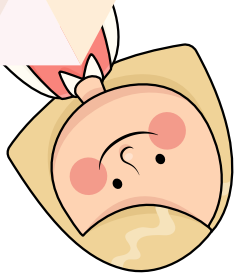

Literacy within the Learning Toolkit+:

A Guide for Regional Trainers and Teachers

England Edition 2018

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Contents

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This guide, and the tools presented in it, builds on decades of research and work carried out by a dedicated team.

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Links to England's National Curriculum

Using ABRACADABRA to Support the Year 1 English Programme (Key Stage 1)

The purpose of England's National Curriculum English Programme is to ensure pupils 'speak and write fluently so that they can communicate their ideas and emotions to others and through their reading and listening, others can communicate with them' (English Programmes of Study: Key Stages 1 and 2, July 2014).

To meet this goal, the National Curriculum has statutory requirements to develop pupils' word reading, comprehension skills, and reading fluency. Focus is placed on skilled decoding of both familiar and unfamiliar words, achieved through an emphasis on phonics. The phonic and related activities fit within the English focus with synthetic phonics. The sub-set of activities chosen reflect published research on ABRA that showed that synthetic content was better than analytic phonics content.

Comprehension and fluency are achieved through high-quality discussions of stories as well as reading of a wide variety of books.

ABRACADABRA supports all the foundational skills of word reading, fluency, and comprehension through engaging, evidence-based and evidence-proven activities. (The program also supports writing skills, that are not part of the current research study.) ABRACDABRA activities also support remedial work in phonics and phonemic awareness for pupils who need further practice.

A summary of the statutory requirements and the corresponding ABRACADABRA activities that support them (when delivered in the context of a small group setting led by an appropriately trained teacher) is provided below:

Statutory Framework	ABRACADABRA Activities
Early Years Foundation Stage, Literacy/Reading:	
Learning and development requirements Literacy development involves encouraging children to link sounds and letters and to begin to read and write.	Animated Alphabet Letter Sound Search Basic Decoding Word Changing

Statutory Framework	ABRACADABRA Activities
Early learning goals Reading: Children read and understand simple sentences. They use phonic knowledge to decode regular words and read them aloud accurately. They also read some common irregular words. They demonstrate understanding when talking with others about what they have read.	High Frequency Words

Statutory Requirements	ABRACADABRA Activities
Spoken Language – Years 1 to 6 Pupils should be taught to:	Understanding the Story section
• Listen and respond appropriately to adults and their peers • Ask relevant questions to extend their understanding and knowledge • Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments • Speak audibly and fluently with an increasing command of Standard English • Participate in discussions, presentations, performances, role play/improvisations, and debates • Articulate and justify answers, arguments, and opinions • Give well-structured descriptions, explanations, and narratives for different purposes, including for expressing feelings • Use spoken language to develop understanding through speculating, hypothesising, imagining, and exploring ideas • Consider and evaluate different viewpoints, attending to and building on the contributions of others	Comprehension Monitoring Prediction Sequencing Story Elements Story Response Summarising Vocabulary
• Use relevant strategies to build their vocabulary	Vocabulary Comprehension Monitoring

Statutory Requirements	ABRACADABRA Activities
• Select and use appropriate registers for effective communication	Tracking

Statutory Requirements	ABRACADABRA Activities
Reading – Word Reading Pupils should be taught to:	Alphabetics section
• Apply phonic knowledge and skills as the route to decode words • Respond speedily with the correct sound to graphemes (letters or groups of letters) for all 40+ phonemes, including, where applicable, alternative sounds for graphemes • Read other words of more than one syllable that contain taught GPCs	Word Changing Basic Decoding
• Read accurately by blending sounds in unfamiliar words containing GPCs that have been taught	Auditory Blending Blending Train

Statutory Requirements	ABRACADABRA Activities
Reading – Comprehension Pupils should be taught to:	Understanding the Story and Fluency sections
1. Develop pleasure in reading, motivation to read, vocabulary and understanding by:	
• Listening to and discussing a wide range of poems, stories, and non-fiction at a level beyond that at which they can read independently • Becoming very familiar with key stories, fairy stories, and traditional tales, retelling them and considering their particular characteristics	Vocabulary Prediction Sequencing Summarising Comprehension Monitoring Story Elements Story Response Tracking

Statutory Requirements	ABRACADABRA Activities
• Being encouraged to link what they read or hear to their own experiences	Vocabulary Prediction Sequencing Summarising Comprehension Monitoring Story Elements Story Response
• Discussing word meanings, linking new meanings to those already known	Vocabulary
2. Understand both the books they listen to by:	
• Drawing on what they already know or on background information and vocabulary provided by the teacher • Making inferences on the basis of what is being said and done	Vocabulary Prediction Sequencing Summarising Comprehension Monitoring Story Elements Story Response
• Checking that the text makes sense to them as they read, and correcting inaccurate reading	Comprehension Monitoring Expression Summarising
• Discussing the significance of the title and events	Summarising Prediction Story Response
• Predicting what might happen on the basis of what has been read so far	Prediction
3. Participate in discussion about what is read to them, taking turns, and listening to what others say	Vocabulary Prediction Sequencing Summarising Comprehension Monitoring Story Elements Story Response

Introduction to ABRACADABRA

What is ABRACADABRA?

ABRACADABRA (**A** **B**alanced **R**eading **A**pproach for **C**hildren **D**esigned to **A**chieve **B**est **R**esults for **A**ll, affectionately known as ABRA) is a free, interactive literacy program designed for Key Stage 1 pupils, their educators, teachers, and parents and is available on the web or as part of the Learning ToolKit+ (LTK+). Taking a balanced reading approach, ABRACADABRA aids beginning readers by offering a variety of resources such as professional development training for teachers, literacy activities, digital stories, and assessment capabilities. Currently ABRA contains 33 alphabetic, fluency, comprehension, and writing activities linked to 20 interactive stories and 15 stories written by schoolchildren.

French ABRACADABRA

Recently, ABRA was adapted into French for the development of early French literacy skills. Currently, the French ABRA version contains 15 alphabetic, fluency and comprehension activities linked to 15 interactive stories. An assessment module is also available for teachers to get a pupil or class portrait for pupil(s)' progress within the program.

Why ABRA?

For decades, researchers and practitioners worldwide have been searching for the key to unlock the mysteries of how children learn to read and write. To date, considerable evidence has been collected that suggests children must not only be exposed to a variety of instructional methods, but that these experiences must be presented in explicit and systematic ways if literacy is to be fully attained.

Research shows that children's engagement and motivation affect their academic success. While skills and drills are important components in literacy achievement, these exercises must be done in meaningful and engaging ways for learners. This involves providing appropriate opportunities, texts, and activities wherein pupils can apply what they have learned in authentic contexts.

The Centre for the Study of Learning and Performance (CSLP) continues to develop ABRA in an effort to help battle the alarmingly high percentage of low ability readers in countries throughout the world. These developments are a direct result of a multidisciplinary team of educational professionals who continue to guide ABRA. This team consists of researchers, policy makers, school administrators, language arts consultants, and teachers from across the world whose input helps steer the overall direction of this project. The CSLP continues to practice its policy of working with the educational community and partnering with ABRA stakeholders to develop the best possible resource for the field.

Evidence-Based Practice

The recommendations from the National Reading Panel and other front-runners in the field of language and literacy have remained the foundation of the ABRA software.

Throughout the years about 20 validation studies have been performed to explore the impact of ABRA on various facets of children's reading. The studies feature broad international context including Canada, Australia, Kenya, Hong Kong and Mainland China, and England. Some of these are modest studies while others are large-scale and longitudinal investigations complete with random assignment of classes to ABRA and control groups. Independent research and evaluations (McNally, Ruiz-Valenzuela, & Rolfe, 2016; Bailey, Arciuli, & Stancliff, 2016; 2017) have also contributed to our knowledge base on ABRA efficiency.

We have summarised the findings of the high-quality fifteen ABRA studies conducted between 2008 - 2017. From the total of about 7,000 pupils who participated in these studies, 3,153 elementary pupils (from reception year to Yr 3) were exposed to ABRA instruction. Although pupils in regular classrooms were the focus of these studies, a few explored ABRA effects on the literacy skills of pupils with special needs such as autistic spectrum disorder (Bailey, Arciuli, & Stanclifff, 2016; 2017).

In total in the 15 studies, ABRA and control groups were compared 91 times on different reading outcomes including phonemic awareness, phonics, fluency, vocabulary and reading, and listening comprehension. We used average effect sizes as a simple way to quantify the difference between ABRA and control groups on the six reading-related skills. An effect size shows the extent to which average pupils' reading improvement in ABRA classes would exceed that of pupils from non-ABRA control classes. These metrics can be translated into an average percentile gain that suggests how an average pupil with the score of 50 would increase his or her percentile scores after ABRA had been part of instruction.

The effects of ABRA were found to be positive on all six reading-related outcomes and particularly noticeable in phonics, phonemic awareness, reading and listening comprehension. Specifically, the percentile scores of an average pupil grew from 50 to 65 in phonemic awareness (effect size: +0.38), to 58 in phonics (effect size: +0.19), to 57 in reading comprehension (effect size: +0.17), and to 61 in listening comprehension (effect size: +0.27).

For more details on the ABRA studies, please visit: http://www.concordia.ca/research/learning-performance/tools/learning-toolkit/abracadabra/researchers.html

This Guide

This guide is designed to provide basic information on the literacy tools within the LTK+ to help teachers and teaching assistants who are interested in implementing the software in their classroom. A general overview of the features, as seen by the pupils, structure of the software, and reading acquisition process is provided, followed by a detailed description of each of the activities and stories. In the latter instance, pages are divided by:

- Objectives
- Group Facilitation Tips
- Stories
- Content/Level

The next sections are devoted to other tools within the LTK+, specifically:

- READS
- ePEARL
- ELM : Student Module, Teacher Resources, Parent Module

The last section is on the LTK+ Management feature, which helps teachers learn how to manage their classes and pupils.

The Development of the ABRACADABRA Programme

Please note that ABRA was developed in North America and therefore the content may not always match that in the National Curriculum or commercially available programmes in England. Thus, we recommend that the teacher adapt pronounciations as necessary. Some examples are:

- High Frequency Words – the Fry list of High Frequency Words are used in the ABRA programme.
- The 'r' sound is more pronounced in North American English.
- The letter 'o' is pronounced differently in North America.
- The letter 'r' is also pronounced slightly differently (no leading schwa)
- In North America, silent 'e' (e.g. 'make') gets taught as a digraph – i.e. the 'e' would be grouped with the preceeding consonant (e.g. 'ma-ke').

Accessing ABRA

LTK+ Lobby Page

From the Lobby Page, users have access to **ABRACADABRA, ELM, ePEARL, and READS**

Student Module

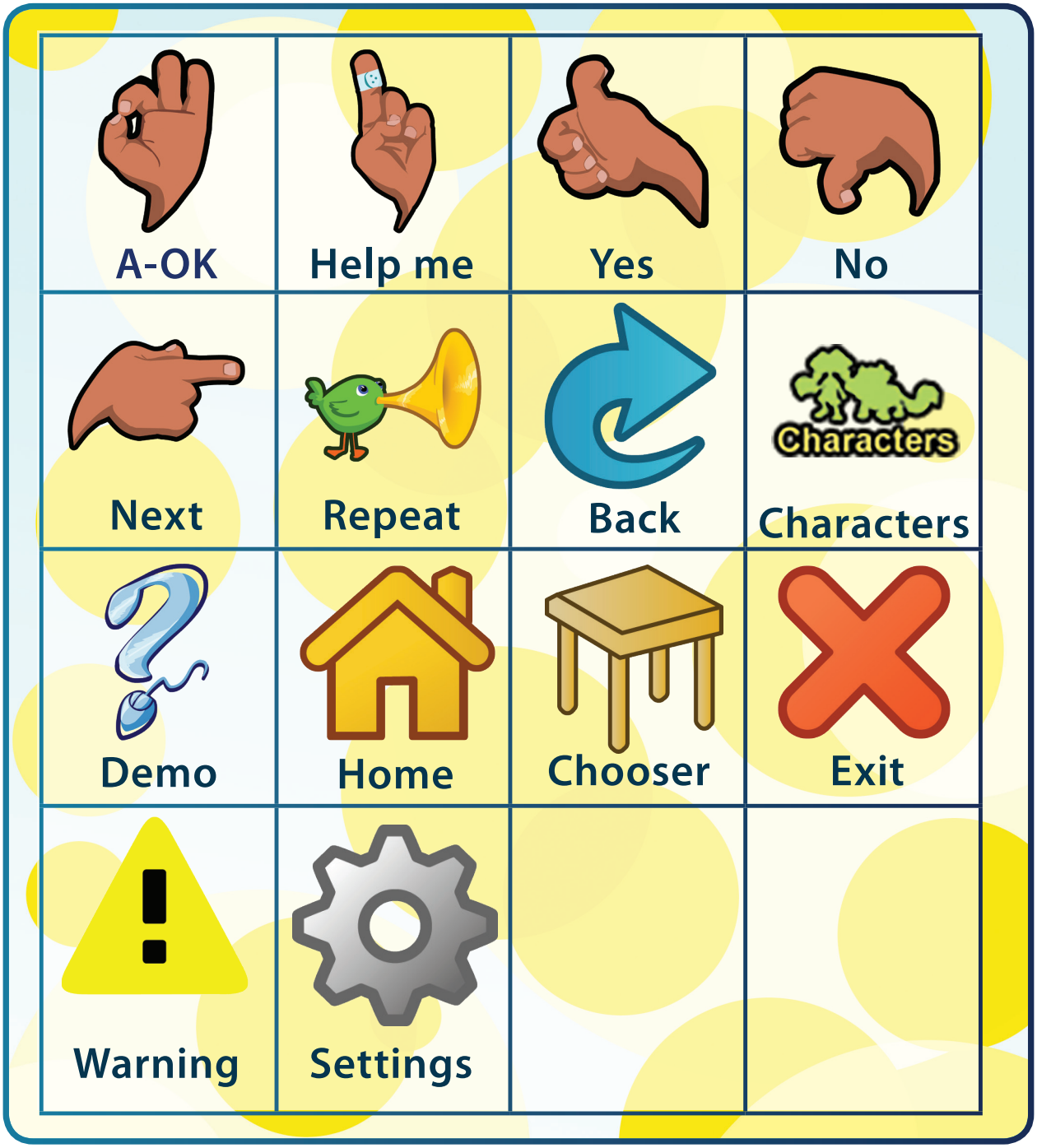
In the bottom right corner, this screen provides shortcuts to ePEARL, for access to the pupil's e-portfolio, and READS for access to electronic books.

Adventure Room

Once pupils click on Play, they are brought to the Activities and Stories in the Adventure Room. Here they will find 4 categories of Activities and 4 story Genres.

Navigational Icons

As pupils go through ABRA, they will meet these navigational icons. It may be advantageous for teachers to familiarise themselves and their pupils with them to make their experience with the software enjoyable.



Pupil Module

Pupils' Stories (created and written by pupils)

A total of 15 pupils' stories are available. These stories were written by pupils as part of a pupil story contest. Furthermore, these stories are recorded in Canadian, Australian and Kenyan accents for the entertainment and education of pupils worldwide. Their levels of difficulty vary.

Characters

Each character is associated with a reading skill. In the Characters' section, accessible through the Student Module, a biography is presented for each of the characters, associating them with their preferred reading skill.

Activities and Stories

There are a total of 33 activities and 20 stories in this section. Activities are levelled and some are practised within the context of a story. Each activity is preceded by a brief demo.

The pupil module is the heart of the ABRA software. All instructional activities are developmentally appropriate and revolve around a progressive model of instruction providing foundations in four literacy domains: Alphabetics, Fluency (Reading), Comprehension (Understanding the Story), and Writing. Built-in scaffolding and multiple levels of difficulty allow for flexibility.

Figure 1: Profile and Add a Classmate Screen in ABRA

Profile

Here, a pupil can choose an avatar, which is the graphical representation of the user or the user's character.

Adding a Classmate

Pupils can add up to three classmates and do activities and read stories with them. Trace data will be recorded for all pupils for the same activity.

Foundations of a Good Literacy Programme

Phonological Foundation

A solid phonological foundation is necessary to create a good literacy programme and is a good predictor of future reading success. This foundation includes phonemic awareness, which is the ability to identify and manipulate sound units in words, and phonics, which involves connecting letters or groups of letters to their specific sound(s).

Mastery

In ABRA, pupils are said to have mastered a particular activity when the rate of correct response is 90%-100% for three consecutive entries. When this is achieved, they are encouraged to move on to the next level. Teachers are encouraged to use the data and printable materials found in the Assessment section to help monitor their pupils' literacy development.

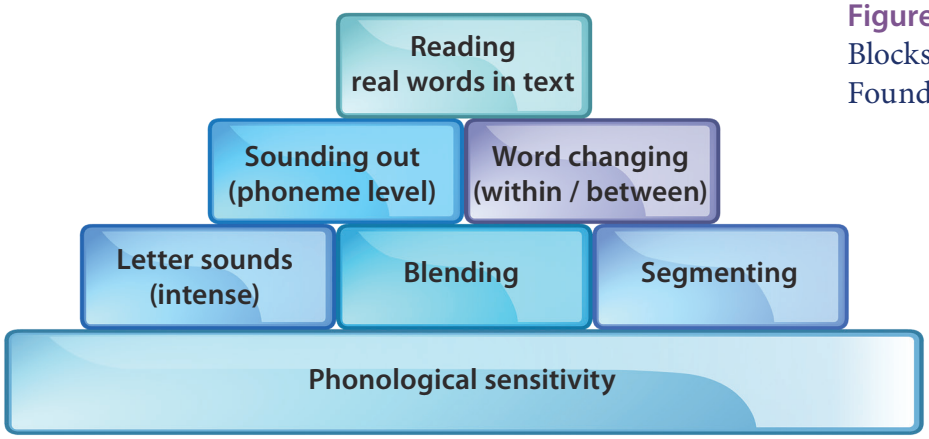


Figure 2: The Building Blocks of Phonological Foundation

Extension activities

ABRA has been designed to be used by teachers in their classrooms as an instructional tool. Teachers will connect the skills being learned online to those being learned in other aspects of their literacy instruction curriculum. It is, therefore, important to help create a link between what the pupils are learning in ABRA and how they might use these skills in their daily literacy. There are many different ways that the system can be used. There are online components the teacher can use with a projector, as well as various printable resources and flashcards.

Story Genres and Reading Level

Genres (text types)

ABRA helps expose children to different literary genres. A genre can be defined as a category of literature that is distinguished from others by characteristics such as style, form and content. Research shows that the more experience children have with different genres the more successful they will be when reading and writing in these various genres.

ABRA features four Genres:

Folk and fairy tales — Stories and their variants passed down from one group to another throughout history

Poetry — Line and verse that evoke emotion or thought in the reader

Fiction — Make-believe stories and stories that could happen in real life

Non-fiction — Informational text that provides facts about a particular topic or character

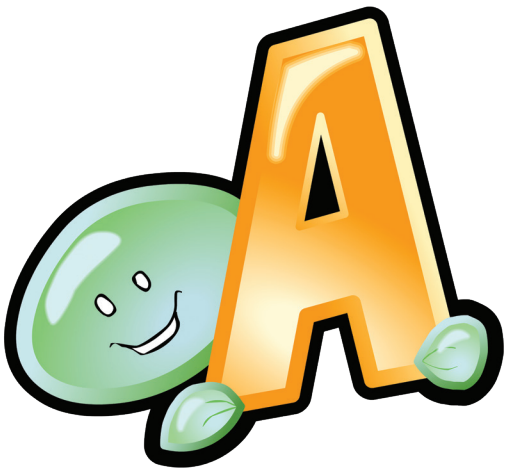
Choosing an Appropriate Reading Level

When assigning stories to pupils one should always consider the frustration, instruction, and independent reading levels of each individual pupil.

Generally, reading is considered to be at an entry level when a text is read at 90% or less accuracy. Reading can be considered to be at the instruction level when a text can be read at 90-95% accuracy. Finally, reading is considered to be at an independent level when an easy text is read with 95% or more accuracy (McCarthy, 1996).

Alphabetics

What Is Alphabetics?



Alphabetics (Sounds, Letters and Words) is the ability to associate sounds with letters and use these sounds to create words. The sounds associated with letters are referred to as phonemes (smallest units of spoken language) while the written letters associated with these sounds are called graphemes. There are 26 graphemes in English but there are over 40 phonemes.

Stages of Alphabetics

Children begin their path to reading by developing their phonemic awareness by learning to distinguish between different sounds, or phonemes. Through practice and modelling pupils begin to associate these sounds with print and recognise the correspondence between letters and sounds.

The ability to manipulate these phonemes, either individually (letter by letter) or in chunks such as in rhyming families, is a more sophisticated skill in the area of phonics. Here, the learner begins to segment words by breaking them apart into units that make them easier to read and then blending these units together. Decoding (the ability to interpret symbols, such as letters) then begins to take place as the learner is able to access strategies to read words.

Why is Alphabetics Important?

Research suggests that children who do not have a solid foundation in these alphabetic principles are less skilled readers as they progress through school. By Yr 3 pupils' literacy level is highly predictive of their eventual literacy success. Therefore, providing children with multiple opportunities to practice alphabetics is crucial for growth in the next steps in literacy, fluency, and comprehension skills.

How Does ABRACADABRA Support Alphabetics?

ABRA has 17 different activities specifically aimed at reinforcing the alphabetic principles. Each activity has multiple levels so that teachers in classrooms with a wide range of pupil needs can match pupil skill and activity difficulty level. There is scaffolding built within each activity to encourage autonomous use of the tool.

Many of the alphabetic activities are associated with the stories embedded in the software. This helps to build the context necessary for practicing specific vocabulary and all reading related skills. Many activities are appropriate for pupils who are struggling or at the beginning stages of alphabetic skills development. These activities focus predominantly on listening skills, auditory discrimination and letter naming. For those pupils who are ready for more advanced practice, the activities support word family manipulation, decoding games, and blending tasks with text support. Of course, there are fun games that are appropriate for all levels and provide practice such as Letter Bingo and Letter-Sound Search. Detailed information on each activity is provided in the following pages.

Matching Sounds	Word Matching
Alphabet Song	Letter Sound Search
Same Phoneme	Same Word
Syllable Counting	Animated Alphabet
Rhyme Matching	Word Counting
Letter Bingo	Word Families
Auditory Segmenting	Blending Train
Word Changing	Basic Decoding
Auditory Blending	

Table 1: Alphabetics Activities in ABRA

Matching Sounds

Activity objective

The pupil will identify sounds that are the same.

Group facilitation tips

- Pupils can take turns matching sets of sounds in this activity. (Since there are only two sounds to match per set, the turns won't take long.)

Content/Levels

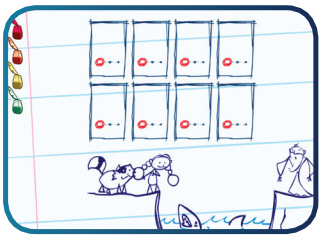
- Story-independent activity

Level	Description
1	Distinguishable sounds
2	Similar sounds

Word Matching

Activity objective

The pupil will match words that have the same beginning or consonants.



Group facilitation tips

- Pupils can take turns or work as a group to count the words sentence.
- Clapping can be encouraged to support the counting.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

- Pairs of Consonant-Vowel-Consonant (CVC) words randomly presented:
  - 8 cards (4 pairs)
  - 12 cards (6 pairs)
  - 16 cards (8 pairs)

Alphabet Song

Activity objective

The software sings the Alphabet Song and the pupils will sing along with or without the voice of the computer.

Group facilitation tips

- The teacher should help focus pupils' attention so that they begin the song with the computer.
- If necessary, sing along with the pupils as a form of support.

Content/Levels

- Story-independent activity

Level	Description
Sub-level A	Lower Case
Sub-level B	Upper Case
Sub-level C	Mixed Case
1	Music and words (sing along)
2	Words fade in and out
3	Only music (karaoke)

Letter Sound Search

Activity objective

Given the pronunciation of a letter sound, the pupil must identify and find its associated letter.

Group facilitation tips

- Finding a single letter should comprise a pupil's turn.
- The teacher can support a pupil who needs help by narrowing the area of location of the letter; i.e. "look in this corner around the tree."

Content/Levels

- Story-independent activity

Level	Description
1	s p m t k d l a h r
2	g c o n u b f i z d h p r e
3	w v y q x i b l a t e h
Sub-level A	Lower case
Sub-level B	Upper case
Sub-level C	Mixed case

Same Phoneme

Activity objective

The pupil will distinguish between letter sounds that are the same or different.

Group facilitation tips

- Pupils can take turns (one or two pairs of sounds per turn).

Content/Levels

- Story-independent activity
- All letter sounds

Same Word

Activity objective

The pupil will distinguish between words that are the same or different.

Group facilitation tips

- Pupils can take turns (one or two pairs of words per turn).

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I open my eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

- CVC words randomly presented.

Level	Description
1	Words where only the first letter differs (i.e. cat, fat)
2	Words where only the last letter differs (i.e. cat and can)
3	Words where only the middle vowel differs (i.e. cat and cot)

Syllable Counting

Activity objective

The pupil will identify the number of syllables in a word.

Group facilitation tips

- If necessary, explain the concept of syllables and provide some examples using the activity.
- Pupils can take turns or work as a group to count the syllables in a word.
- Clapping can be encouraged to support the counting.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

- 1- to 4-syllable words randomly presented

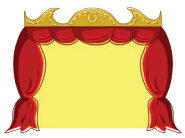
Animated Alphabet

Activity objective

For each letter pupils are shown an animation that includes the letter sound, the letter-writing cue, and an alliterative phrase to associate with the letter sound.

Group facilitation tips

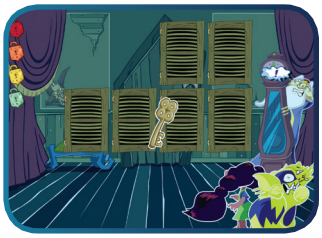
- Have each pupil say the sentence.
- Tell the pupils you will give them one minute to come up with as many words as they can for that particular letter.



Content/Levels

Level	Description
1	Distinguishable sounds
2	Similar sounds

Rhyme Matching



Activity objective

The pupil will identify words that rhyme.

Group facilitation tips

- Pupils can work as a group to match rhyming words (one pupil in control of the mouse).
- Pupils can also take turns controlling the computer and matching one or two pairs of words per turn.
- Pupils love the game format and the challenge in this activity. Make sure the pupils listen to the words and keep in mind the instructional goal of the activity.

Content/Levels

- All stories are available in this activity.
- Pairs of CVC words randomly presented:
  - 8 cards (4 pairs)
  - 12 cards (6 pairs)
  - 16 cards (8 pairs)

Word Counting

Activity objective

The pupil will identify the number of words in a sentence.

Group facilitation tips

- Pupils can take turns or work as a group to count the words in a sentence.
- Clapping can be encouraged to support the counting.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	Darryl! Don't Dawdle
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	2-, 3- and 4-word sentences (40%, 40%, and 20%).
2	2-, 3-, 4- and 5-word sentences (20%, 30%, 30%, and 20%)

Letter Bingo

Activity objective

Given the pronunciation of a letter name, pupils must determine if she/he has that letter on her/his bingo card.

Group facilitation tips

- Pupils should play as a team – each taking a turn for one letter.
- If the pupil has difficulty finding the letter, the teacher may narrow down the area of location.

Content/Levels

Level	Description
1	Distinguishable sounds
2	Similar sounds
3	Lower Case Challenge: e d p q g l m n u v

Word Families

Activity objective

The pupil will create different words from the same word family.

Group facilitation tips

The teacher can choose a specific word family to work on or have the computer randomly pick the word families.

Available stories

- All stories are available in this activity.

Content/Levels

Level	Description
1	Beginning consonants consist of single letters and phonemes.
2	Beginning consonants consist of single letters and phonemes and clusters.
Advanced	Choose the word family on which you want to focus.

Auditory Segmenting

Activity objective

Given the pronunciation of a word, the pupil will identify its breakdown (i.e.: 'cat' = /c/ /a/ /t/).

Group facilitation tips

- If necessary, explain the concept of segmenting words, using an example from the activity.
- Pupils can take turns (one word per turn).

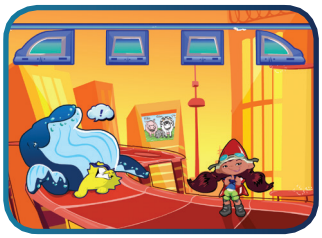
Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	2-phoneme words with short and long vowel sounds.
2	2-phoneme words with clusters, short, long, and r-controlled vowel sounds.
3	3-phoneme words with short vowel sounds.
4	3-phoneme words with clusters, short, long, and r-controlled vowel sounds.
5	4-phoneme words with blends mainly at the beginning, short, long, and r-controlled vowel sounds.
6	4-phoneme words with blends mainly at the end, short, long, and r-controlled vowel sounds.
7	5-phoneme words with blends at the beginning and end, short, long, and r-controlled vowel sounds.

Blending Train



Activity objective

Given a phonemic breakdown, the pupil will identify a word

(i.e. /c/ /a/ /t/ = 'cat').

Group facilitation tips

- Pupils can take turns (one word per turn).
- This activity requires participation from the teacher to monitor pupil response.
- When appropriate, peer monitoring can be encouraged (one pupil reads the word while the others check for accuracy and give feedback).

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	2-phoneme words with short and long vowel sounds.
2	2-phoneme words with clusters, short, long, and r-controlled vowel sounds.
3	3-phoneme words with short vowel sounds.
4	3-phoneme words with clusters, short, long, and r-controlled vowel sounds.
5	4-phoneme words with blends mainly at the beginning, short, long, and r-controlled vowel sounds.
6	4-phoneme words with blends mainly at the end, short, long, and r-controlled vowel sounds.
7	5-phoneme words with blends at the beginning and end, short, long, and r-controlled vowel sounds.
8	5-phoneme challenge words.

Word Changing

Activity objective

The pupil must change individual letters or phonemes in a word to form a new word (i.e. change 'bad' to 'sad').

Group facilitation tips

- The teacher should be aware of incorrect responses and aid where necessary.
- Encourage the group to pay attention to make sure each pupil gives a correct response.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	CVC words. Only first letter is manipulated (rime units).
2	CVC words. All letters are manipulated.
3	CVC words with long vowels. Only first letter is manipulated (rime units).
4	CVC words with long vowels. All letters are manipulated.

Basic Decoding

Activity objective

Given the visual representation of a word, the pupil must say the sounds of its letters, and then blend them together to read the word and identify its corresponding picture.

Group facilitation tips

- This activity combines letter sounding with actual blending of words.
- The teacher should be aware of the pupils' responses and scaffold where necessary.
- The teacher can encourage other members of the group to aid a pupil who may be struggling.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	2-phoneme words with clusters, short, long, and r-controlled vowel sounds.
2	3-phoneme words with short vowel sounds.
3	3-phoneme words with clusters, short, long, and r-controlled vowel sounds.
4	4-phoneme words with blends mainly at the beginning, short, long, and r-controlled vowel sounds.
5	4-phoneme words with blends mainly at the end, short, long, and r-controlled vowel sounds.
6	5-phoneme words with blends at the beginning and end, short, long, and r-controlled vowel sounds.
7	5-phoneme challenge words.

Auditory Blending

Activity objective

Given a phonemic breakdown, the pupil will identify a word and its corresponding picture (i.e. /c/ /a/ /t/ = 'cat').

Group facilitation tips

- Pupils can take turns (one word per turn).
- If necessary, explain the concept of word blending, using an example from the activity.

Available stories

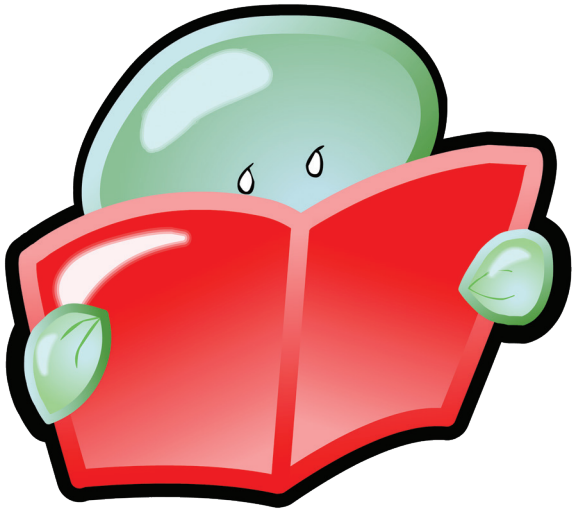
Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	2-phoneme words with short and long vowel sounds.
2	3-phoneme words with short vowel sounds.
3	3-phoneme words with clusters, short, long, and r-controlled vowel sounds.
4	4-phoneme words with blends mainly at the beginning, short, long, and r-controlled vowel sounds.
5	4-phoneme words with blends mainly at the end, short, long, and r-controlled vowel sounds.
6	5-phoneme words with blends at the beginning and end, short, long, and r-controlled vowel sounds.
7	5-phoneme challenge words.

Fluency

What Is Fluency?



Fluency describes the level of automaticity that children have when reading a text. Fluent readers decode words with little or no effort. Speed, accuracy, correct pacing and expression are fluency sub-skills that allow readers to focus on the content, thereby increasing comprehension. Overall fluency, and its sub-skills, lead to a better understanding of the text.

Why Is Fluency Important?

Research suggests that pupils who are unable to acquire the skill of automatically reading words will struggle with being able to attend to the meaning of a text. In addition, children who have trouble reading accurately at an appropriate pace tend to experience motivational problems. The reading load increases as pupils' progress through the grade levels, making lack of fluency a major obstacle to school success.

How Does ABRACADABRA Support Fluency?

Activities in ABRA allow for extensive practice in reading fluency. The activities cover all of the sub-skill areas, including expression and speed. Through games, pupils can test their pace against ABRA's cartoon characters. Good reading models are built into the story-related activities so pupils can hear appropriate examples and evaluate if, how, or where they can improve. In addition, the programme models how to decode words within the context of a story, thus giving pupils access to consistent and readily available help. The more learners are able to practice a specific skill, the better the chance they have of developing fluency.

High Frequency Words	Tracking	Students' Stories
Expression	Accuracy	
Speed	Reading Practice	

Table 2: Fluency Activities in ABRA

High Frequency Words

Activity objective

Given a list of high frequency words, the pupil will identify the words.

Group facilitation tips

- Remind pupils that speed in their word recognition is an important element in this activity (time for word recognition is controlled by the computer).
- Have pupils line up and take turns reading a word.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen
Poetry	I Can Move Like A…
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	A set of four words randomly presented four times with gradually less time to read them.
2	A set of seven words randomly presented four times with gradually less time to read them.

Tracking

Activity objective

While reading a story, the pupil will be able to read with one-to-one correspondence and without skipping words.

Group facilitation tips

- Pupils can take turns reading the story and controlling the computer (arrow keys for tracking).
- Remind pupils that they can click on the words that they don't know (and have the computer read them).

Available stories

All stories are available in this activity.

Content/Levels

All stories available in this activity include the tracking functionality.

Expression

Activity objective

The software reads a paragraph using good or bad expression and the pupil must decide if it was read with good expression. The pupil will then read the same paragraph practicing correct use of expression.

Group facilitation tips

- Before beginning this activity, a teacher can provide examples of how good and bad expressive reading sounds. For example, a teacher can talk about how a story should be read differently if a character is sad or happy.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Frogs and the Well Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A…
Fiction	Waterfall

Content/Levels

The computer plays the voice of someone reading different sentences using different expressions. The listener must decide if the person is reading with the correct expression.

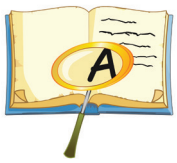
Accuracy

Activity objective

After listening to the computer read a passage, the pupil must read the same page accurately.

Group facilitation tips

- This activity should be done individually. As the computer reads, the pupil follows. When the child reads, he or she can click on a word if help is needed. At the end of each passage, the words clicked will be reviewed in a game-like feature to help the pupil become more familiar with them.



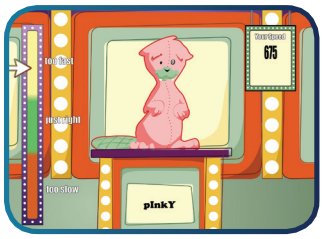
Available stories

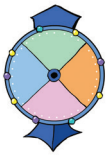
Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen Henny Penny The Three Billy Goats Gruff
Poetry	When I open my eyes Feelings Darryl! Don't Dawdle I Can Move Like A… Where am I?
Fiction	Waterfall
Non-fiction	How a Bean Sprouts

Content/Levels

All story levels (easy to advanced) can be used in this activity.

Speed





Activity objective

Using an algorithm of good reading speed, the software will monitor a pupil's reading rate. The pupil will read a given text at an appropriate pace.

Group facilitation tips

- This game is best played after pupils are familiar with a story or are comfortable with reading or sounding out words.
- The game can be played with one to four pupils. Each pupil chooses a character and names it. The software selects who will read and monitors the person's reading rate. If a pupil needs help, they can click on the word but this slows down her/his reading speed.

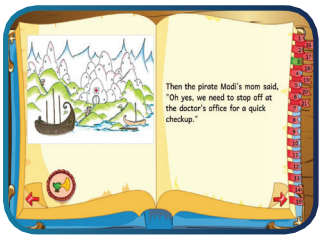
Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen Henny Penny The Three Billy Goats Gruff
Poetry	When I Open My Eyes Feelings Darryl! Don't Dawdle I Can Move Like A… Where am I?
Fiction	Waterfall
Non-fiction	How a Bean Sprouts

Content/Levels

All story levels (easy to advanced) can be used in this activity.

Reading Practice



Activity objective

Pupils are given three new stories to practice their fluency skills.

Group facilitation tips

- This activity should be done individually. Pupils use the decoding skills they have acquired to sound out new and unfamiliar words. Pupils should only do this activity when they are ready and comfortable with the Tracking activity, as no scaffolding or support is given in this activity when the pupil gets stuck on a word.

Available stories

Genre	Story
Non Fiction	The Dove and the Ant The Little Red Hen Henny Penny The Three Billy Goats Gruff

Content/Levels

All story levels (easy to advanced) can be used in this activity.

Pupils' Stories

Activity objective

Pupils can choose amongst 12 stories written by pupils and narrated in three distinct English accets: Canadian, Australian, and Kenyan. A further opportunity to practice fluency skills, and more specifically expression in varying contexts.

Group facilitation tips

- Pupils can read alone, in pairs or in small groups.
- Teachers can ask pupils to guess where they think the accent is from.
- Cross-curricular teaching and an opportunity to learn about other cultures and contexts are an important element of this activity.

Available stories

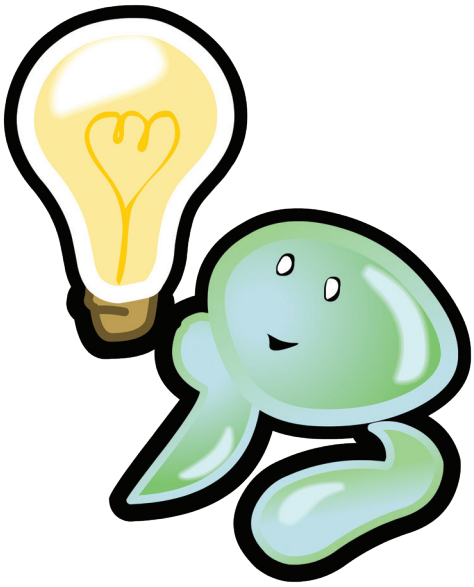
Genre	Story
Fiction	Wally's Vacation A Tall Tale Little Wing Perfect Little Christmas Tree The Story of Elli and Ella Rhyme Time Fishing Wonder The Littlest Mouse Counting Koalas Why Koalas Live in Trees Animal Antics Adventures of Bertie Balloon Lea's Birthday Party The Birthday Disaster A Magical Adventure

Content/Levels

All story levels (easy to advanced) can be used in this activity.

Comprehension

What Is Comprehension?



Comprehension (Understanding The Story) is the cognitive process in which the reader interacts with a text in an attempt to ascertain its meaning. Reading comprehension is the culmination of all the pupils' reading skills; it involves good oral comprehension, vocabulary, and decoding skills. Depending on the grade level of the pupils, the importance of each of these prerequisite skills varies. Comprehension is also affected by prior knowledge, which can help children relate to various texts.

Why Is Comprehension Important?

Reading for meaning is the ultimate goal of learning how to read. This is the element that takes children from being good decoders to being good readers and literate beings. It is therefore understandable that the acquisition of reading comprehension is a complex, and vital, process.

How does ABRACADABRA Support Comprehension?

ABRA focuses on developing several specific skills that contribute to overall comprehension. These activities have various levels and range from simpler tasks, such as placing the elements of a well-known story in order, to summarising an entire text. Other activities allow pupils to respond to a question prompt, to think critically about a text and to respond appropriately given the context of the story. Additional vocabulary activities help pupils to build a bank of words that they can read (decode) but may not be able to understand.

How Do I Teach Comprehension?

Research suggests that there are several strategies that have a positive influence on children's ability to understand what they read. The National Reading Panel suggests practicing skills such as asking and generating critical questions, using story maps, and monitoring comprehension through cooperative learning opportunities.

There is also evidence that modeling appropriate strategies, such as context clues and providing multiple opportunities to read texts, helps children develop their comprehension skills. Also, pupils should have time to read individually, with peers and with adults.

Prediction	Comprehension Monitoring
Sequencing	Summarising
Vocabulary	Vocabulary (ESL)
Story Response	Story Elements

Table 3: Comprehension Activities in ABRA

Prediction

Activity objective

Based on information from the story, the pupil will predict future events.

Group facilitation tips

- Pupils can read the story as a group (using the tracking functionality) or have the page read by the computer (audio icon).
- If necessary, re-word or explain the prediction question and encourage discussion among the group.
- Make sure pupils elaborate and justify their responses to the questions.
- Teachers can add other questions that may not be embedded in the activity.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen Henny Penny The Three Billy Goats Gruff The Frog and the Well
Fiction	Waterfall

Content/Levels

Prediction questions are asked at the end of certain pages in the story.

Comprehension Monitoring

Activity objective

After reading a story, the pupil will identify words that do not make sense (one on each page of the story).

Group facilitation tips

- Pupils can work as a group (reading the story and looking for the nonsense words) and take turns controlling the computer.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Three Billy Goats Gruff The Frog and the Well
Poetry	Darryl! Don't Dawdle
Non-fiction	How a Bean Sprouts

Content/Levels

One nonsense word per page in every story

Sequencing

Activity objective

After reading a story, the pupil will place story events in their correct order.

Group facilitation tips

- Pupils can work as a group (reading the story events and discussing the appropriate order) and take turns controlling the computer.
- Encourage participation of other pupils as peer monitors.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen Henny Penny The Three Billy Goats Gruff The Frog and the Well
Fiction	Waterfall
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	Three story events (summary of story pages), displayed in random order.
2	Five story events (summary of story pages), displayed in random order.

Summarising

Activity objective

The pupil will answer story-related questions to help him/her summarize the story at the end.

Group facilitation tips

- Pupils can read the story as a group (using the tracking functionality) or have the page read by the computer (audio icon).
- If necessary, re-word the question and encourage discussion among the group.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen Henny Penny The Three Billy Goats Gruff The Frog and the Well
Multicultural	Waterfall

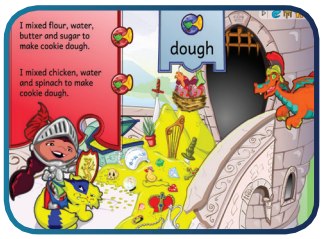
Content/Levels

Story-related questions at the end of certain pages in the story, which help the pupil identify key elements to include in a summary of the story.

Vocabulary

Activity objective

Given different attributes of a word, the pupil must determine which sentences use the word appropriately.



Group facilitation tips

- This activity can be used to preview words from a particular story or to work with words after the story has been read.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Three Billy Goats Gruff The Frog and the Well Henny Penny
Poetry	When I Open My Eyes Darryl! Don't Dawdle I Can Move Like A… Feelings
Non-fiction	How a Bean Sprouts
Fiction	Waterfall

Content/Levels

A number of vocabulary words from each story.

Vocabulary (ESL)

Activity objective

The pupil will be able to match given words with their corresponding pictures, then use the words appropriately in given sentences.

Group facilitation tips

- This activity is better done individually or in pairs. If done in pairs, pupils can take turns controlling the mouse as they each do a set. The other pupil is there to support and provide assistance if necessary.

Available stories

- The same stories as listed for Vocabulary above, with the exception of 'How a Bean Sprouts.'

Content/Levels

- A number of vocabulary words from each story.

Story Response

Activity objective

Pupils are given open-ended questions about the story that they will discuss with one another.

Group facilitation tips

- Teachers may need to remind the pupil of the story.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Three Billy Goats Gruff The Frog and the Well Henny Penny
Poetry	When I open my eyes Darryl! Don't Dawdle I Can Move Like A… Feelings
Non-fiction	How a Bean Sprouts
Fiction	Waterfall

Content/Levels

Six questions are presented in a set, three of which are general and three of which are specific to a story.

Story Elements

Activity objective

The pupils must answer questions about events that took place in a story.

Group facilitation tips

- This activity can be done individually or in small groups. After reading a story, pupils must answer questions. They can take turns selecting answers and hitting the piñata.

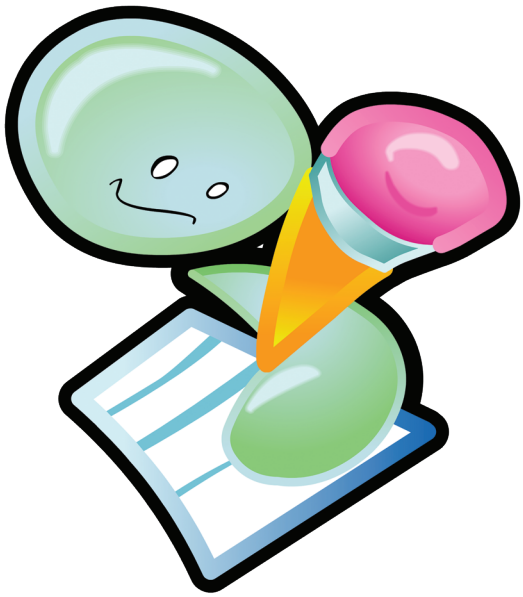
Available stories

Genre	Story
Folk and fairy tales	The Little Red Hen The Three Billy Goats Gruff The Frog and the Well Henny Penny
Poetry	Darryl! Don't Dawdle
Non-fiction	How a Bean Sprouts
Fiction	Waterfall

Content/Levels

Pupils must select the answer to six questions about the story. Because there are audio prompts to assist, this activity can be done by all pupils once they are familiar with the story.

Writing



What Is Writing?

Writing is defined as a system in which graphemes (letters or symbols) that represent a language are placed on a surface (encoded) to be read (decoded) by someone familiar with the code. It is a powerful, multifaceted tool for both personal and interpersonal communication.

Stages of Writing

Writing progresses through at least seven different stages: from children giving meaning to their scribbles, pictures and drawings to conventional spelling. When children begin their formal schooling they may fall anywhere on this continuum in terms of writing ability.

Why Is Writing Important?

Writing is a means by which we communicate with others. When children see different types of writing that is modelled and used around them, they soon want to engage in its production. Children usually begin writing (albeit through scribbling) before they start to read. Research shows that writing supports reading development and vice versa. When pupils encode their thoughts using conventional or invented spelling on paper or via a word processing program, they use skills that support reading and writing development. With the disparity that exists between the number of phonemes and graphemes in the English language (26 and over 40, respectively), pupils need explicit and systematic phonics instruction to learn how this code works and how to reproduce it. ABRA is a tool that supports this development.

How Does ABRACADABRA Support Writing?

ABRA's writing component is designed for children to apply phonetic principles and their literacy experiences to the writing of words and sentences. Through game-like activities, children are asked to write words and sentences they have encountered in the different texts in the program.

Scaffolding mechanisms are built in so that pupils can complete the writing activities on their own. When words are spelled incorrectly, ABRA will provide prompts to support and encourage pupils until the words are spelled properly.

Spelling Words	Spelling Sentences

Table 4: Writing Activities in ABRA

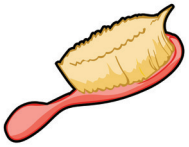
Spelling Words

Activity objective

The pupil will spell regular and irregular words using the keyboard.

Group facilitation tips

- Before doing this activity, acquaint pupils with basic keyboarding skills, especially letters, backspace and enter keys.
- This activity is better done by individual pupils or in pairs where they alternate having control of the keyboard. If pupils make a mistake spelling a word, the software highlights where the error occurred, but the pupils will have to retype the whole word to correct it.



Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Three Billy Goats Gruff The Frog and the Well Henny Penny
Poetry	When I Open My Eyes Darryl! Don't Dawdle I Can Move Like A… Feelings

Content/Levels

Level	Description
1	2-phoneme words with short and long vowel sounds.
2	2-phoneme words with clusters, short, long, and r-controlled vowel sounds.
3	3-phoneme words with short vowel sounds.
4	3-phoneme words with clusters, short, long, and r-controlled vowel sounds.
5	4-phoneme words with blends mainly at the beginning, short, long, and r-controlled vowel sounds.
6	4-phoneme words with blends mainly at the end, short, long, and r-controlled vowel sounds.
7	5-phoneme words with blends at the beginning and end, short, long, and r-controlled vowel sounds.
8	5-phoneme challenge words.

Spelling Sentences

Activity objective

The pupils will use keyboarding skills to spell words to make a sentence.

Group facilitation tips

- Before doing this activity, acquaint pupils with basic keyboarding skills and ensure that they are familiar with the letter, backspace, and enter keys, as well as the spacebar.
- This activity should be done after a story has been read because the words tested are story-specific. It is better done by individual pupils or pupils in pairs who take turns controlling the keyboard. If the pupil makes a mistake spelling a word, the computer highlights where the error occurred, but the pupil will have to retype the whole word to correct it.

Available stories

Genre	Story
Folk and fairy tales	The Dove and the Ant The Little Red Hen The Three Billy Goats Gruff The Frog and the Well Henny Penny
Poetry	When I Open My Eyes Darryl! Don't Dawdle I Can Move Like A… Feelings
Multicultural	Waterfall
Non-fiction	How a Bean Sprouts

Content/Levels

Level	Description
1	2-word sentences
2	3-word sentences
3	4-word sentences
4	5-word sentences

READS

READS is our bilingual catalogue of digital books accessible through the LTK+ Lobby Page. READS may be used to complement the fluency and comprehension activities in ABRA by providing access to additional stories. The latest version of READS includes over 700 online books in a multitude of languages and genres. Since teachers are always searching for new and diverse reading materials, READS provides easy access to a variety of books online. Furthermore, pupils are taken on an exploration of various cultures, countries, and interesting customs, as we have books published from all over the world!

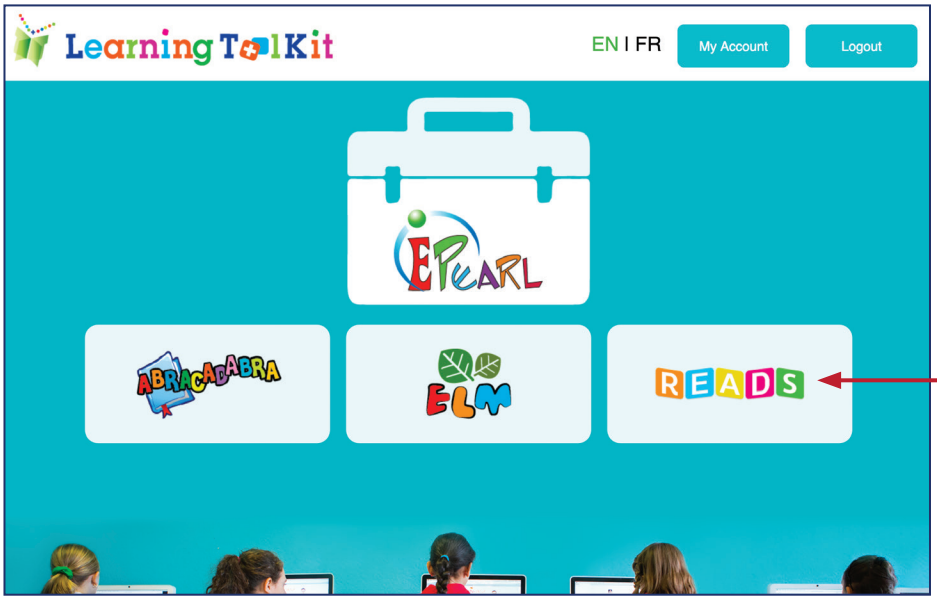


Figure 3: The LTK+ Lobby Page

Browsing is made easy through the child friendly index page that features a carousel of images, as shown in the image below. Each time you access the page, five random themes will display.

Figure 4: READS Home Page

Filters

Filters and keyword searches make searching by theme, level, country, or language very easy!

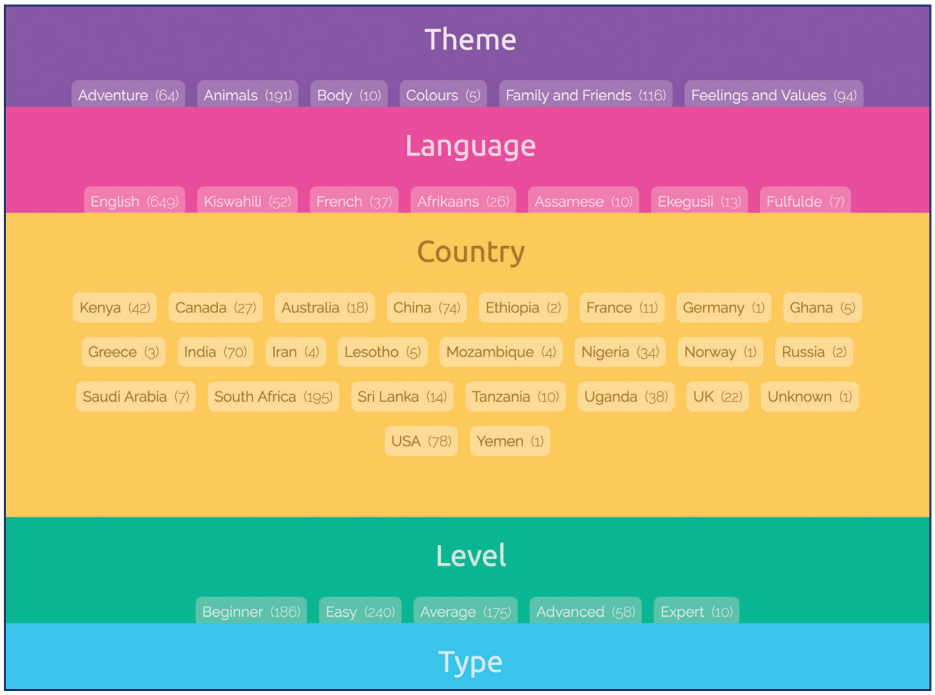


Figure 5: Filters

Viewing a Book

A book can be viewed in different formats (html or pdf), and some books are also available in an audio format. Therefore, children with various physical or learning disabilities can listen to the books. Information about the book can also be obtained by clicking on the Book and information icons:

Figure 6: Choosing a Book

The information provided on each book includes: author, illustrator, country of origin, languages available, reading level, and theme.

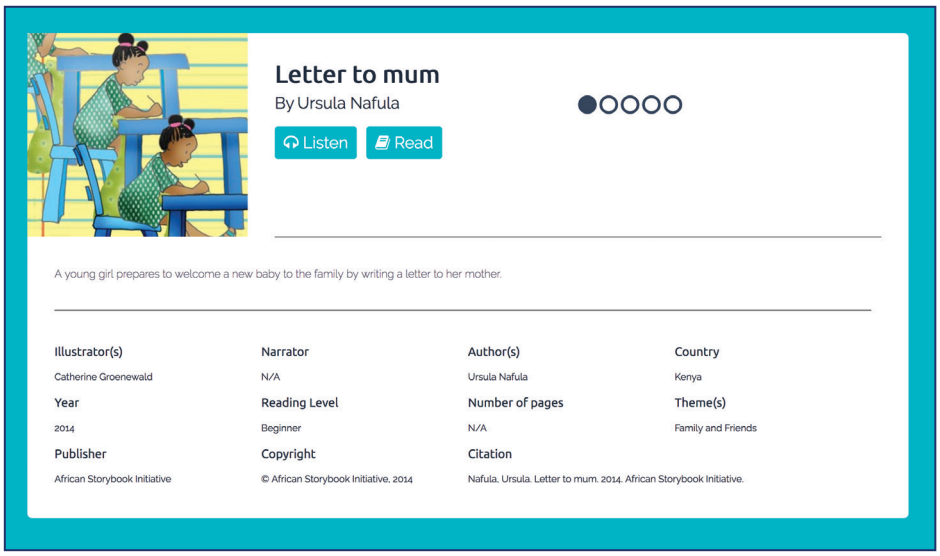


Figure 7: Book Information

Reading a Book

By offering a large variety of reading materials, READS places a special emphasis on the importance on fluency in reading development. Children can practice this important skill while devleoping a love for reading!

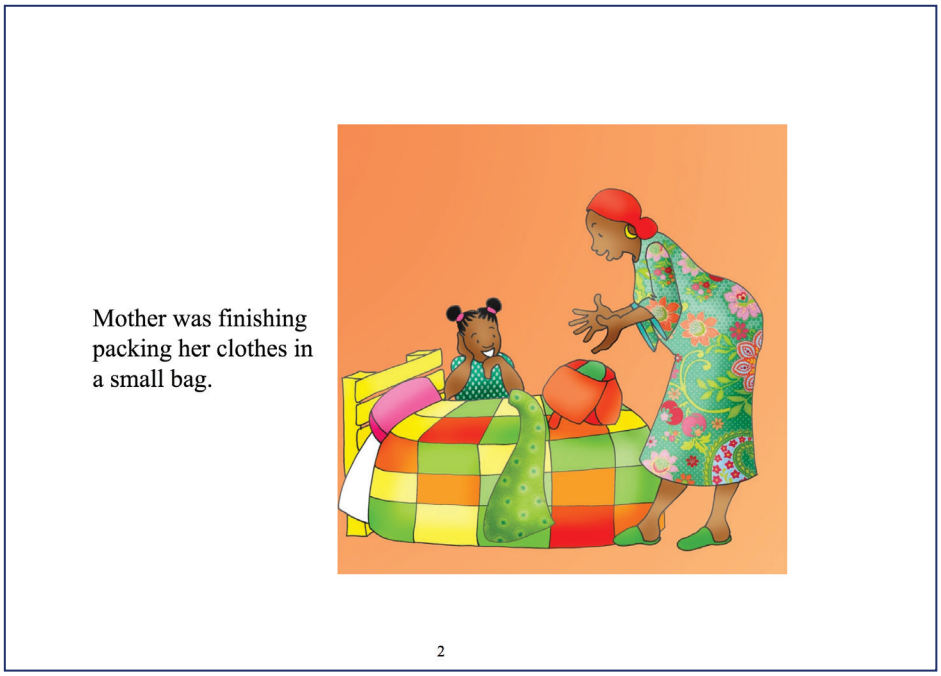


Figure 8: Reading a Book

ABRA - ePEARL Link

ePEARL, our bilingual, web-based electronic portfolio software, is at the heart of the LTK+. Based on sound research evidence, coupled with feedback from the field, ePEARL has been designed to encourage self-regulated learning within pupil-centred curricula. ePEARL has multiple levels, the link between ABRA and ePEARL is in Level 1.

Level 1 is geared towards beginning readers. The interface design, as well as the type of interaction, are simplified and specially suited to young learners.

Figure 9: The Link to ABRA from My Readings

ePEARL provides a link to the Instructional module, which includes over 20 ABRA digital books with illustrations. Using the built-in recorder, each book may be viewed and read from within ePEARL, thereby enabling pupils to store and monitor their reading progress. It also allows teachers and parents to track their pupils' or child's reading development.

Figure 10: Choosing an ABRA Story

Digital Stories

The stories in ABRA are divided into four different genres, including: folk and fairy tales, poetry, fiction, and non-fiction stories. Under folk and fairy tales, three french stories are now available.

ABRA has two features that are valuable for readers and teachers: 1) the "birdie" icon that is used to read aloud from the page on the screen; and 2) clickable words in the stories for phonetic sounding out and sight word help.

Scaffolding is important for the beginner reader. ABRA provides extra help so pupils can obtain the support they need to develop reading skills, when they work independently.

Figure 11: An ABRA Reading in ePEARL

Extension Activities

Pupils can also practice their creative writing skills in the My Creations area, which has similar features to the My Readings area and is also linked to ABRA. Here, teachers can encourage their pupils to write a new ending to a story or to imagine new characters.

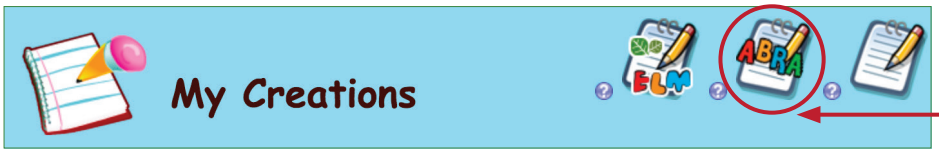


Figure 12: The link to ABRA from My Creations

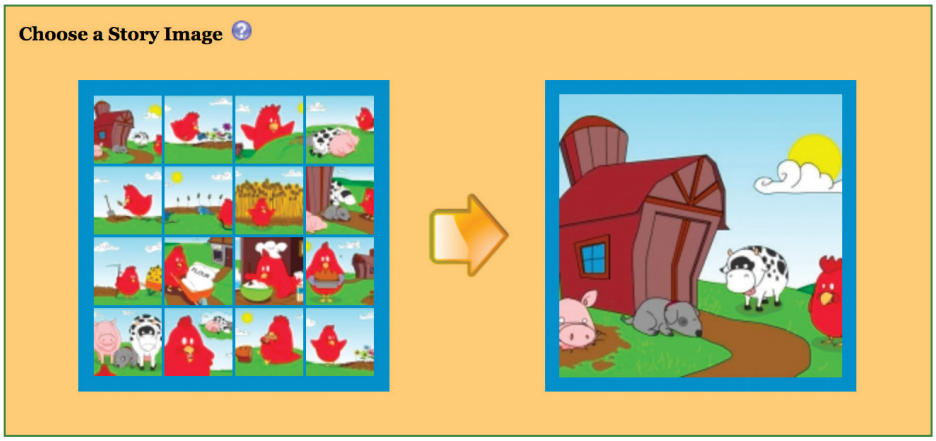


Figure 13: A Selection of Images Available for Each Story

Image Bank

Pupils may also choose their favourite picture or page from the story from the ABRA Image Bank simply by selecting one of the images. In addition, up to three files can be uploaded, offering the same flexibility as a regular reading.

Introduction to ELM

Emerging Literacy in Mathematics (ELM) is an online bilingual tool created to help early elementary pupils develop their number sense. Pupils develop these skills when they are encouraged to select and use appropriate mathematical techniques to solve problems. ELM aims to reduce math anxiety by increasing children's confidence in their mathematical abilities. This encourages more children to consider careers in math, science, and engineering.

ELM concentrates on five online themes: Number Concept, Geometry, Patterns, Data, and Number Line. These themes cover core mathematical ideas: count, compare, add, subtract, decompose, place value, identify shapes, translate patterns, bar graphs/tables, and number as displacement.

ELM steps build slowly and carefully; pupils start with steps that use concrete physical actions and progress towards steps that employ symbolic representations. Each step provides sufficient repetitions for children to achieve both fluency and understanding. In addition, pupils are able to work at their own pace without penalties. The steps provide instant access to situational audio help and visual feedback is provided to confirm success or assists in understanding error(s).

Teachers can access a number of lesson plans that support the use of ELM in the classroom. As well, a number of offline lessons were developed to deepen understanding of core ideas and introduce an additional theme.

ELM was made possible with funding from Québec's Ministère de l'Économie, de l'Innovation et des Exportations (MDEIE) and the Max Bell Foundation.

A Resource for Success

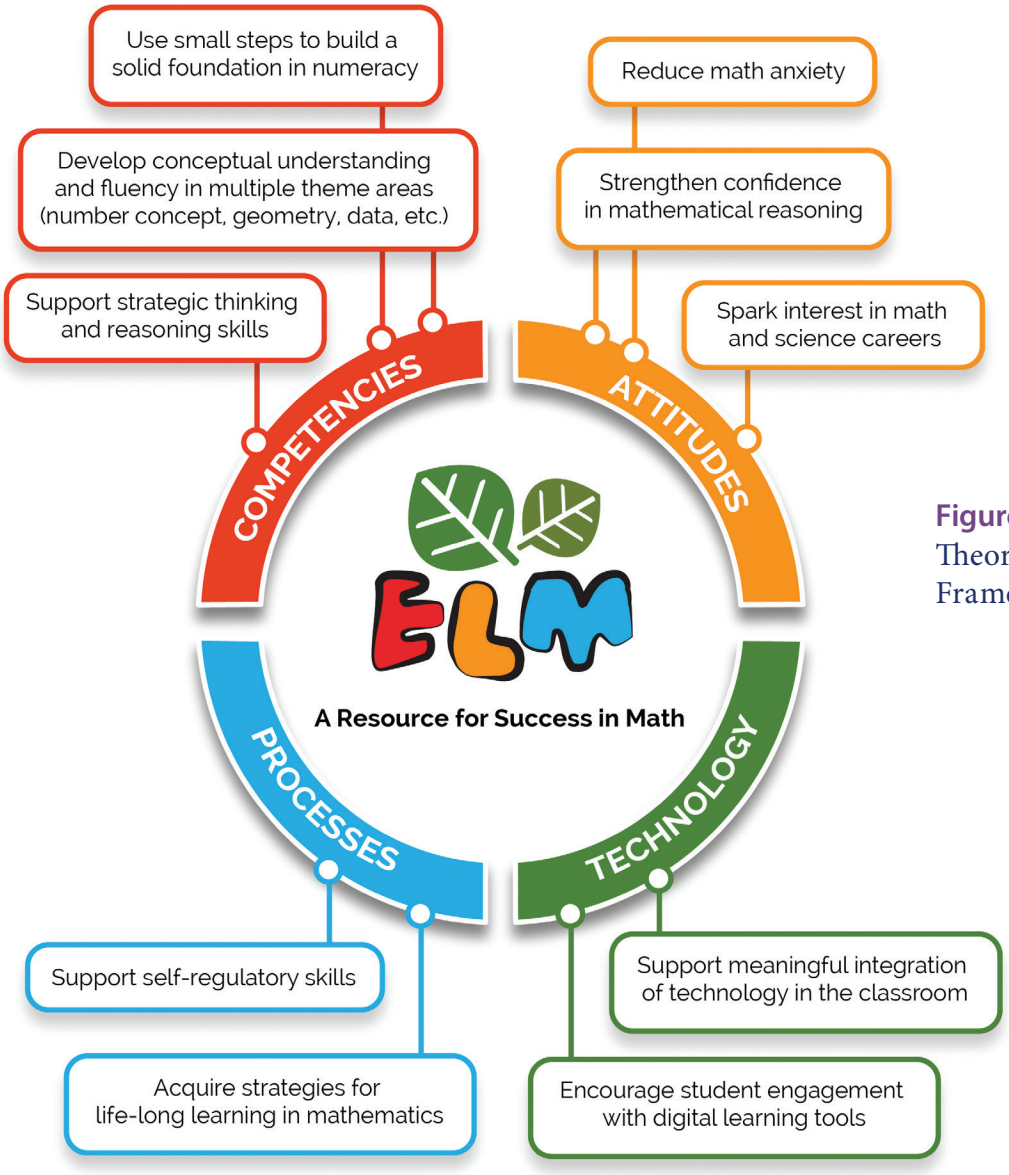


Figure 14: ELM Theoretical Framework

Evidence-based Practice

As ELM was being developed, it was field-tested in a number of Quebec schools within the English Montreal School Board, the Commission scolaire de la Pointe-de-l'Île, the Commission scolaire de la Beauce-Etchemin, and the Eastern Shores School Board (ESSB). ELM is also widely used across Canada and in Kenya. With every iteration of the tool we sought confirmation that the activities met their intended objectives, supported pupil mathematic achievement, and explored pupils' motivation towards learning mathematics. The results obtained in these first rounds of pilot testing were promising. When comparing standardised test scores, ELM pupils rankedconsistently higher than their peers in the control group. Likewise, ELM pupils' mathematical emotions scores reported significantly lower anxiety towards learning mathematics than those of the control pupils.

The 2016-2017 study was designed as a two-group, pre-post test, with 26 classes from the above-mentioned school boards participating (14 experimental and 12 control), with a total of 338 Yr 1 pupils. In addition, 12 teachers from British Columbia have been using ELM to teach mathematics to their year 1 classes. We are currently processing the pre-test data collected in the fall of 2016 and are looking forward to analysing the results once the post-testing is completed in May 2017.

In addition to the above, we have begun piloting ELM internationally to confirm the global relevance of the software. We have been working with teachers in various primary schools in Mombasa, Kenya. The preliminary data collected from 162, K-1 pupils suggest significant improvements in mathematic skills measured on the standardised test (GMADE, Group Mathematics Assessment and Diagnostic Evaluation). In particular, the gains are important in the Concepts and Communication subtest that address the language, vocabulary, and representations of mathematics and the Process and Applications subtest measuring the pupils' ability to take the language and the concepts of mathematics and apply the appropriate operations and computation to solve a word problem. In order to succeed on this subtest, the pupils need to apply appropriate strategies when solving the problems and to reason and estimate an answer that makes sense. It is important to note that pupils in K (N=73) and grade-one (N=89) classes improved their mathematic skills equally well.

Information About ELM

This section is designed to provide information on the ELM software to help teachers who are interested in using the software with their pupils. It provides an overview of the structure of the tool and detailed descriptions of the online steps. This guide also provides an overview of the Teacher Module. This includes an explanation of the teacher management features and details on how to access additional resources.

Languages

ELM is fully bilingual. Pupils and teachers can toggle between English and French by clicking on the language icon on the LTK+ lobby page.

Figure 15: LTK+ Menu - Language Toggle

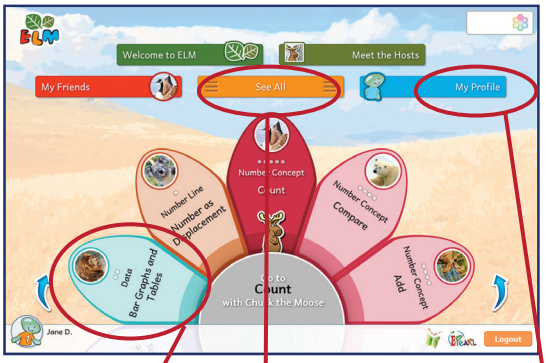
ELM's Home Page Main Features

Themes, Ideas, and Steps

ELM is organised in terms of Themes (overarching branch of mathematics), which are further divided into different Ideas (mathematical concepts). Each Idea has a certain number of Steps to slowly build a pupil's understanding of the concept and guide pupils in gaining proficiency. Any of the Ideas are accessible at any time, but the pupils need to progress through the steps sequentially the first time they access the Idea. Once they complete all steps within an Idea, they can access any step for further practice.

TIP:

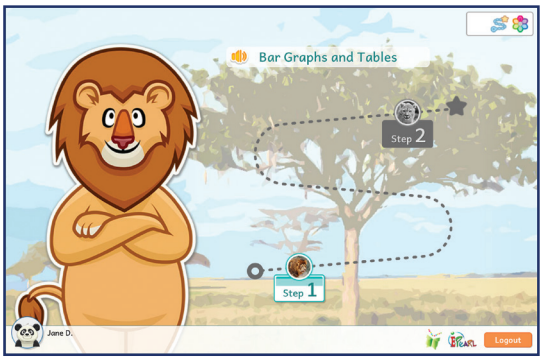
The pupil does not need to complete an Idea before starting another one. For example, after a pupil has worked through the initial three steps in Count, the pupil could be asked to do the first step in Compare, Add, and/or Subtract.



Home Page

Figure 16: ELM Themes Page

Themes



Select an Idea - View Steps

My Profile

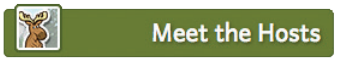
Meet the Hosts

Each mathematical Theme covered in ELM is associated with an animal host. Some themes cover multiple mathematical Ideas.

Table 5: Hosts, Themes, and Ideas

Host	Theme	Ideas
 Chuck	Number Concept	• Count • Compare • Add • Subtract • Decompose • Place Value
 Tia	Geometry	• Identify Shapes
 Ivan	Patterns	• Translate Patterns
 Kiros	Data	• Bar Graphs/Tables
 Matilda	Number Line	• Number of Steps (Offline) • Comparison of Position (Offline) • Number As Displacement
 Paco	Mathematical Language	• Introduction to the Bus (Offline)
 Ruby	Extra	

The pupils can learn more about the hosts by visiting the Meet the Hosts page.



Each host will introduce themselves as well as state what skills the pupils will learn and practice through the Ideas presented within their specific Theme.

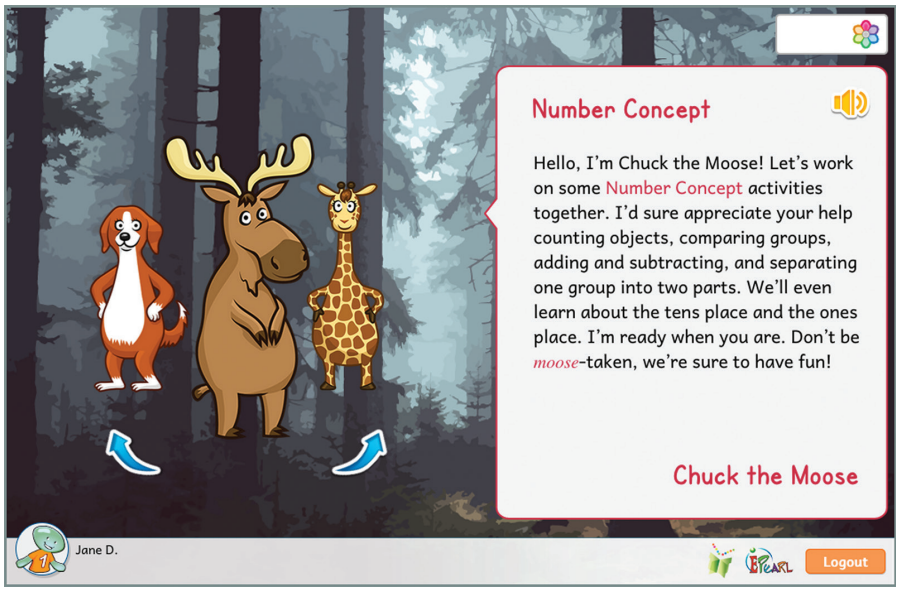


Figure 17: Meet the Host Page – Chuck's Introduction

Accessing Ideas

The wheel on the homepage allows pupils to cycle through all of the Ideas in ELM.

Alternatively, they can use the 'See All' 

button.

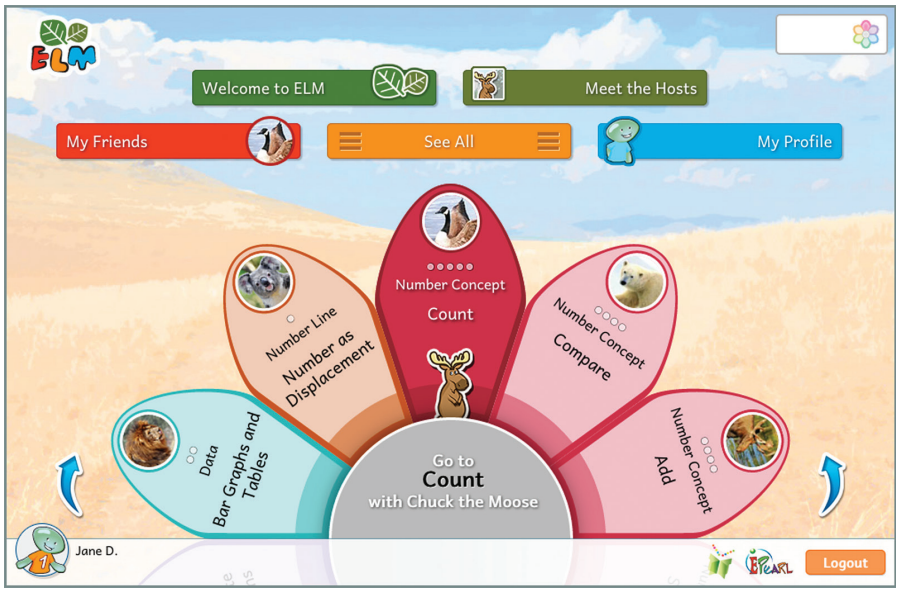


Figure 18: ELM's Home Page

Progress

Pupils may select any Idea from the Home Page. However, the steps within an Idea must be completed sequentially. Therefore, pupil accounts will restrict access to steps until the prior step has been successfully completed.

The Home Page provides a quick summary of a pupil's progress. The steps within an Idea are represented by a button.

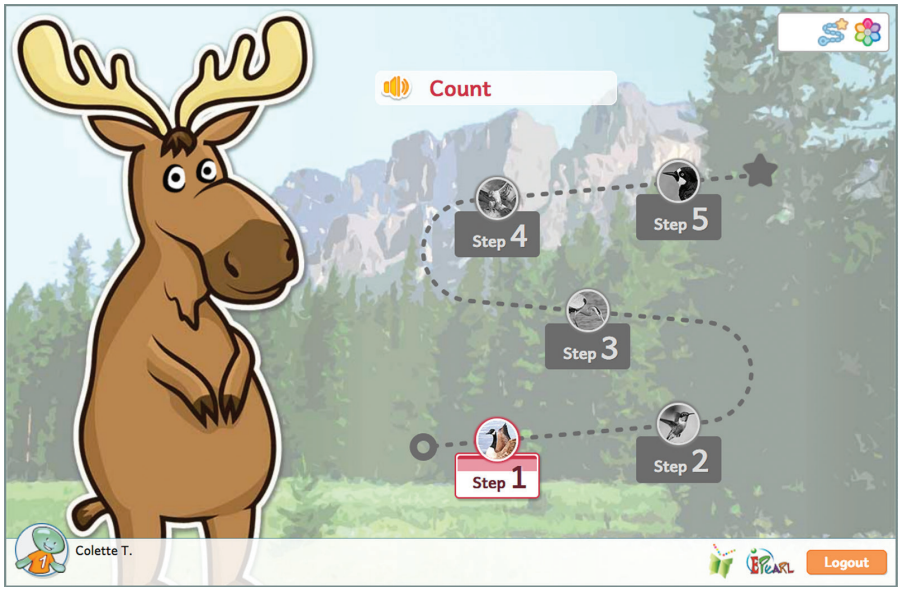


Figure 19: Student Account Progress - Step Restrictions

There are four types of buttons:

Icon		Meaning
○	White circle	Can access the step
○	Grey circle	Cannot yet access the step
●	Red circle	Requires help with the step
★	Gold star	Completed the step

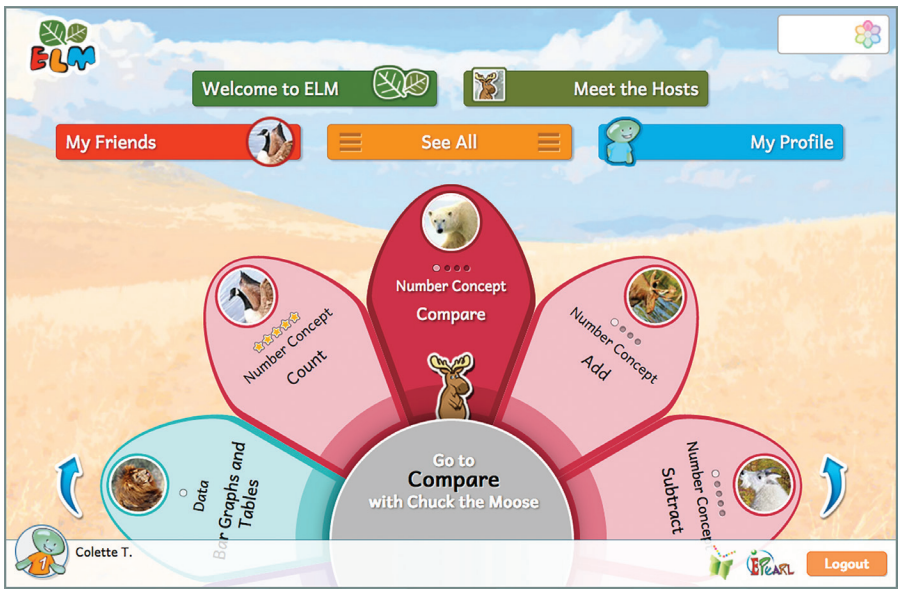


Figure 20: Home Page - All of Count's Steps are Completed, while only Compare's Step 1 is Accessible

Soft-lock

The soft-lock feature is intended to identify and aid the pupils who struggles with the activities.

If pupils make three consecutive errors in one set (represented by one puzzle piece), the activity will be reset. The host will pop up to let them know what happened. They can attempt to complete the activity with a new situation but at the same level they had been before they were reset. The teacher is not yet notified of the pupil's difficulty with the activity.

Figure 21: After Three Errors, the Activity is Reset

If the pupil makes another three consecutive errors, the soft-lock will trigger. This means that the activity will be reset again, but this time the teacher will be notified in a number of ways. For starters, as the teacher circulates in the classroom, he/she can look for this icon  , which appears on the bottom-left corner of the screen. Even though a soft-lock has been triggered, the pupil is not prevented from continuing the activity on his or her own. This ensures that the pupil is not hindered if the teacher is unable to address all concerns as they happen. However, it is important for teachers to know where pupils experienced difficulty. Whenever a soft-lock is triggered, the teacher receives a notification in their account's **Teacher Manage** section.

Figure 22: Soft-lock is Triggered

Validation

ELM was designed to go beyond a simple confirmation of whether the pupil's answer is correct or incorrect. Whenever the pupil submits an incorrect answer, the software will compare their answer to what's on screen and/or indicate how the pupil might correct the error. This is presented in a visual manner. For complex situations, there is additional audio to guide the pupil in understanding the error. The intention to is promote self-correction.

Differentiation

In each classroom, the teacher faces pupils with a range of background knowledge, abilities, and learning styles. In an effort to provide an environment that perpetuates positive attitudes to mathematics and also accommodates this diversity within a classroom, ELM includes several features:

1. In every step, the  allows a pupil who is unsure about how to proceed to seek context sensitive help, which may be delivered visually, aurally, or in both manners;

2. Whenever a pupil clicks on  to indicate that they have completed a task, if the pupil has made an error, then the software suggests the nature of the error visually and/or aurally;

3. If a pupil repeatedly has difficulty completing a task in the software, the software will send an alert to the teacher, and also display a small icon on the pupil's screen,  , so that if the teacher is moving about amongst the pupils, the teacher can spot that a pupil has been having difficulty and intervene;

4. In the Teacher Manage section, the teacher can adjust the number of repetitions that each pupil or group of pupils must perform so as to complete a step. See under Teacher Module for more information on Teacher Manage.

Other Navigation Options

At any time within a step, the top navigation menu can be used to help pupils organise their activities and plan their time.

 Go back to the puzzle page

 Go back to the Idea page

 Go to the home page

There are also navigation icons on the bottom-right corner of the screen:

 Returns to LTK+ Lobby Page

 Navigates to the ePEARL tool

 Signs the user out of their LTK+ account

My Animal Friends

Each of ELM's steps is associated with an animal friend. When the pupil starts the step, they are presented with an incomplete puzzle of an animal. The missing puzzle piece represents how many times they must successfully complete a set in the step. The teacher is able to adjust the assigned repetitions. The pupil gains the friend by completing the puzzle.

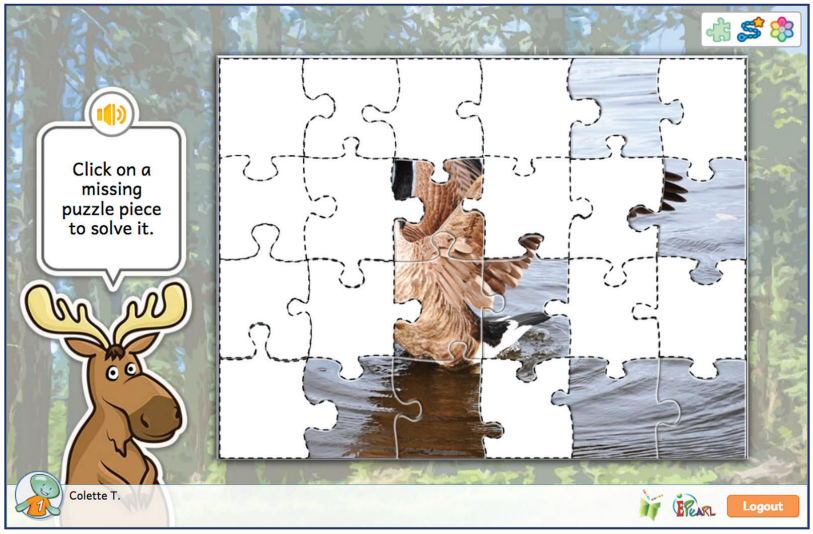
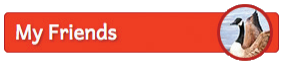


Figure 23: The Pupil must Complete the Puzzle to Gain the Animal Friend

Animal friends can be accessed by going to the "My Friends" page.



Only the animal friends that have been gained will be visible on this page. If pupils gained the friend, they will have a badge of the animal and they will be able to access the associated trading card(s). These cards contain the animal's name, some information about the animal, and the puzzle pictures the pupil completed. Pupils may click on the speaker to have this information read aloud.

There are two trading cards per animal friend. If the pupil repeats the step (either because it has been assigned in their plan or because they went back to practice on their own), they will have a second trading card for that animal friend.

Teacher accounts will have all badges/trading cards visible even if the steps have not been completed.

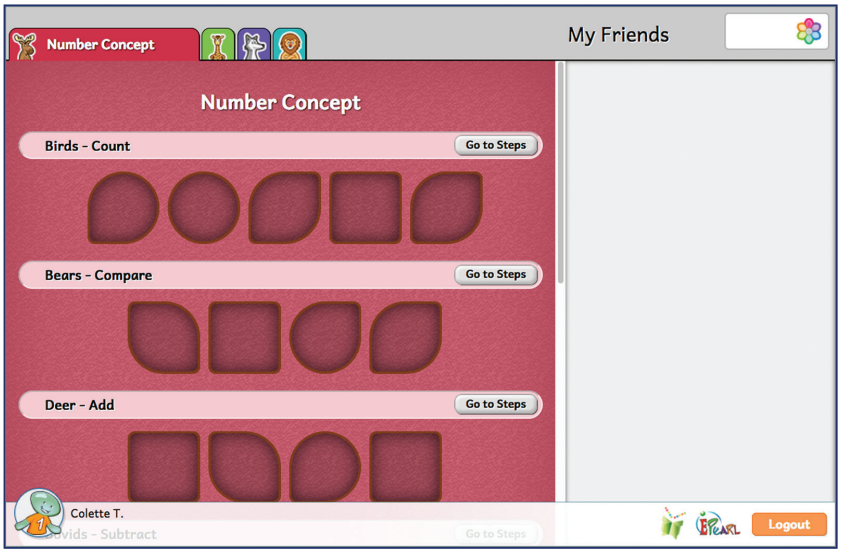


Figure 24: The My Friends page - the Pupil has not Gained any Friends Yet

Each Idea is associated with a particular animal family. For example, all of the animal friends gained in the Count steps are birds.

Figure 25: The My Friends Page with Badges and Trading Cards

TIP:

The trading cards contain a short blurb about the animal. These can be used as an introduction to animal science or a way to practice reading skills and comprehension. Each card has an audio button that reads out the text. The pupil can read with the software or compare their attempt to the audio.

My Profile

Clicking on the My Profile button can change the icon associated with the account .

To change the icon, click on an alternative image and then select the accept button .

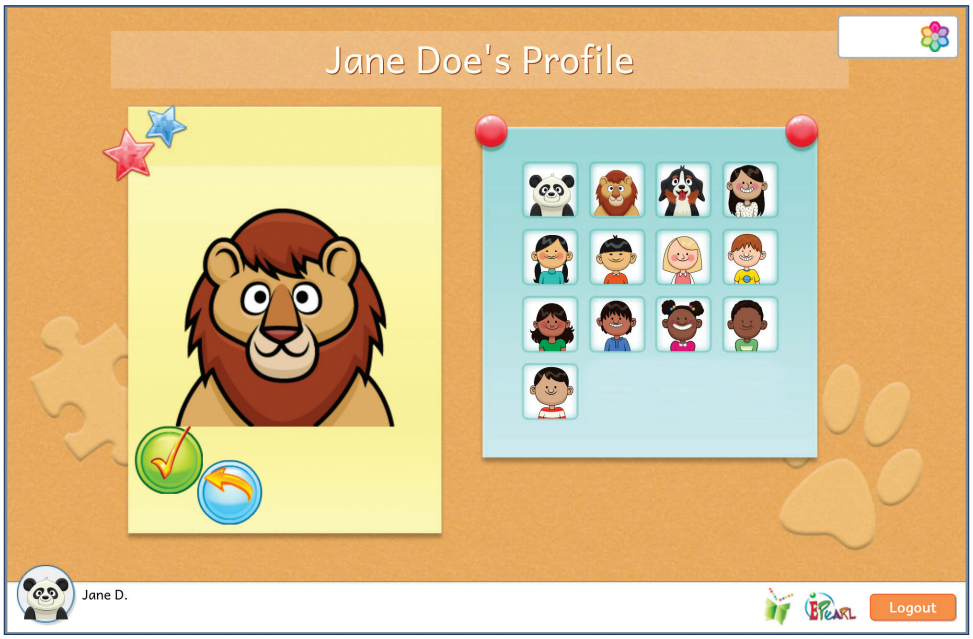


Figure 26: My Profile Page

Online Themes

ELM's steps teach basic mathematical concepts for Yr 1 as covered in the Quebec Education Program, as well as the standards for Yr 1 set out by the National Council of Teachers of Mathematics in the United States and Canada.

ELM features a unique account and profile for pupils. Each pupil is tracked as she/he progresses through the steps, to help a teacher understand what concepts their pupil has mastered and which, if any, she/he has difficulty with and needs assistance to learn.

Number Concept

- Count: 5 steps
- Compare: 4 steps
- Add: 4 steps
- Subtract: 5 steps
- Decompose: 4 steps
- Place Value: 9 steps

Geometry

- Identify Shapes: 3 steps

Patterns

- Translate Patterns: 1 step

Data

- Bar Graphs/Tables: 2 steps

Number Line

- Number As Displacement: 1 step

Number Concept

In this theme, pupils are encouraged to see 'number' as a set or a collection of objects. ELM's activities are intended to develop pupils' fluency in recognizing numbers, comparing numbers, adding and subtracting numbers, decomposing numbers into either a sum or difference of two numbers, and understanding the place value of numbers. Pupils also familiarize themselves with mathematical symbols and vocabulary.

Count

The Count Idea helps pupils become familiar with the basic numerals (1 through 9) and the quantity each represents. The idea's steps are structured to move from concrete to abstract by means of counting a set of objects. By completing the steps, pupils also practice 'subitising', the ability to instantly recognise the number of objects in a set of objects presented without any conscious counting.

Figure 27: Count Step 1

The **Count** Idea has five steps:

1. Count the birds by clicking on them.
2. Count the birds by using the counter.
3. Count the birds using the counter, then choose the number from the number bar.
4. Place the number of birds that Chuck asks for in the field.
5. Choose the number of birds from the number bar.

TIP:

Most of the steps in this theme focus on the numbers 1-9. This allows pupils the opportunity to learn the concept in a way where they can verify the answer for themselves by using their fingers.

TIP:

It's a good idea to start ELM with the Count steps. Many of the other ELM Ideas call on pupils' counting strategies.

Compare

Pupils will be asked to count two sets of objects: bears and hockey sticks. They are asked to compare these two sets of objects and determine if they are equal or whether one integer is larger or smaller than the other.

These activities expose pupils to both natural language and mathematical symbols that express and compare the cardinality of two sets.

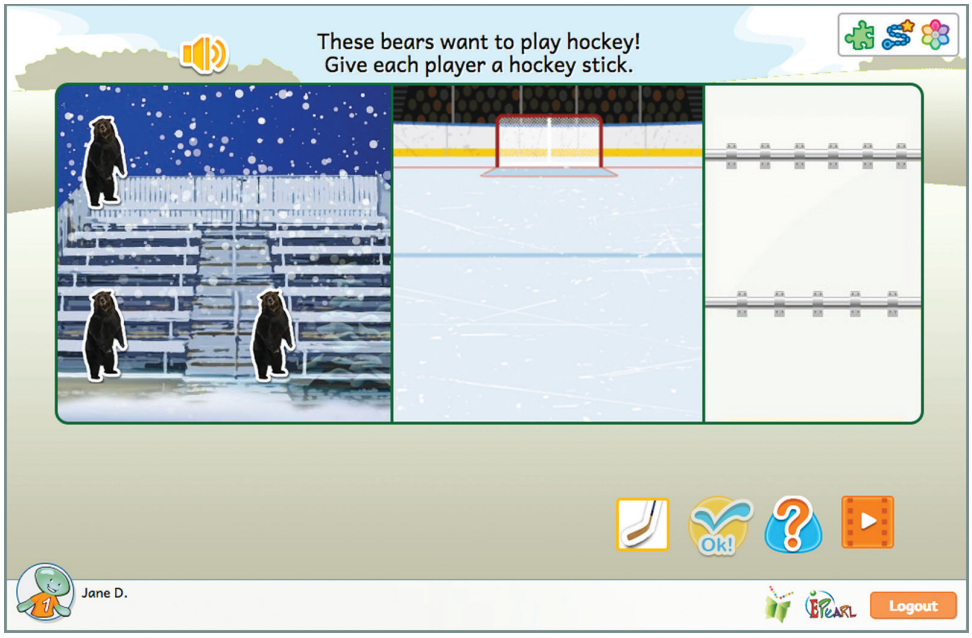


Figure 28: Compare Step 1

The **Compare** idea has four steps:

1. Give each bear a hockey stick. Choose the number from the number bar. The system provides ways of stating the expression of equality.
2. Choose the number of bears and sticks from the number bar. Match bears to sticks. Choose the correct expression using symbols (<, >, =) and words.
3. Choose the number of bears and sticks from the number bar. Match bears to sticks. Choose the correct expression using symbols (<, >, =) only.
4. Place number of bears, then place number of sticks to match the expression given.

Add

The Add Idea requires pupils to add the cardinality of two sets of animals. They see that the resulting number is the 'sum' or 'total', which can be represented by an equation. Pupils first learn to read equations and then later to write these equations by placing the numbers and symbols in the appropriate order.

The steps in Add reuse the counting strategies learned in the Count steps. This includes clicking on objects to count them and the use of counters to represent cardinality. Each set has its own counter; however, this strategy is extended to use an additional counter to represent the total of both sets.

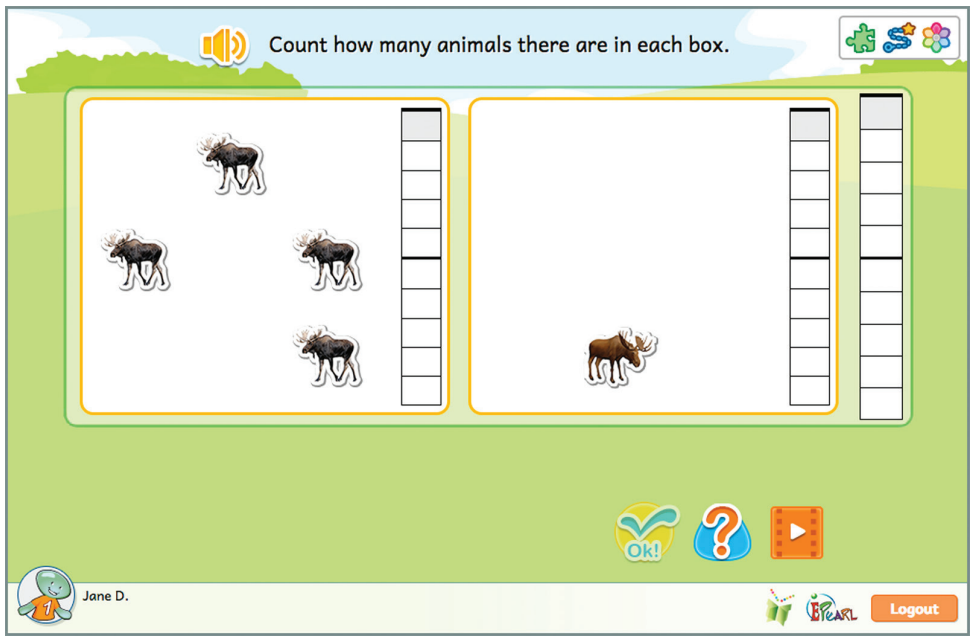


Figure 29: Add Step 1

The **Add** Idea has four steps:

1. Count the moose by clicking on them, then choose the total from the number bar.
2. Choose the number of deer in each picture. Choose the total. The system will display the equation.
3. Choose the number of elk in each picture. Choose the total. Build the equation themselves.
4. Place the deer in each picture to match the given equation.

Subtract

The Subtract Idea focuses on the process of taking away. In the steps, the pupil will initially see all animals in one set. They have to count how many are in the set and note the empty second set. This way, the pupil learns to associate 0 as the count of the empty set.

In the later steps, this process will be associated with an equation. This equation is a symbolic representation of the state of the sets, and the 'take away' process that occurred.

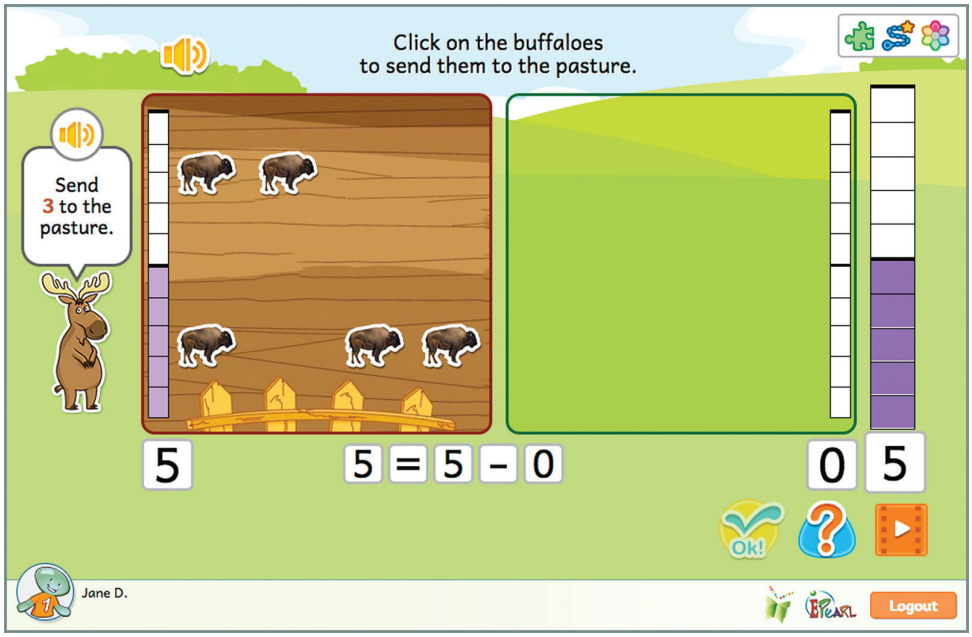


Figure 30: Subtract Step 2

The **Subtract** Idea has five steps:

1. Count the goats in the barn using the number bar. Send the number of goats that Chuck asks for to the pasture by clicking on them.
2. Count the buffalo in the barn and pasture. Send the correct number of buffalo to the pasture. The system will provide and update the equation.
3. Count the muskoxen in the barn and pasture. Send the correct number of muskoxen to the pasture. Correct the equation themselves.
4. Count the Dall sheep in the barn. Add sheep to the pasture to match the total number requested. Correct the equation themselves.
5. Count the sheep in the barn. Send sheep to the pasture, until the number that remains in the barn matches Chuck's directions. Correct the equation themselves.

Decompose

The Decompose Idea focuses on integer decomposition or partition. Pupils are presented with a set of beavers. They must partition this total by separating the beavers into two different sets by deciding which beavers are in the grass or water region.

Later steps include a table where pupils are tasked with completing the missing line. This demonstrates their understanding of the patterns in the table by selecting a missing value.

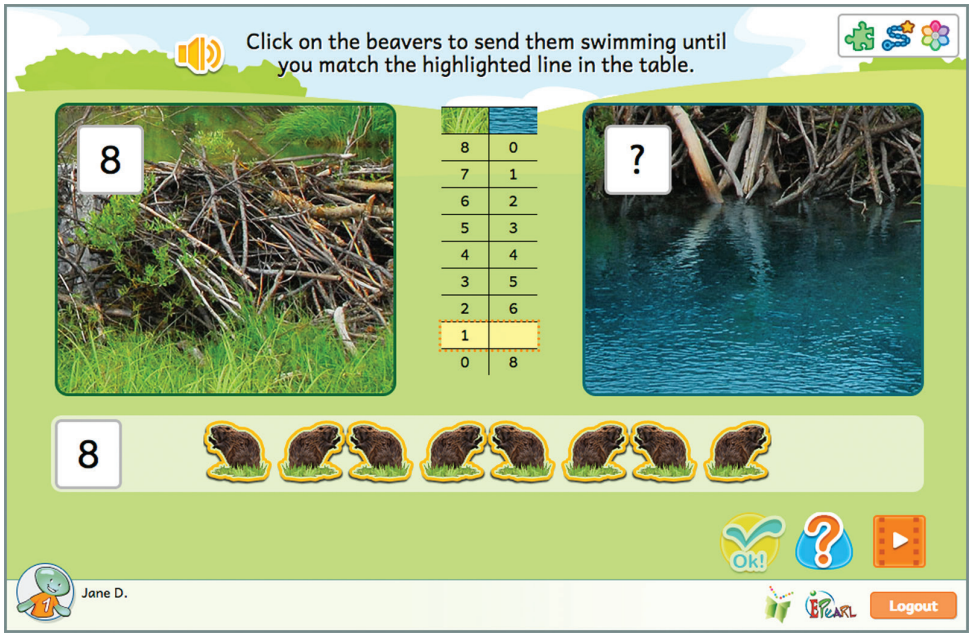


Figure 31: Decompose Step 2

The **Decompose** Idea has four steps:

1. Click on beavers to send the correct number 'swimming'.
2. Click on beavers to send them swimming until they match the missing line in the decomposition table. Choose the number from the number bar (2 times per puzzle piece).
3. Choose the number of beavers in the dam based on the missing line in the decomposition table. Then choose the number of beavers swimming.
4. Choose the number of beavers in the dam and swimming based on the missing line in the decomposition table. The system will display this as an equation.

Place Value

The Place Value Idea helps pupils realise that numbers beyond 9 but less than 100 have two 'parts': there is a number of '10s' combined with a number of '1s'. The goal is to have pupils understand that one 'ten' is equal to ten 'ones'. This combined number is read left (tens) to right (ones).

In order to facilitate pupils' grasping the notion of place value, ELM associates tens to trees. When ten units - represented as pinecones - are grouped, they become a tree.

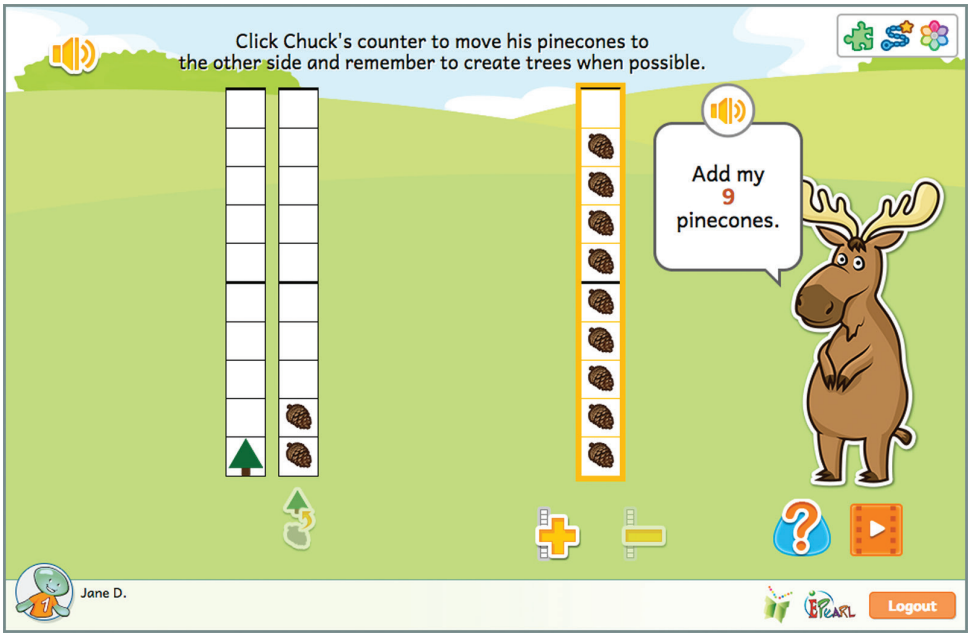


Figure 32:

Place Value Step 8

The **Place Value** Idea has nine steps:

1. Indicate how many pinecones there are using the counter(s).
2. Add or remove counters to match the pinecones in the field. Indicate how many pinecones there are using the counter(s).
3. Add or remove full counters to match the number of pinecones. Choose how many pinecones there are using the number bar.
4. Count the number of trees (tens) and pinecones (ones) there are using the number bar. The system will combine both numerals to create one number.
5. Count the number of pinecones by placing the numerals in one number box.
6. Add or remove counters to match the pinecones in the field. Choose how many there are using the counter(s).

7. Flip the cards of a memory card game until they match two numbers to add to the number Chuck asks for.
8. Add Chuck's pinecones to the pinecones on the left. Write the equation.
9. Subtract pinecones from the left side to give Chuck the number he wants. Write the equation.

Geometry

This Theme asks pupils to categorise and distinguish two-dimensional shapes. ELM's goal is to develop pupils' fluency in recognising shapes and foster pupils' own criteria for correctly identifying shapes. To this end, ELM does not list a shape's attributes. Instead, the pupil is provided with varying prototypes and they must define their own criteria for what makes a shape a shape. Teachers can have pupils justify their definitions of shapes during consultations to ensure adequate and robust understanding has unfolded.

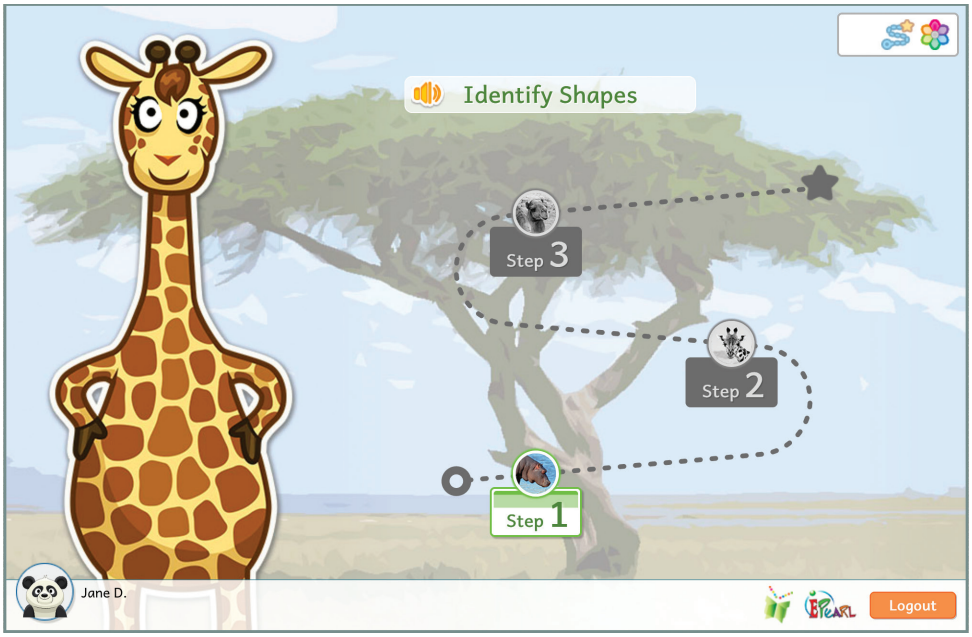


Figure 33: Geometry - Identify Shapes

Identify Shapes

This Idea aims to lead pupils to realise that there is a set of properties or characteristics that determine if something is a member of a class of shapes.

While ELM does not state any explicit guidelines, pupils are guided into developing their own understanding that all shapes are closed figures. Furthermore, the boundaries of all shapes considered are composed solely of straight lines, other than for a circle, where the boundary is a curved line. Varied prototypes may help pupils note that the number of vertices is a characteristic used in defining classes of shapes. As the steps increase in complexity, pupils will also note that size is not a property that determines the class of a shape.

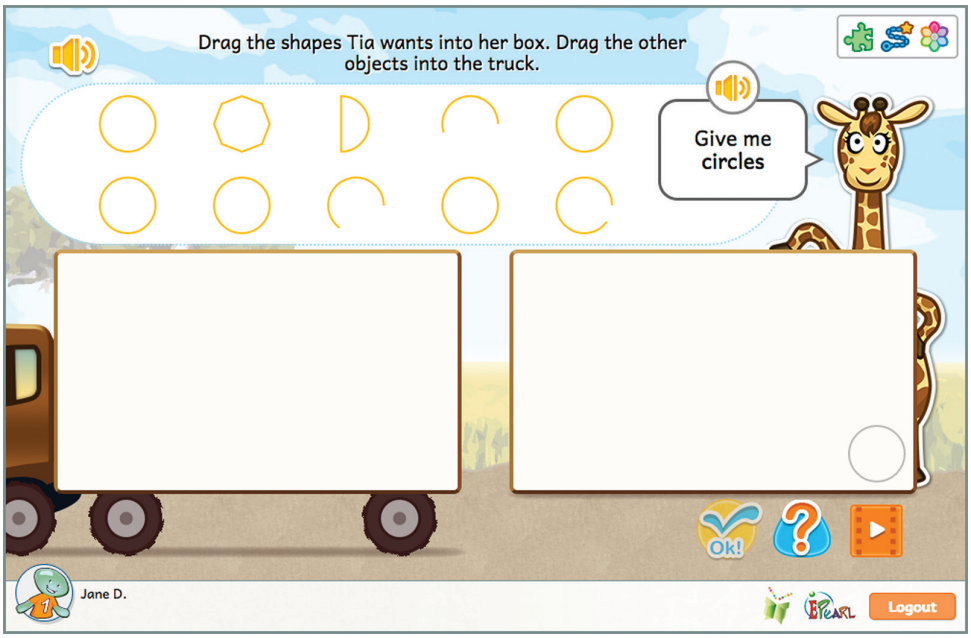


Figure 34: Identify Shapes Step 1

The **Identify Shapes** Idea has three steps:

1. Determine which of the provided images are the two-dimensional shape asked for by dragging it into the appropriate box.
2. Determine which of the provided images are the two-dimensional shape asked for by dragging it into the appropriate box, with the added challenge of seeing some bigger shapes.
3. Determine which of the provided images are the two-dimensional shape asked for by dragging it into the appropriate box, with the added challenge of seeing some rotated shapes.

Patterns

In early primary years, pupils are expected to develop their skills in recognizing the changing attributes in patterns, especially determining the rule for a repeating pattern. pupils typically express their understanding by recognising, continuing, completing, and creating patterns. ELM aids the development of their skills in identifying regularity and building sequences.

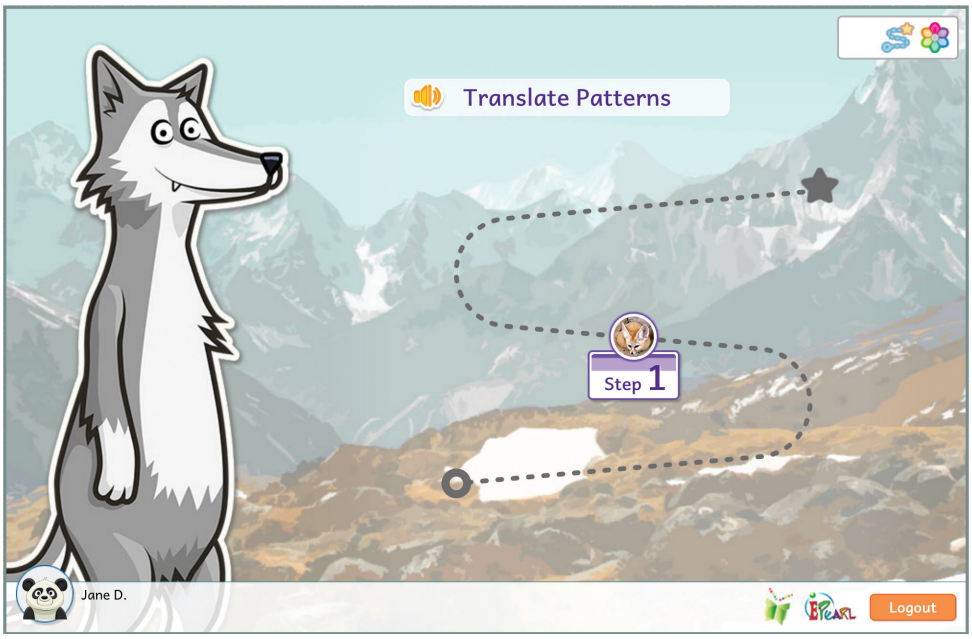


Figure 35: Patterns - Translate Patterns

Translate Patterns

This idea is recommended as a continuation following the development of basic pattern copying, completion, and continuation skills.

There are two main objectives for this Idea. The first is developing pupils' ability to identify the repeating portion – the core, or unit of repeat. The pupil is asked to extend this understanding of the core structure in the second objective, which is abstracting the pattern. Pupils demonstrate this by recreating the pattern using a new set of objects. The objects in the initial pattern, as well as the ones provided to the pupil to create a new sequence, will vary for each repetition of the step.

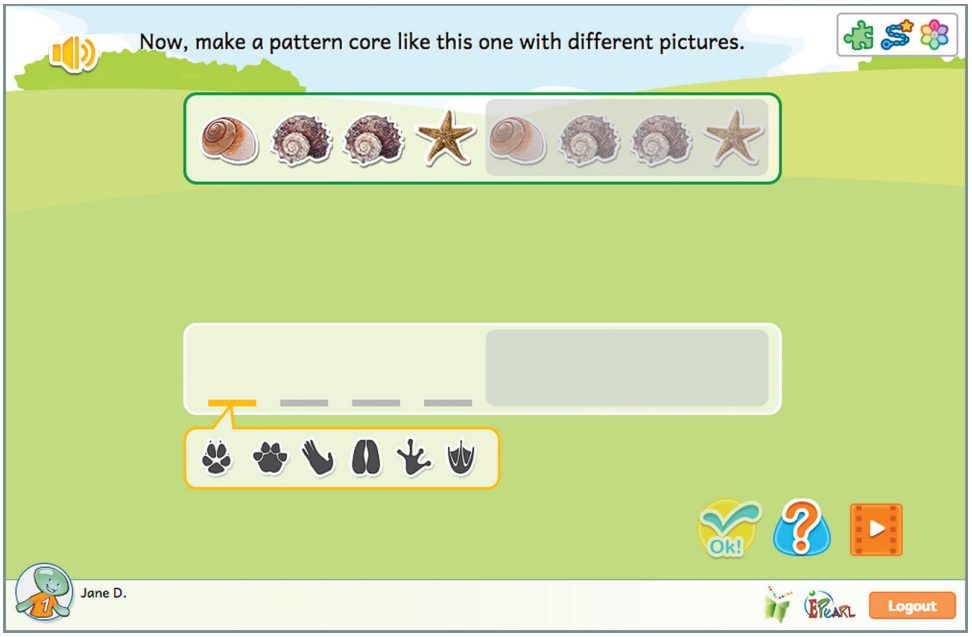


Figure 36: Patterns, Step 1, Phase 2

The **Translate Patterns** has one step:

1. Identify the pattern core. Recreate the pattern using different objects.

Data

In Year 1, pupils are expected to pose or respond to questions, organise data, and interpret data using graphs and tables, with their teacher's guidance. To support pupils' development of these skills, this Theme presents situations where the answer is not instantly obvious. In order to make sense of the situation, the pupil is required to organize data according to common attributes and represent a tally using graphs and tables. This task connects the situation to the graphic displays.

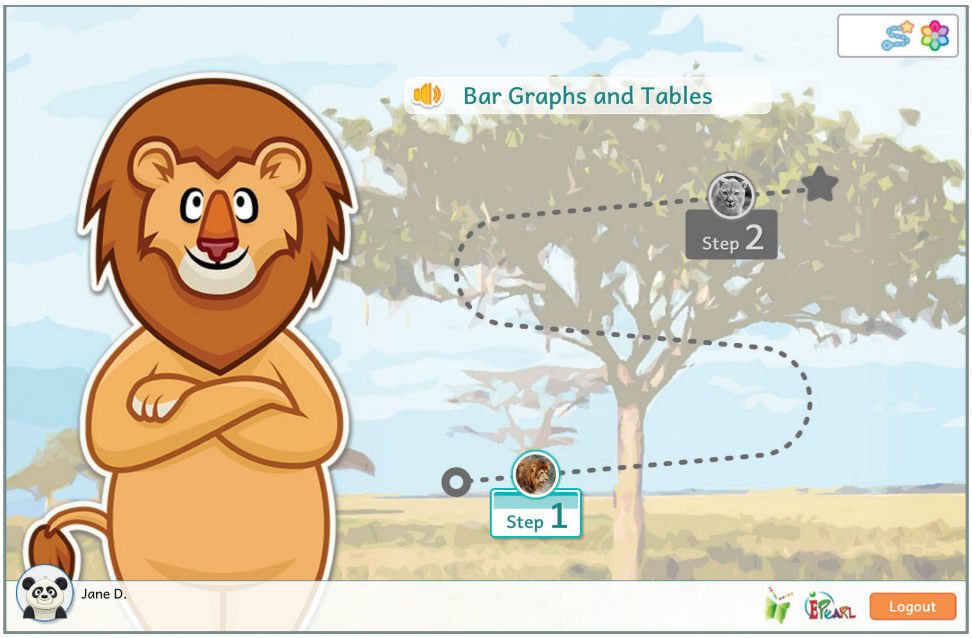


Figure 37: Data - Bar Graphs and Tables

Bar Graphs/Tables

The purpose of this Idea is to support pupils' ability to interpret and display data using bar graphs and tables. The pupils are provided with a context and they are expected to count and represent that tally using pictures, counters and numerals. The situation that the data is provided in offers a context for the bar graph and table to be meaningful. The pupils discover that a bar graph is useful for organising data into categories to determine the relative sizes at a glance. A table can be useful to quickly count the total.

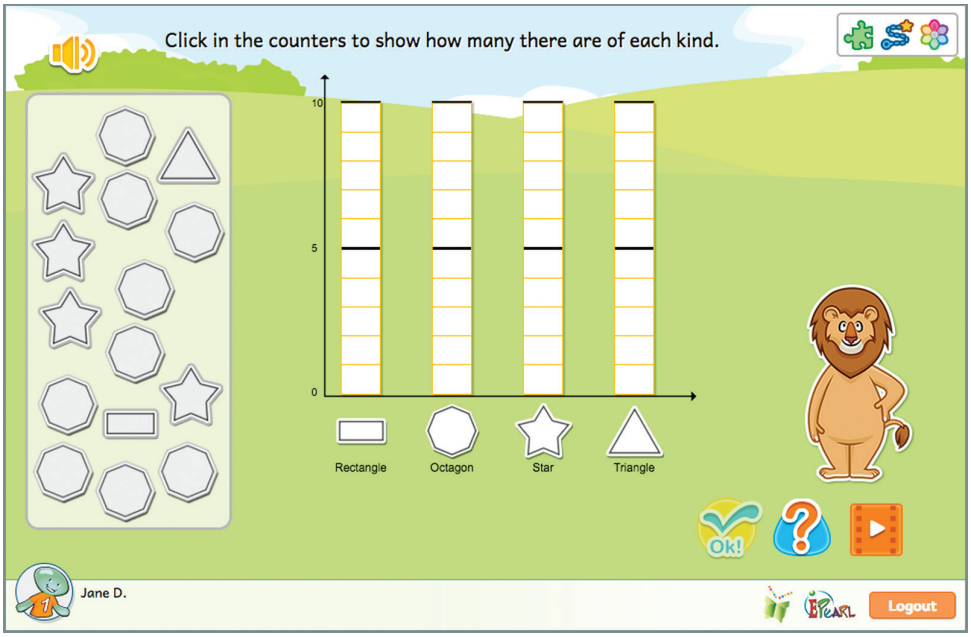


Figure 38: Bar Graphs and Tables Step 1, Phase 3

The **Bar Graph and Tables** Idea has two steps:

1. Identify the number of categories in a pile of objects. Label a bar graph. Fill in a bar graph to match the pile of objects.
2. Identify the number of categories in a pile of objects. Label a bar graph. Fill in a bar graph to match the pile of objects. Complete a table using the information in a bar graph.

Number Line

Number lines provide a second understanding of the concept of numbers explored earlier in the Number Concept Theme. Focusing on the position on a line offers another concrete method for pupils to count, compare, and order numbers. The number line helps pupils to see that counting numbers are ordered, with counting up related to increases in quantity and counting down related to decreases in quantity. Positive and negative displacements indicate movement in opposite directions along a number line, allowing pupils a new interpretation of addition and subtraction. The use of a standard size of units (step length) also encourages pupils to discuss the use of different systems of 'units', e.g. mm, cm, m, inch, foot, yard, which lead to different correct numerical answers.

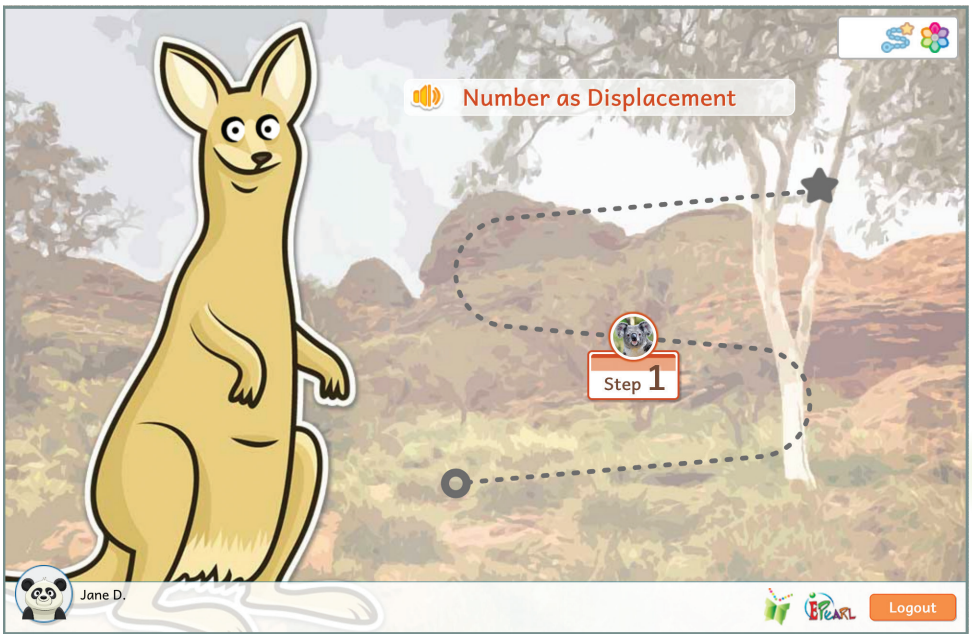


Figure 39: Number Line - Number As Displacement

Number As Displacement

This Idea provides pupils with a situational problem where three numbers are related. The starting point (a), the displacement (b), and the ending point (c) are presented by the equation 'a + b = c' or 'a – b = c'. Two out of these three are provided. The pupil's first task is to determine what each given number corresponds to physically on the number line. The pupil can use the physical interpretation to aid in determining the missing third value. In the process of using the number line, pupils may count/add by 1s, 5s, and 10s and use their proficiency in composing/decomposing numbers while gaining fluency in addition/subtraction with numbers up to 100.

TIP:

This Idea should not be the first instance when pupils are introduced to a number line. Rather, ELM suggests a kinaesthetic approach to start. See the Teacher Resources page for suggested offline lessons before directing pupils to the online idea.

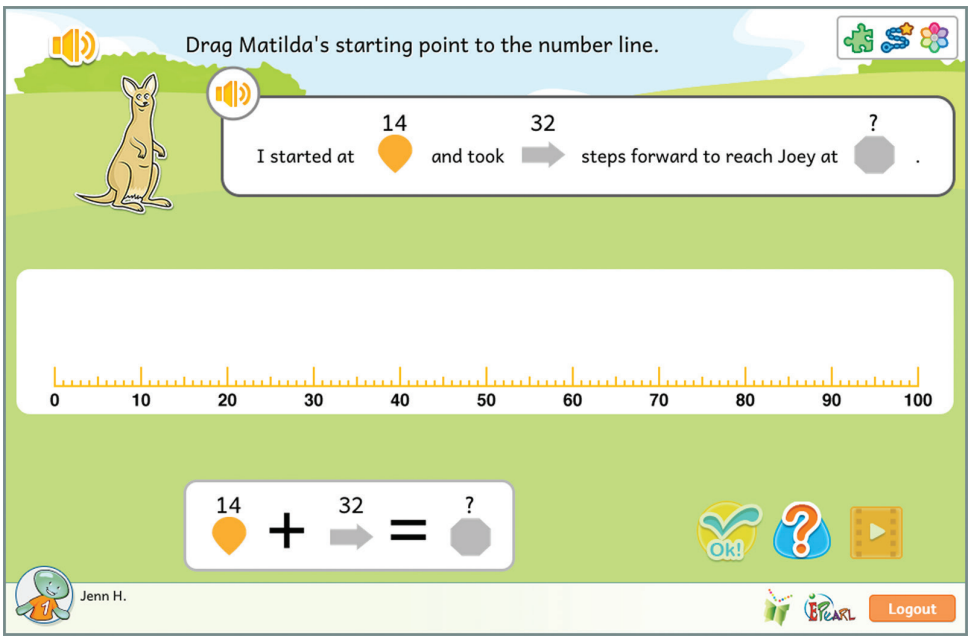


Figure 40: Number as Displacement Step 1

The **Number As Displacement** Idea has one step:

1. Place a marker of the start or end position on a number line. Create the displacement by combining 1, 5, or 10 unit blocks.

In addition to this online activity, there are two offline lessons available on the teacher resource page. These encourage students to move themselves along a number line, which fosters their kinaesthetic knowledge of linear movement.

ELM-ePEARL Link

The link between the ELM and ePEARL tools supports the development of pupils' self-regulated learning skills. This is an ideal space to prompt pupils to reflect on the math skills they are building and incorporate their daily practices with classroom lessons.

In order to access this feature, the pupil must go through the ePEARL tool. First click on the My Creations button  . On the My Creations page, there will be an ELM creation button.

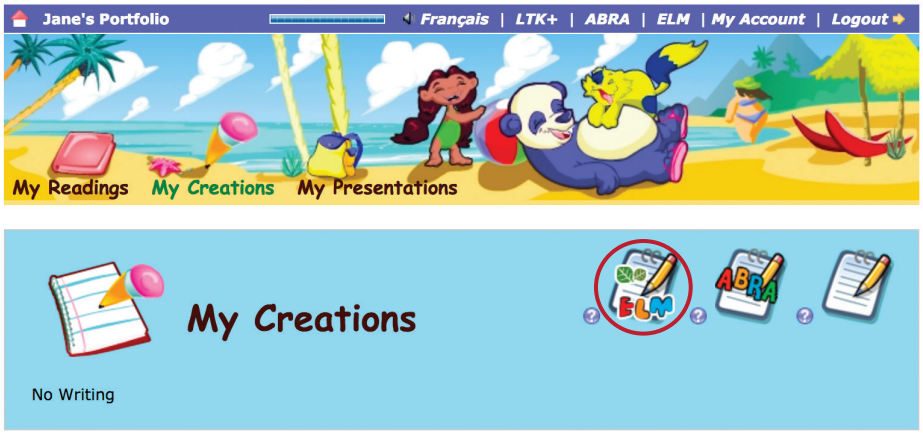
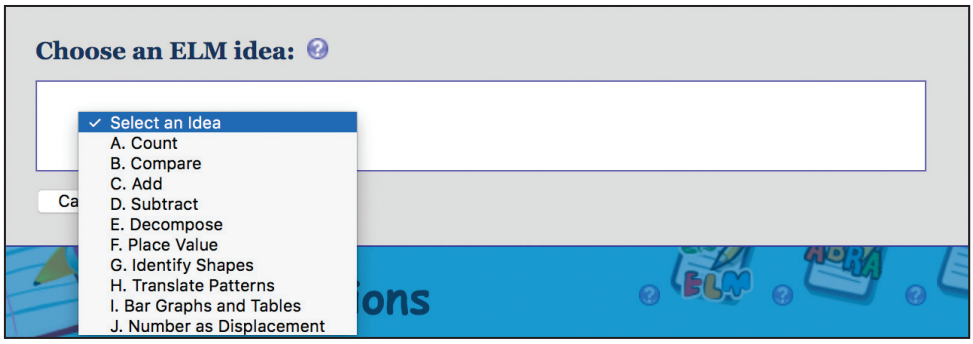


Figure 41: ePEARL, My Creations - ELM Creation Button

Pupils will first be asked to select an Idea:

Pupils can use the What I Want To Do section to create goals related to the Idea. For example, a goal related to Identify Shapes could be: 'I want to learn 2 new shapes today'.



TIP:

As some pupils are may be struggling readers, a teacher can guide them to select a particular Idea using the alphabetized list. For example, to reflect on Decompose, guide them to select 'E'..

The My Creations section can be used in a number of ways in ELM. Pupils can indicate how they practice their math skills. Or a teacher can tie these skills to other subject areas: write a story that incorporates the math skill used, or draw a picture of how the pupil is using this skill in real-life settings.

The Reflections section allows pupils to consider how the mathematical concepts they are learning about relate to their lives and/or track their learning. The dropdown list provides suggested questions, but pupils can create their own by typing in the text field then clicking on the Add button.

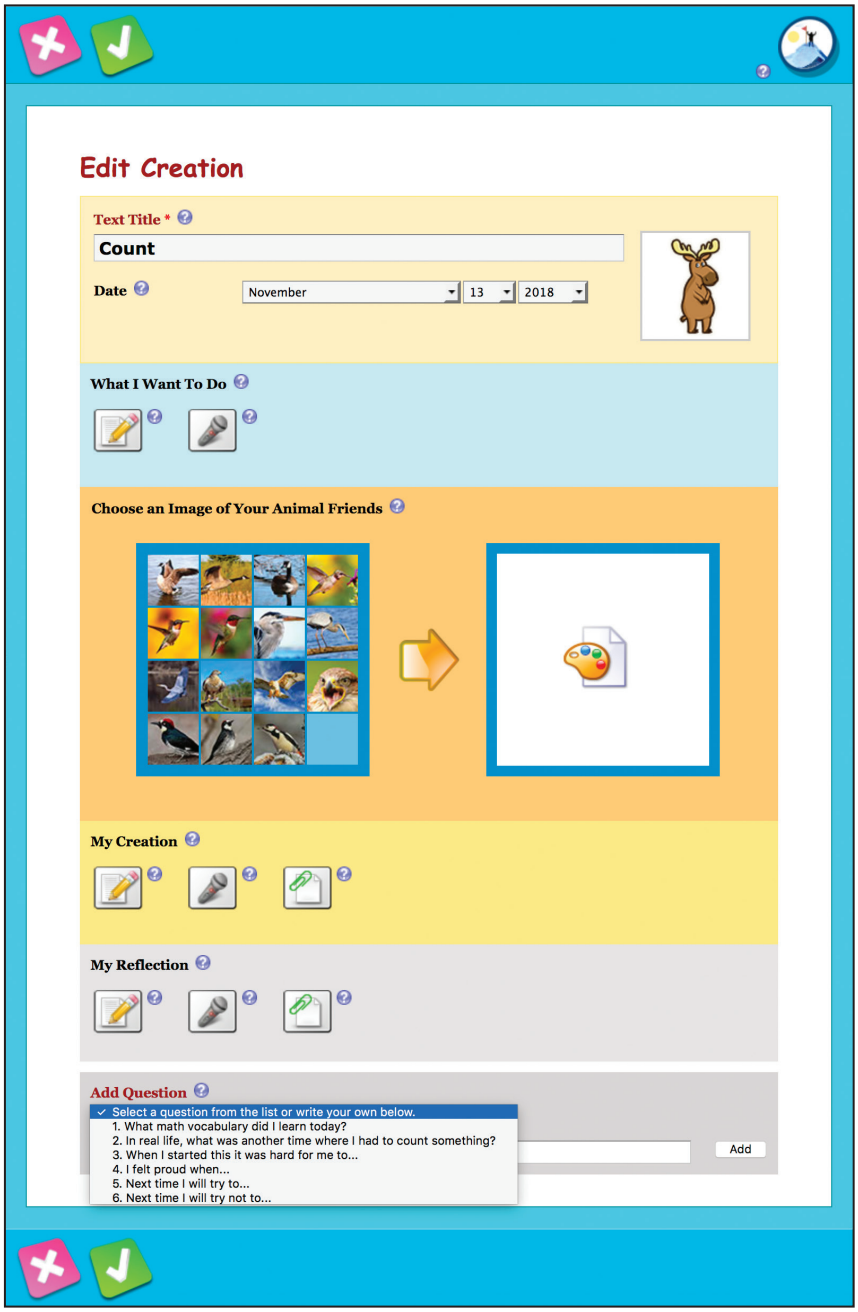


Figure 42: ELM Creation

TIP:

Young pupils are likely to be more comfortable using the recorder feature.

Teacher Resources Page

Teachers are encouraged to consult the Resource pages as the CSLP team continues to develop bilingual job aids and supplemental materials to help support the use of the LTK+ in classrooms. All of the embedded video support and virtual tutorials can be accessed from these pages as well. Materials will be added to these pages on a continuous basis.

Figure 43: Link to the Teacher Resource Pages

ABRA Teacher Resources

The ABRA Resource Page offers teachers a multitude of paper-based and multimedia resources that will help them implement ABRA effectively in their classroom. Additonally, research evidence, and best practices are summarised here to show teachers how ABRA has been used and is being used in the classroom, as well as how it is most effective in practice. More information can be found at: http://doe.concordia.ca/cslp/en/teacher/abra/

The ABRA Teacher Resource Page includes:

1. **Stories** divided into four Genres. Each of the stories is accessible from the Teacher Resource Page, where teachers can read the story to assess its appropriateness for students, view related skills, and access lesson plans, extension activities, and printables.
2. **Activities**: Literacy skills are divided into four sections; comprising a total of 33 activities. For each of the activities a brief demo is available as well as a description of the activity's objective, group facilitation tips, and an explanation of the content and levels of each activity.

3. **Printable and Technical Resources**: A large number of PDF documents are available to be printed, including the stories, worksheets, and a colouring book. There are also a number of videos available

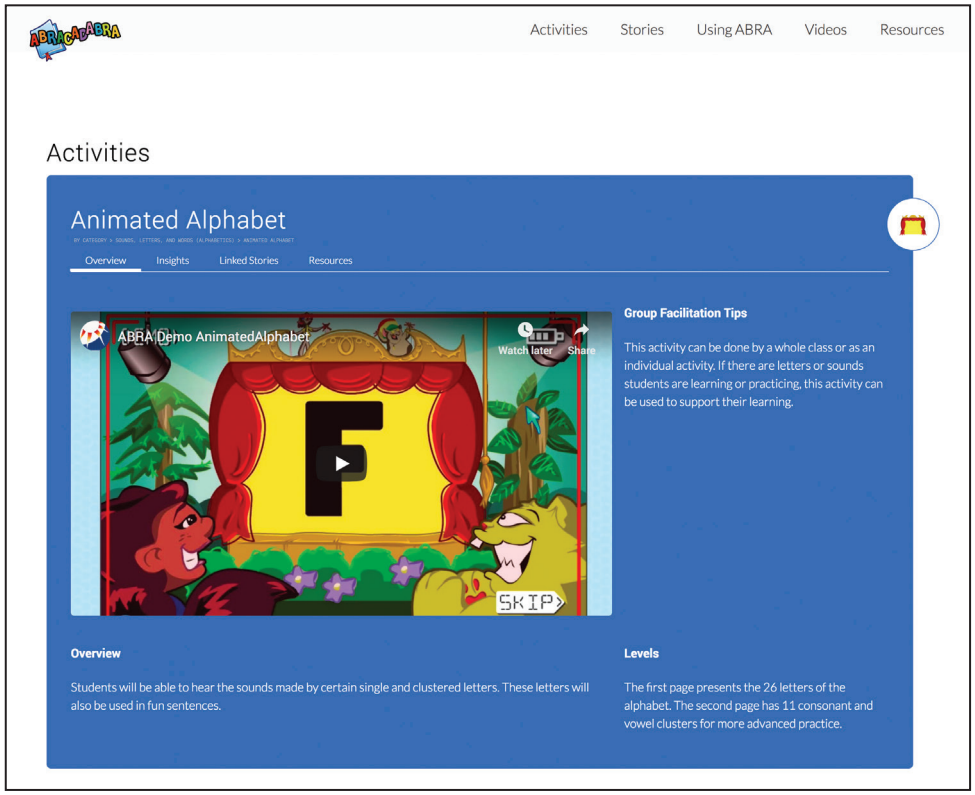


Figure 44: ABRA Teacher Resources Page

ELM Teacher Resources

The ELM Teacher Resource Page gives teachers an overview of the various mathematical concepts, as well as a decription of each Theme, Idea, and Step.

Demos of each step, a description of animal friends as well as additonal classroom resources are available here: https://grover.concordia.ca/resources/elm/teacher/en/

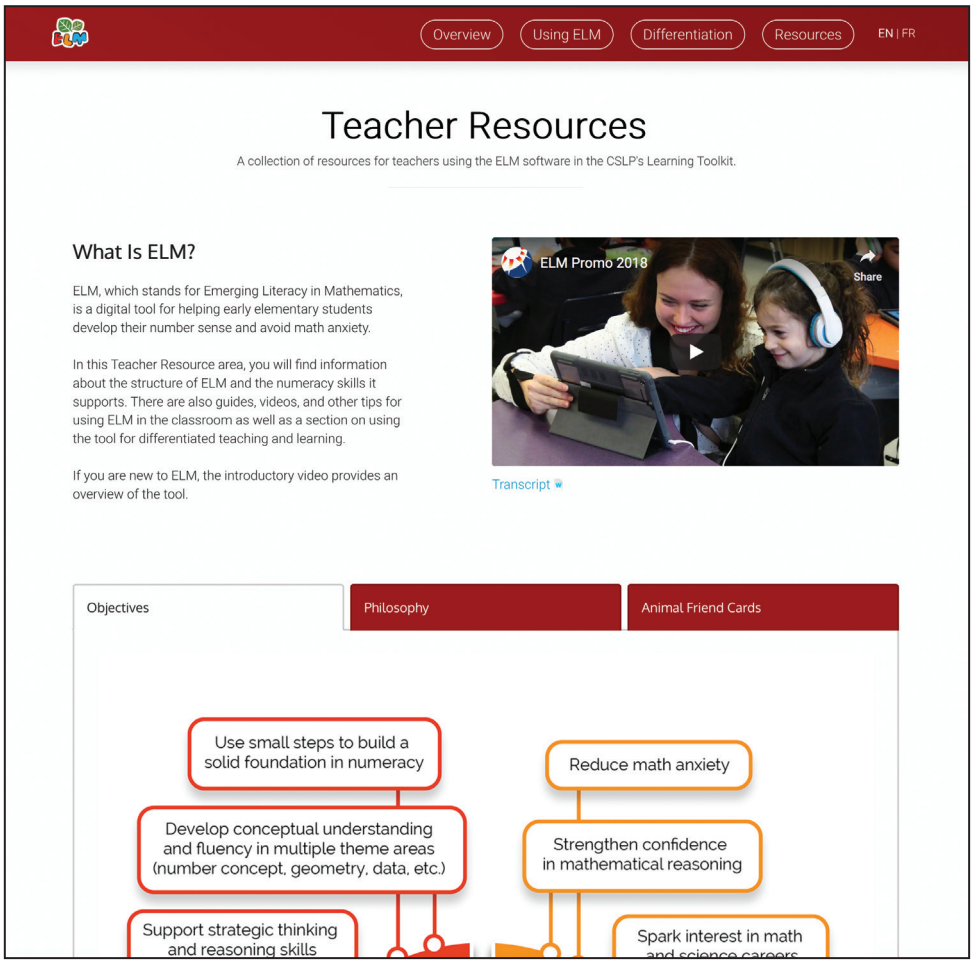


Figure 45: ELM Teacher Resources Page

Parent Module

ABRA Parent Module

The ABRA Parent Module is currently under development and will be available this autumn (August, 2018) at: http://doe.concordia.ca/cslp/en/parent/abra/.

This module provides a similar resource as the Teacher Resources, targeted towards parents and guardians. Parents should be encouraged to access this resource to learn more about the importance of literacy and how to support use of ABRA at home.

ELM Parent Module

The ELM Parent Module (http://grover.concordia.ca/resources/elm/parent/en/) provides a similar resource targeted towards parents and guardians. Parents should be encouraged to access this resource to learn more about numeracy education and how to support use of ELM at home.

Figure 46: ELM Parent Module

Managing Classes and Pupils

Accessing the LTK+ as a teacher will open up the LTK+ Lobby Page. There are two main options on this page: LTK+ Management (for the management of classes and pupils) or accessing the tools offered within the LTK+. A shortcut to the Teacher Resources page for each tool has also been provided on this screen.

Figure 48: The LTK+ Lobby Page for Level 2

LTK+ Management

This section allows teachers to easily manage their classes and pupils in one convenient location for all the LTK+ tools.

Here, teachers can:

- Edit teacher information such as password, colour tags, etc.
- Link themselves to multiple classes
- Link pupils to their homeroom class

For more on how to manage your classroom using the LTK+ Management feature, please see the LTK+ Management Teacher Guide, available for download on our website.

TIP:

IS-21 is only accessible to Level 2 users of the LTK+. Please make sure to change your level under My Account if you do not see the IS-21 icon on the Lobby Page.

My Account

In My Account, you can change your nickname, password, ePEARL level and define your teacher colour codes in ePEARL (only for those teachers who have ePEARL activated in their account).

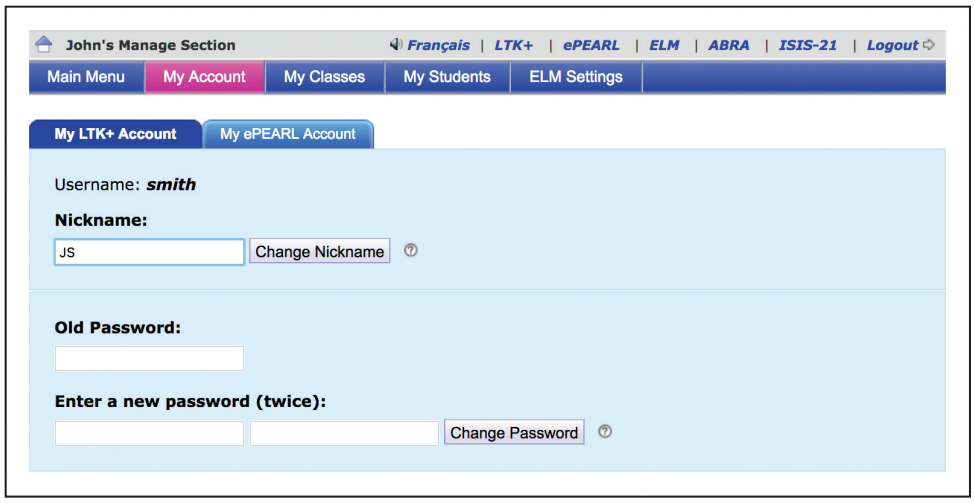


Figure 49: My Account

My Classes

A list of your classes – the classes you are linked to – will be displayed. Teachers are automatically linked to their homeroom class.

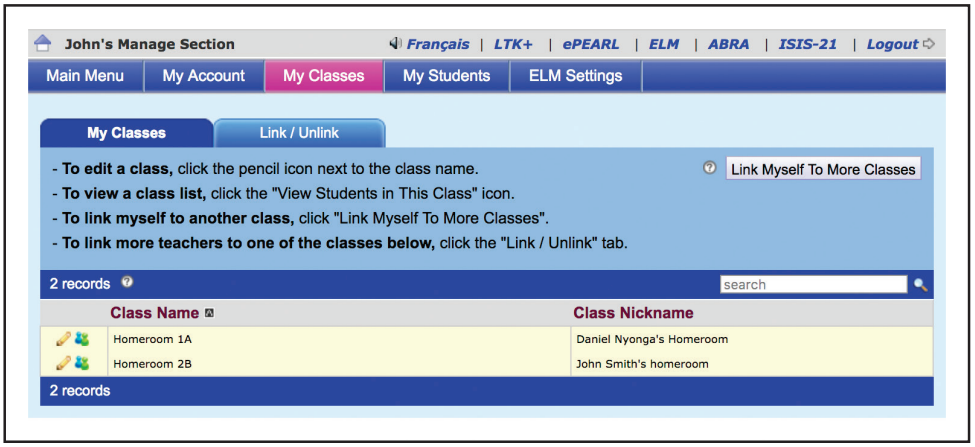


Figure 50: My Classes

- The pencil icon allows you to change the class name and nickname.
- The class list icon opens up the list of pupils who are in the class. See the My Pupils section of this guide for more information about what can be done using this list.

There may be instances in which a teacher wishes to link himself or herself to other classes, for example, if he or she teaches two homeroom classes or is a resource, music, or technology teacher who works with many classes. This function can also be accessed in LTK+ Management.

Click on Link Myself To More Classes to add or remove a class from your list.

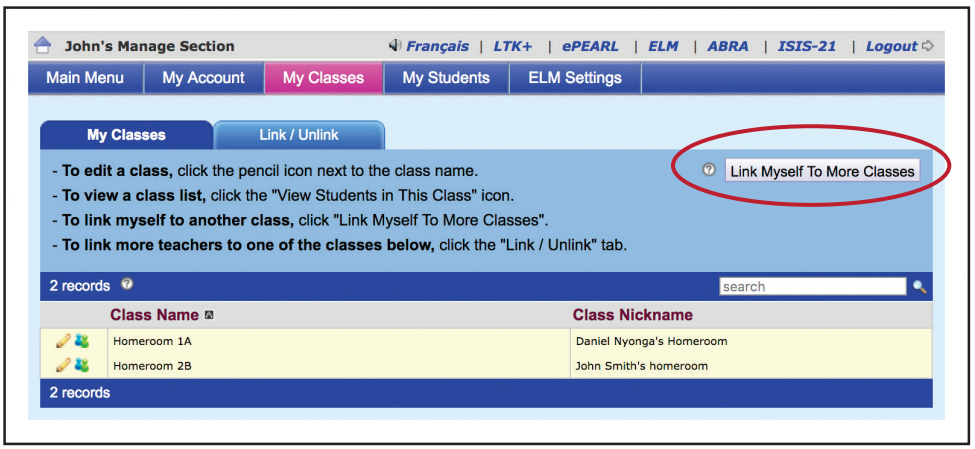


Figure 51: Linking to Classes

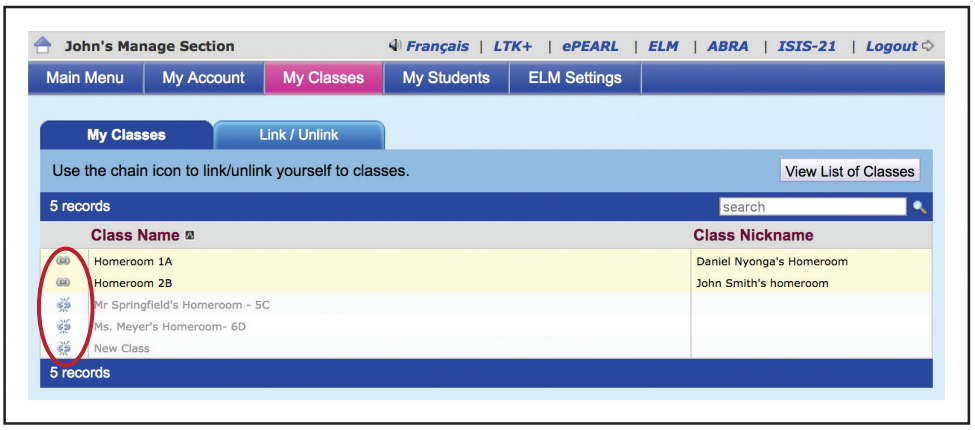


Figure 52: Selecting Classes

The chain is connected and the background is yellow when a class is linked to the teacher. When unlinked, the chain is broken and the background is white. Once linked, you will be able to see the class in the My Classes tab.

Linking Other Teachers to Your Own Class:

From 'My Classes', teachers may also link other teachers to their own class by clicking on the Link/Unlink Teachers tab.

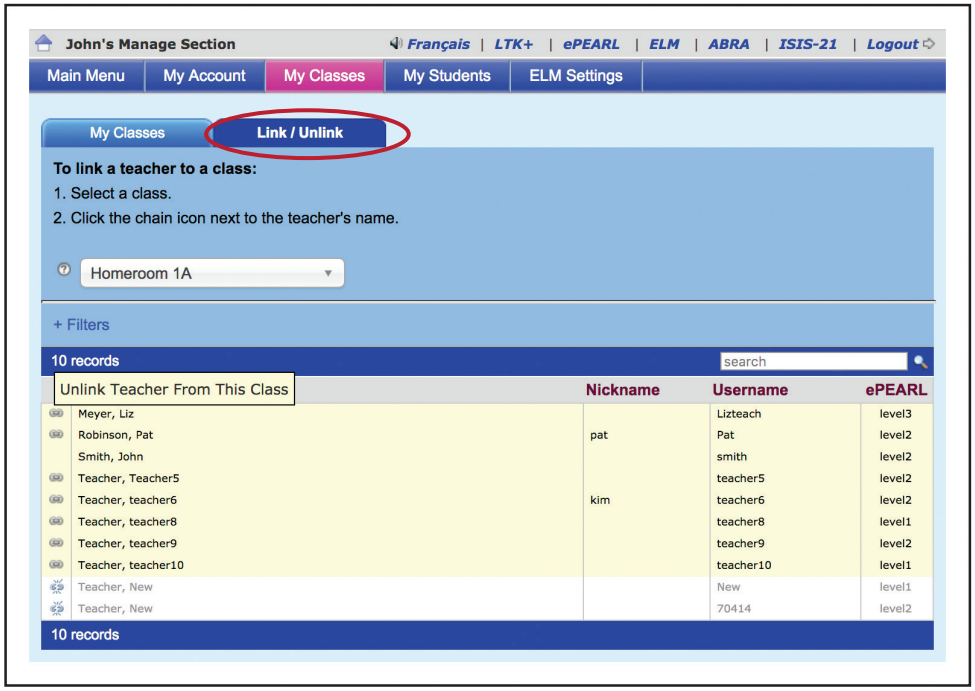


Figure 53: Linking Other Teachers

TIP:

If the teacher does not appear in the list, he or she must be added to the database by the LTK+ sub-administrator for the school. This may be the principal, the computer teacher, or a technology consultant at the board/district/division level. Find out who the sub-administrator is at your school.

My Pupils

Teachers may view and edit pupil information within a specific class by clicking on the pencil icon beside the name of a specific pupil.

Note: You must be linked to the class the pupil is in, in order to view the details.

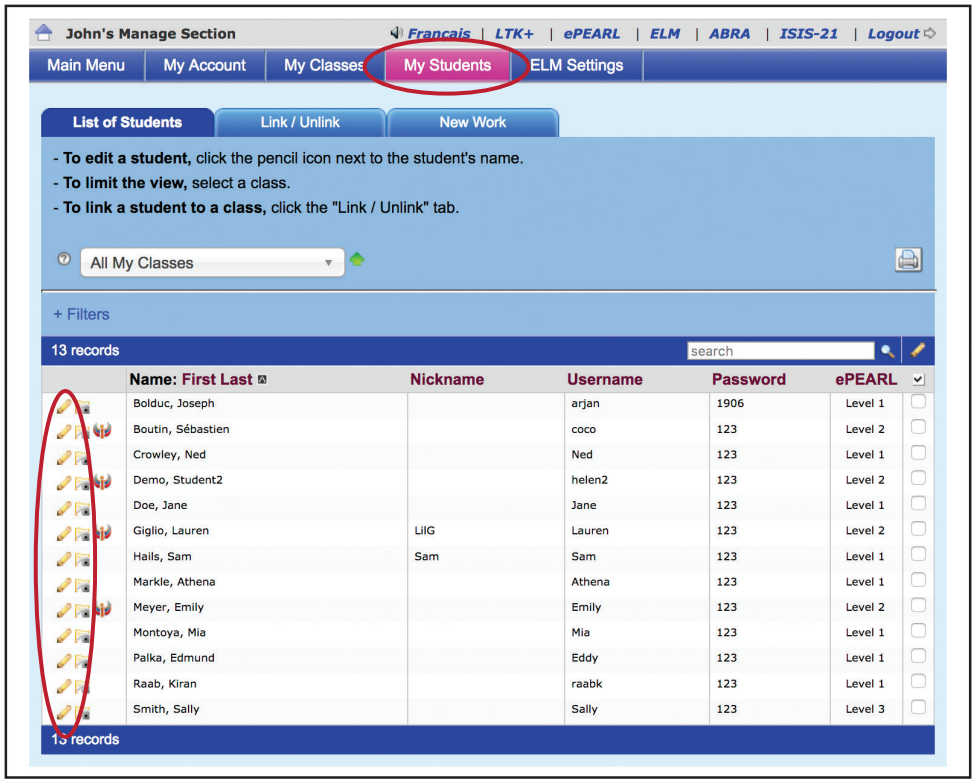


Figure 54: My Pupils

From here, the pupil password can be changed for individual pupils, as well as the ePEARL level for those pupils who are using that tool. Note that usernames may not be changed as these are set by the software when the pupil list is entered into the LTK+ database. Nicknames are defined by the pupil.

TIP:

If there are pupils who are not linked to your class but should be, you may link them by clicking on the Link/Unlink tab to display a list of pupils who attend your school. Please see the sub-administrator at your school if the pupil does not appear on that list, as he or she must be added to the database.

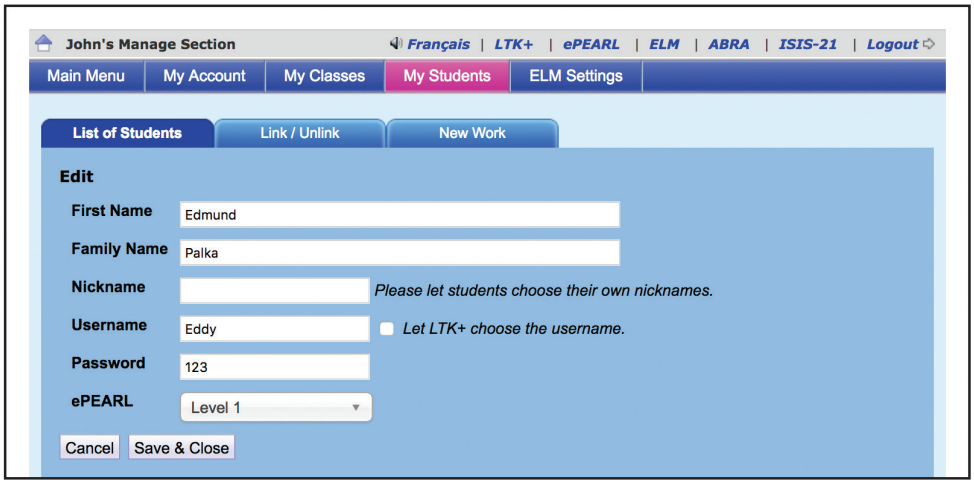


Figure 53: Edit Pupils' Information

From the main pupil list, teachers can also access any tool that an individual pupil is using.

- If the pupil is using ePEARL, the teacher can access it by clicking on the Portfolio icon.
- If the pupil is using IS-21, clicking on the IS-21 icon will allow teachers to see the pupil's main projects in IS-21.

References

1. Bailey, B., Arciuli, J., & Stancliffe, R. J. (2016). Effects of ABRACADABRA literacy instruction on children with Autism Spectrum Disorder. Journal of Educational Psychology. Advance online publication. [http://dx.doi.org/10.1037/edu0000138]http://dx.doi.org/10.1037/edu0000138

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