 2's level. For these learner the prompts are useful starting points for them to use ahead of any functional skills delivery as an entry point. The Skill Scan should always be used as a positive experience and for these learners a more regular revisiting and rescoring would be a beneficial process.

- For all learners the Skill Scan points out how these skills can be used in the workplace in either current or future careers. These columns can be altered and added to according to the curriculums being offered.

- The Skill Scan ideally should be revisited throughout the learner journey enabling learners and tutors to celebrate progress and their increased confidence levels recorded.

- Employer engagement in the Skill Scan is important, especially in the identification of where skills are to be used in the workplace. These conversations can also remind employers of the importance of functional skills in the workplace.

- Note: The majority of these questions are designed for learners to try using pen and paper or using mental arithmetic rather than a calculator. If a student requires a calculator that's fine, but then follow it up and see if they can do the same calculation without the calculator.

Number work

For learners who appear confident with basic addition and subtraction some additional questions could be posed to see how easily they can apply this knowledge. For example,

Q? If you only have a £10 note, do you have enough money to buy a sandwich for £3.50, a bottle of milk for £1.05 and a ready meal for £5.50. (Answer is **no** as the total cost is **£10.05**)

Q? What change from a £20 note can you expect if you buy an item costing £13.78 (Answer is **£6.22**)

Addition and use of the column method - Functional Skills - BBC Bitesize
How to subtract with the chunking method - Functional Skills - BBC Bitesize

Percentages

An easy way to work out %s of the sort learners are likely to come across is to work out 10% first (by dividing by 10) and then multiplying as required so: -

In the example given firstly work out 10% of 200 which would be 20
We want 30% so we need 3 x 20 = **60**

Additional questions could either be simpler such as
Q? What is 10% of 60 (Answer is 6)

Or more complex such as
Q? What is 15% of 300?
In this case we find 10% by dividing by 10 = 30
And then find 5% by dividing 30 by 2 = 15
Therefore 15% is 30+15 = **45**

For other %s, such as 78% of 1500 for example it is easiest to divide the value (1500) by 100 to get 15 and then multiply by the percentage (78) to get the final value (15 x 78 = **1170**)

Q? What is 62% of 300. (Answer, divide 300 by 100 = 3 and then 3 x 62 = **186)**

This method works for any percentage but working out simpler percentages such as 10% or 15% can be useful using mental arithmetic as explained above.

Work out discounts using percentages - Functional Skills - BBC Bitesize

Fractions

It is likely that learners will not have remembered how to do this so a quick revision with them might be beneficial.

First remind them of the names used, the number on the top of the fraction is called the numerator and the number on the bottom is called the denominator.

Fractions can only be added or subtracted when the denominator is the same. To do this we multiply the numerator and denominators by the denominators of the other fraction so: -

For $^{1}/_{3}$ is multiplied by 2 so we get $^{2}/_{6}$ and ½ is multiplied by 3 so we get $^{3}/_{6}$
We can now add $^{2}/_{6}$ and $^{3}/_{6}$ to get $^{5}/_{6}$.

This is a skill that is unlikely to be used by learners outside of functional skill but is an important mathematical concept to understand.

In day-to-day life we are far more likely to be asked to find a fraction of a number or value.

So, for example is we wanted to find $^{2}/_{3}$ of a number we divide it by 3 and multiply by 2.

Q? What is $^{3}/_{5}$ of 400 (Answer is 400 divided by 5 which is 80. 80 x 3 = 240)

Dividing whole things into fractions - Functional Skills - BBC Bitesize

Decimals

The emphasis here is the confidence with which learners can add or subtract decimal numbers such as the example given 5.2-2.8 (answer is **2.4**) and the ways in which they try and work it out. For example, taking the whole number first from 5.2 to get 3.2 and then the 0.8 after that.

Also understanding the purpose of the decimal point and place value needs to be considered.

Decimal numbers and the decimal point - Functional Skills - BBC Bitesize

Area

Learners may not have remembered the formulas to work out areas of different shapes but may well be able to work out areas of shapes if they are reminded.

Area of Square or rectangle = width x length
Area of Triangle = half the base x height

More advance learners could be checked to see if they remember the formula for a circle

Area of a circle = π x r^2 (π=3.14 and r^2 means radius x radius)

2-dimensional shapes - 2-dimensional shapes - AQA - GCSE Maths Revision - AQA - BBC Bitesize

Also check that learners understand that all measurements in area are in 'squared units' such as m^2 (as you are multiplying two lengths together) and that all units of length should always be in lower case.

Units of Measurement and Converting Units

Check with learners that they understand the difference between different measurements such as millimetres (mm), centimetres cm), metres (m) and kilometres km).

10 mm = 1cm
100cm = 1m
1000m = 1 km

Check that they can convert from one to another – for example

7cm = 70 mm
1.2m = 120cm

Metric Units of Length | Convert mm, cm, m and km (youtube.com)

Probability

Probability is a concept that learners will encounter in everyday life as well as in workplace. Check that they understand that probability can be expressed as a fraction, decimal or percentage.

Probability as a fraction or decimal ranges between 0 and 1.

As a percentage probability can range from 0% to 100%

Values below or above these are impossible.

If something cannot happen then the probability is 0 or 0%
(e.g. winning the lottery if you haven't bought a ticket)

If something an absolute certainty then the probability is 1 or 100%
(e.g. If today is a Monday, then tomorrow will be a Tuesday)

Ask questions that learners can relate to such as

- The probability of it raining at 3pm is 80% - is it likely to rain at 3pm?
- The probability of you winning a prize in a raffle is $^{1}/_{300}$ – are you likely to win?

Probability is used in the work place all the time, especially around risk assessment which is a good discussion to have with learners i.e. 'is it likely' to occur.

As a rule, we tend to either overestimate or underestimate the chances of something happening in everyday life.

Math Antics - Basic Probability (youtube.com)

Money

When asking learners about money check that learners can work out change from bank notes. This can be linked the number work, and you can also check their ability of working with numbers to two decimal places.

Averages

Ask learners if they can explain what an average is (e.g. a number that suitable represents a group of numbers).

Learners may remember different types of averages:

Mean – adding the numbers together and dividing by the number of numbers
Median – the middle value when the numbers are placed in numerical order
Mode – the most common value

Math Antics - Mean, Median and Mode (youtube.com)

Volume

Like area, learners may need to be reminded of the formula to work out the volume of a solid.

For cubes and rectangles
Volume = width x depth x height

Accelerate growth and sell your best with Shopify POS (youtube.com)

Also check that learners are aware that volume units are always 'cubed (e.g. cm^3 or m^3 etc because you are multiplying three lengths together)

Ratio

Ratio is often a topic that learners struggle to grasp. At its simplest it is a comparison between two or more numbers.

For example, the numbers 10:5 are in the ratio 2:1 as 10 is twice the value of 5.

Ratios are always expressed in their lowest form (i.e. the simplest relationship between the two numbers).

When one of the ratio numbers is 1 it is reasonably easy to see, but ratios can consist of all sorts of number combinations.

For example, a recipe might show that the ratio of milk to flour 3:5 which means that for every 3 units of milk you need 5 units of flour.

Costa Coffee Ready to Drink – Festival 6 sec - UK (youtube.com)

Graphs

Check that learners can interpret different types of graphs including

- Pie charts
- Line graphs
- Bar charts

Types of Graphs and when to use them (youtube.com)

Tutor Guide to English Skill Scan

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- Some learners will have a natural ability with English, and it is useful to identify these learners as they may support in sessions where you are embedding aspects of English into your delivery as you know they will be able to help explain spelling, punctuation and grammar to their peers. These learners should be scoring 4's and 5's on the Skill Scan and should be encouraged to extend their English skills further in the workplace.

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- There will be learners who have difficulty with aspects of English for many legitimate and valid reasons (e.g. they may have dyslexia or are second or third English language speakers). These will be scoring at the 1's and 2's level. For these learners the prompts are useful starting points for them to use ahead of any functional skills delivery as an entry point. The Skill Scan should always be used as a positive experience and for these learners a more regular revisiting and rescoring would be a beneficial process.

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Speaking with confidence and reading with confidence

Use a paragraph of text from one of your learning resources to help learners assess their ability with this. It will also help you gauge their ability to engage in lessons.

If they are struggling, then you will know that modifications to your delivery may be needed.

For non-first language English speakers speaking skills are often (but not always) greater than reading skills.

Grammar and Punctuation

There are many aspects of grammar, but a good check is to whether learners are confident with basics such as punctuation and apostrophes.

The following BBC Bitesize link gives some resources that can be used to assess this ability.

https://www.bbc.co.uk/bitesize/topics/zvgg4qt/articles/z8dqv9q

Also check spelling abilities. The following website gives a huge number of words that are often misspelt. Pick a few that would be relevant to your subject and check that the learner can get them correct.

https://en.wikipedia.org/wiki/Commonly_misspelled_English_words

Presentation Skills

Ask learners how confident they are at presenting in front of a group. Some learners may not have done this before may be quite afraid or unconfident at the idea. It will also help you make modifications to your delivery if you know which learners are less confident speaking in front of others as you can use differentiated activities in sessions to build confidence.

The following link gives some ideas of skills to check against for writing a presentation.

How to plan and organise your writing - Functional Skills - BBC Bitesize

Use of ICT

Ask learners about their confidence using Word and PowerPoint. The overall score should reflect their ability with both.

There are plenty of free online resources to support learners.

Comprehension

Use a mock workplace document such as a risk assessment or log to check learner's ability to comprehend how to complete a form of this nature.

Use a newspaper article to check learners understanding of what they are reading.

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