

ORIGO

**STEPPING STONES**

CORE MATHEMATICS

K-5

Implementation Guide



ORIGO<sup>®</sup>  
EDUCATION

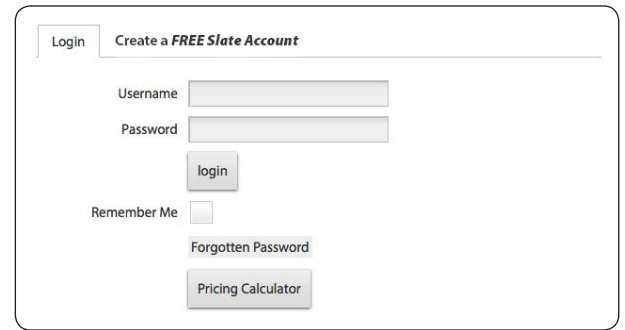
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## Getting Started – Logging In

To access **Stepping Stones** you must have a **Slate** account.

If you have a **Slate** account go to *origoslate.com* (you might like to bookmark this web address). Enter your username and password in the fields provided and click login. If appropriate, check the remember me box.



Record your username and password here.

Username:

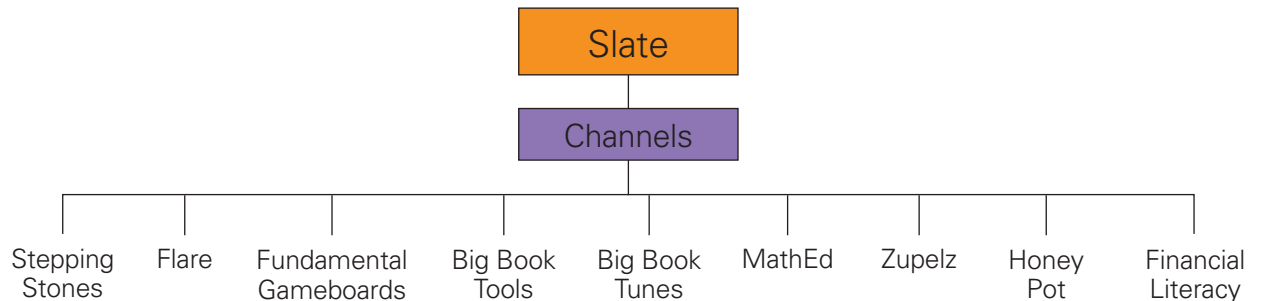
Password:



1.0 Getting Started  
Orientation to Slate

## Getting Started – Slate vs. Stepping Stones

**Slate** is ORIGO Education’s digital hub that contains ORIGO’s online resources. Some of these resources are free and some are available through a subscription. **Stepping Stones** is a core mathematics program. You can find this channel with ORIGO’s other digital products under the Channels tab in the **Slate** menu.



One of the greatest benefits of a digital delivery platform is the ease in which ORIGO can immediately update our channels. Keeping you abreast of the latest improvements and/or alterations is paramount.

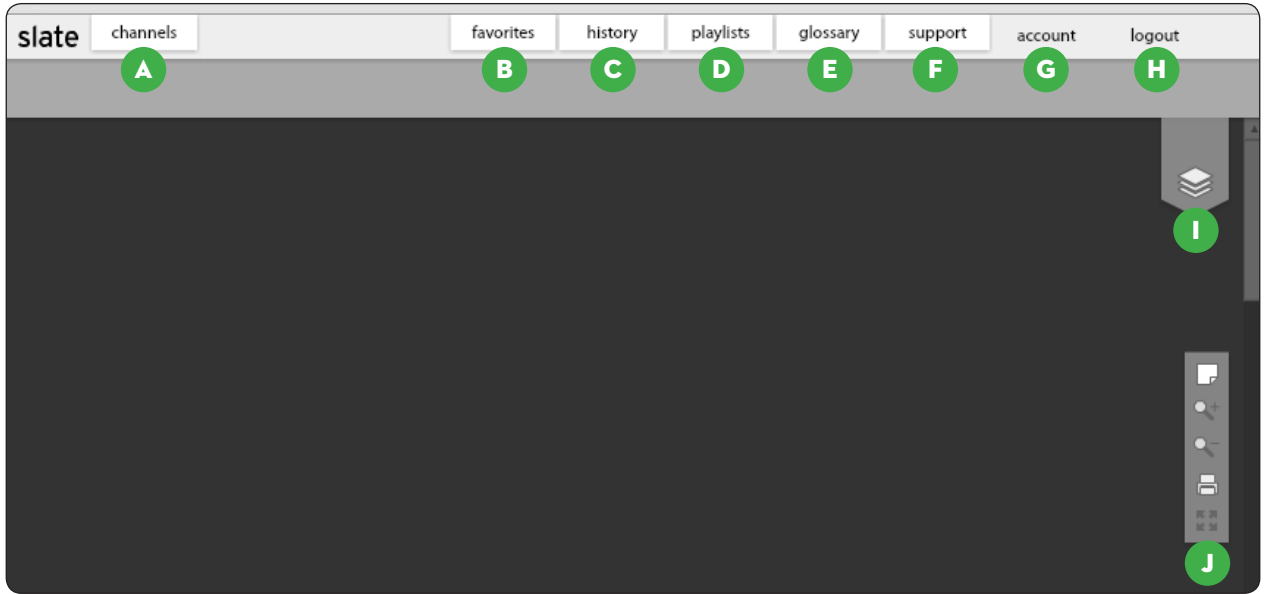
Best practice would be to always access the content online through **Slate** guaranteeing that you have the latest version. Therefore any storage of content as hard copies outside of **Slate** may be fruitless and quickly outdated. Storing or copying content digitally/electronically (screen shots, saving to hard-drives, etc.) is in breach of copyright laws and the terms and conditions that each subscriber agrees to upon signing up for a **Slate** account. The copyright statement for **Stepping Stones** is reproduced here for your information. A copy of this statement appears on the **Stepping Stones** home page and on the inside cover of the student books.

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# Welcome and Overview – *Slate Interface*

Once you have logged in, the **Slate** interface will load.



*Slate interface*

- A** **Channels** – access to all the online resources
- B** **Favorites** – quick links to your most used online resources
- C** **History** – see your most recent content views
- D** **Playlists** – access your customized sequenced content here
- E** **Glossary** – search for common math terms
- F** **Support** – get help from a variety of sources
- G** **Account** – manage your account and subscriptions
- H** **Logout** – finish your Slate session
- I** **Resource Tab** – access specific files that relate to the current page
- J** **Tools** – print, change the view size, or add notes to the current page



Using the glossary tab, search for the definition of **addition**.

Write your answer here. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

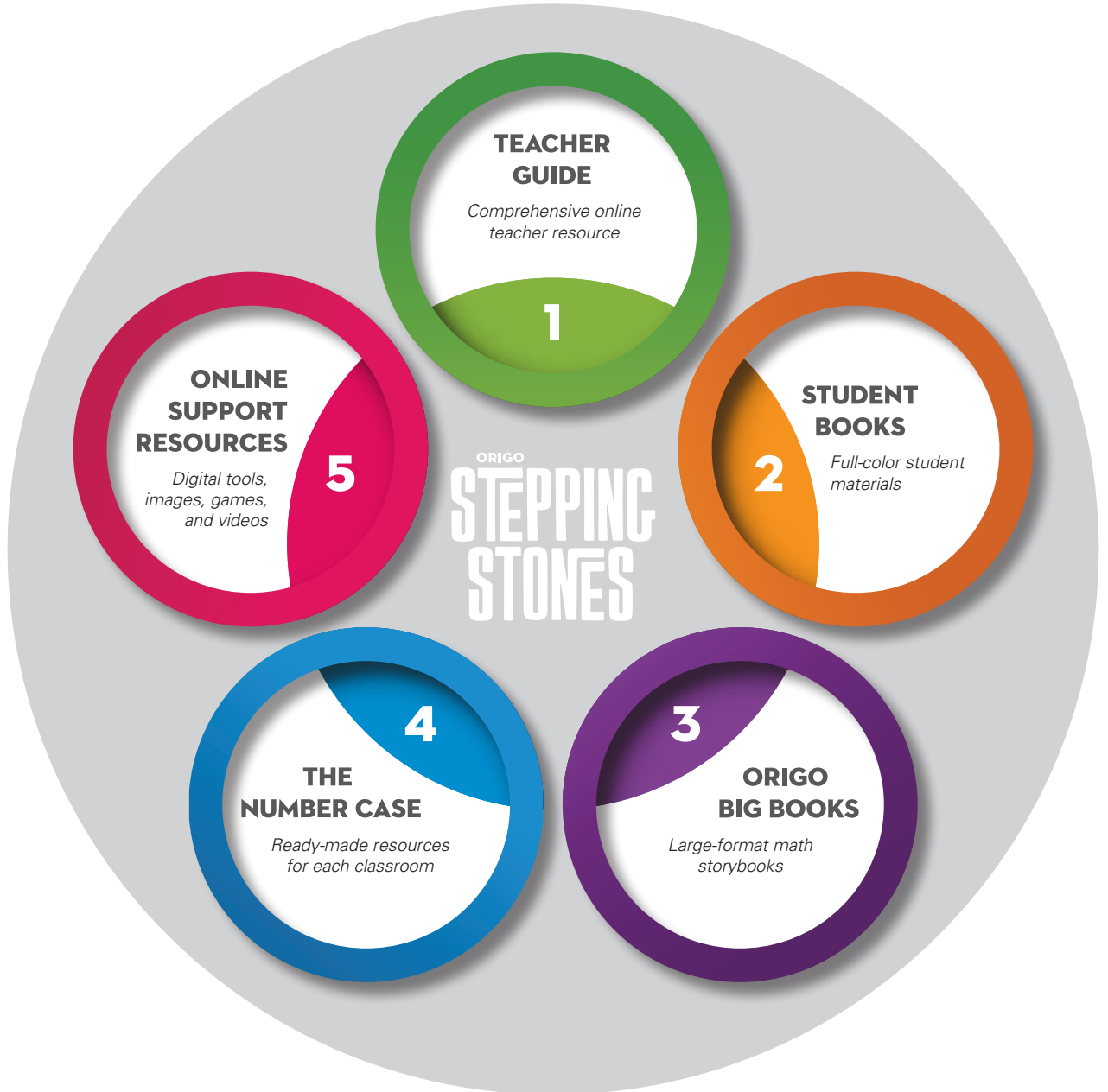
\_\_\_\_\_

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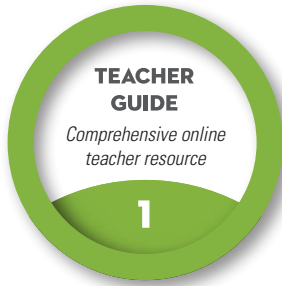
# Welcome and Overview

**ORIGO Stepping Stones** is a world class core math program written and developed for elementary schools.

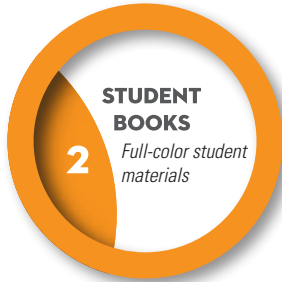


Create a classroom where math makes more sense with **Stepping Stones**. For the first time, a core program provides access to all online content from all grades, giving teachers the confidence and knowledge to successfully accommodate mixed abilities in the classroom.

# Welcome and Overview



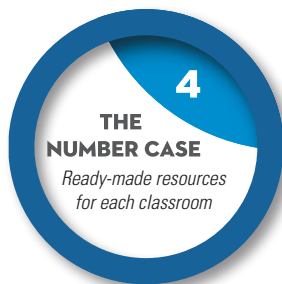
**Stepping Stones** is delivered online to give teachers one central location to access all their lesson plans, student activity pages, and teaching tools. Each license gives instant access to all content for Grades K–5.



The student books that accompany the online program are available in both print and as a digital app for most tablet devices. The student journals provide stepped-out lessons where concepts from the online program are broken into manageable sections. Ongoing practice pages are also provided in each grade's practice book.



**ORIGO Big Books** are large-format storybooks designed for classroom use. This series helps teachers introduce key mathematical concepts in Grades K–2. There are 12 Big Books titles written into lessons in each of these grades.



**The Number Case** gives teachers ready-made resources to help students develop an understanding of number and operations. Some of these materials may be well known. Other visual models that develop thinking strategies for computation are unique to ORIGO.



**ORIGO Stepping Stones** gives you instant access to ORIGO's online support resources. Lessons contain quick links to ready-to-use digital tools, games, and images so you can start teaching immediately. Links to professional learning videos appear in each module.









2.3 Teaching a Lesson: The Basics  
Lesson: The Basics  
Lesson Flow

# Teaching a Lesson: The Basics – Lesson Flow

## Relating Multiplication and Division (Sharing)

In this lesson, students demonstrate that multiplication is the inverse of division by relating number facts for multiplication and division. The mathematical practices Ask for Evidence (MP6) and Construct Arguments (MP7) are embedded in this lesson.

**Step 1: preparing the lesson**

You will need:

- ORIGO Big Book, *The Pirates' Gold*
- Interactive whiteboard (Note: Use physical resources if not available.)
- 24 yellow counters or plastic bottle tops
- 2 empty egg cartons (with lids removed) that each hold 12 eggs

Each pair of students will need:

- 24 counters
- sharing mat for 2 from *The Number Case*

Each student will need:

- Student Journal 11.10

**Step 2: starting the lesson**

Show the students the cover of the book, *The Pirates' Gold*, and read the title. Ask the students to read the story and discuss the story with a partner. Ask the students to read the story and discuss the story with a partner. Ask the students to read the story and discuss the story with a partner. Encourage students to explain that an increasing number of pirates are coming to share and expecting to share the 24 pieces of gold.

**Step 3: teaching the lesson**

- Act out the story by placing the 24 counters into the egg cartons. Place the counters side by side where all the students can see them. Read the story again and have students act the part of the pirates coming to share. The remaining students can identify the pieces of gold in each pirate's share. As the story progresses, ask, "What do you notice about the pieces of gold in each pirate's share? What happens as more pirates come to share? Bring out the fact that as the number of pirates increases, the pieces of gold in each pirate's share decreases."
- Show 16 counters in the large section of the mat. Have the students place counters on their mats to match. Ask, "How many counters will be in each small section when we share these 16 counters back to the groups? Invite individuals to make predictions and explain their thinking. Then have the students move the counters to check."
- Flip the mat diagram so that the large section is at the top to suggest sharing. Have the students position their mats to match. Repeat the activity with 14 counters in the large section and then 9 counters in each small section.

Project the Stop In discussion and work through the questions with the whole class. Read the Stop Ahead section from Student Journal 11.10 with the students.

Distribute copies of the support page and counters so that each student has a sharing mat and 40 counters. Make sure they know what to do and then have them work independently.

**Step 4: reflecting on the work**

Discuss the students' answers to Student Journal 11.10. Discuss Question 1 and ask the students to describe what each numeral in each sentence means. Bring out the fact that in the sentence on the left the focus is on multiplication; the 2 tells how many groups there are, the 5 tells how many pieces of gold are in each group, and the 10 tells how many pieces of gold there are in total. Discuss the sentence on the right and ask the students to describe the thinking they used to figure out the total or the number in each group for those examples where they did not need to move the cubes.

**11.10** **Relating Multiplication and Division (Sharing)**

**What does this sharing mat show?**

Imagine the pieces of gold are moved together into the large space below. How many pieces are there in total? What numbers could you write in this sentence to describe the groups?

groups of  is

Imagine the pieces of gold are shared equally into the small boxes below. How many pieces are in each share? What numbers could you write in this sentence to describe the sharing?

shared by  is

**Step Up** 1. Imagine the gold pieces are moved into the space below. Complete the sentences.

groups of  is  shared by  is

Complete each table. You can use cubes on the mats to help.

**2. Multiply by 2**

Number in each share	Total number
6	
8	
5	
4	

a.      b.      c.      d.

**3. Share by 2**

Total number	Number in each share
10	
8	
16	
7	

a.      b.      c.      d.

**Step Ahead** Write the missing numbers.

**IN**    14    24    32    40

**OUT**   7    15    18    26

Step by 2

The recommended flow of a lesson in **Stepping Stones** is:

- 1 Step 1 (teacher's guide) – preparing the lesson
- 2 Step 2 (teacher's guide) – starting the lesson
- 3 Step 3 (teacher's guide) – teaching the lesson
- 4 Step In (student journal) – classroom discussion
- 5 Step Up (student journal) – appropriate work for the individual
- 6 Step Ahead (student journal) – higher order thinking task
- 7 Step 4 (teacher's guide) – reflecting on the work

# Teaching a Lesson: The Basics – Student Journal

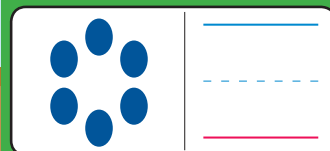
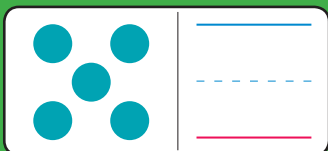
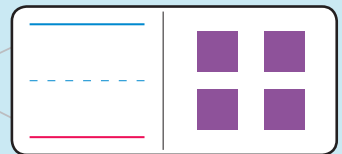
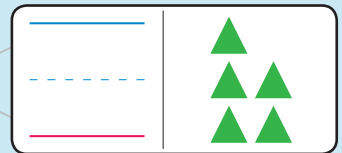
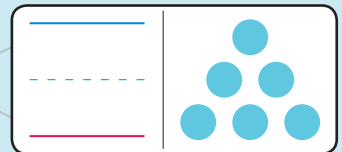
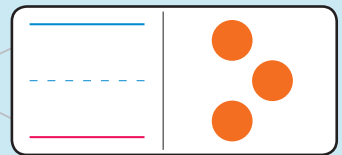
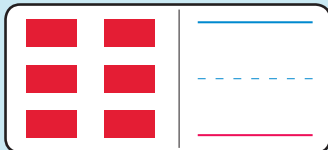
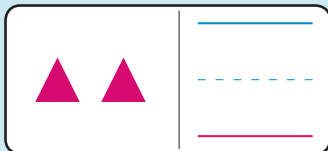
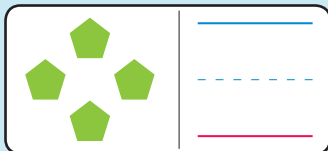
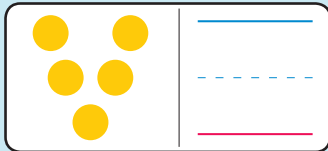


Find the **Student Journal** page(s) for your grade level and navigate to the associated lesson. Then skim through the lesson and consider how the **Student Journal** fits within the lesson notes.

3.1

## Recognizing Quantities by Sight

Write the numeral to match each picture.



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# Teaching a Lesson: The Basics – Student Journal, Grade 1

## 3.2 Writing Tens and Ones (without Zeros)

These are different ways of showing tens and ones.  
What number does each picture show? How do you know?


Where are the groups of ten in each picture? Where are the extra ones?

How would you write the number of tens and ones on this expander to show the same number?

**Step Up** 1. Write the matching number of tens and ones on the expander.

a.

b.

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ORIGO Stepping Stones 1 - 3.2

2. Write the matching number of tens and ones.

a.	
b.	
c.	
d.	
e.	
f.	

**Step Ahead** Write the number of tens and ones on the expander.

a. six tens and seven ones

b. nine ones and three tens

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ORIGO Stepping Stones 1 - 3.2

# Teaching a Lesson: The Basics – Student Journal, Grade 2

## 11.10 Relating Multiplication and Division (Sharing)

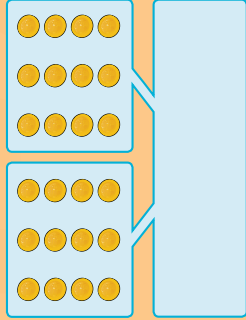
What does this sharing mat show?

Imagine the pieces of gold are moved together into the large space below.

How many pieces are there in total?

What numbers could you write in this sentence to describe the groups?

groups of  is

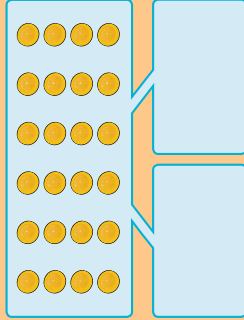


Imagine the pieces of gold are shared equally into the small boxes below.

How many pieces are in each share?

What numbers could you write in this sentence to describe the sharing?

shared by  is



### Step Up

1. Imagine the gold pieces are moved into the space below. Complete the sentences.

groups of  is  shared by  is

Complete each table. You can use cubes on the mats to help.

2.

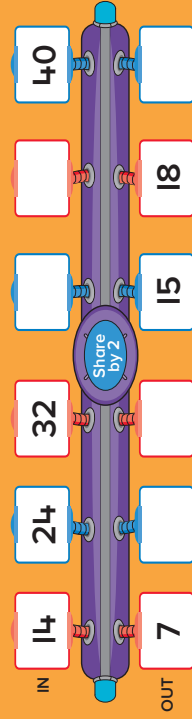
Multiply by 2	
Number in each share	Total number
a. 6	
b. 8	
c. 5	
d. 14	

3.

Share by 2	
Total number	Number in each share
a. 10	
b. 8	
c. 16	
d. 7	

### Step Ahead

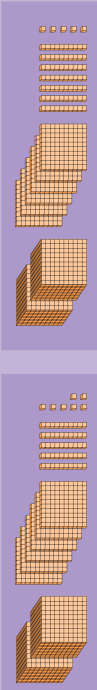
Write the missing numbers.



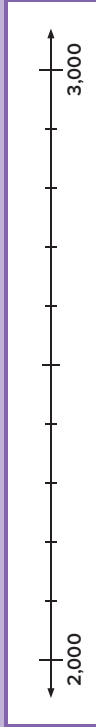
# Teaching a Lesson: The Basics – Student Journal, Grade 3

## 4.6 Comparing and Ordering Four-Digit Numbers

How can you figure out which number is greater?



Which place would you look at first to mark the numbers on this number line?



Use a different color to show your estimate of the position of each number on the line.

How can you figure out which of these numbers is greater?

Write is less than or is greater than to make a true statement.

9,315    9,305

9,315  9,305

What symbols are used to show greater than and less than?

### Step Up

Use this table to answer Questions 1, 2, and 3 on page 91.

Tallest Mountains in the Washburn Range, Yellowstone National Park	
Name	Height (meters)
Cook Peak	2,973
Dunraven Peak	3,008
Folsom Peak	2,845
Hedges Peak	2,947
Mount Washburn	3,116
Observation Peak	2,860
Prospect Peak	2,904
Specimen Peak	2,554

1. Write the height of each mountain. Then write **is less than** or **is greater than** to make the statement true.

a. Folsom Peak	<input type="text"/> m	Mount Washburn	<input type="text"/> m
b. Hedges Peak	<input type="text"/> m	Observation Peak	<input type="text"/> m

2. Write the height of each mountain. Then write **<** or **>** to make the statement true.

a. Specimen Peak	<input type="text"/> m	Cook Peak	<input type="text"/> m	Dunraven Peak	<input type="text"/> m	Prospect Peak	<input type="text"/> m
c. Mount Washburn	<input type="text"/> m	Hedges Peak	<input type="text"/> m	d. Prospect Peak	<input type="text"/> m	Cook Peak	<input type="text"/> m
e. Prospect Peak	<input type="text"/> m	Observation Peak	<input type="text"/> m	f. Folsom Peak	<input type="text"/> m	Hedges Peak	<input type="text"/> m

3. Write the mountain heights in order from **greatest** to **least**.

<b>greatest</b>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<b>least</b>
-----------------	----------------------	----------------------	----------------------	----------------------	----------------------	--------------

### Step Ahead

Imagine a friend is confused by the symbols **<** and **>**. Write what you would say to help them remember.

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# Teaching a Lesson: The Basics – Student Journal, Grade 4

## 11.2 Introducing Decimal Fractions

Look at this picture.

Each square is one whole. What amount is shaded?

What are the different ways you can write this number without using words?



When fractions have a denominator that is a power of 10 they can easily be written in a place-value chart. Powers of 10 include numbers such as 10, 100, 1,000 and so on.

A number such as  $2\frac{4}{10}$  can be written like this.

The red dot is called a **decimal point**. The decimal point is a mark that identifies the ones place.

Where have you seen numbers written with a decimal point?



I've seen a decimal point used for prices like \$3.99.



Sometimes packets of food use a decimal point for weights like 3.5 lb.

Look at the expanders below.

How would you say the number that each expander shows?



How do these numbers relate to mixed numbers and common fractions?

Why do you need to show the decimal point when the expander is completely closed?



A **decimal fraction** is a fraction that is written with no denominator visible. The position of a digit after the decimal point tells what the invisible denominator is.

### Step Up

1. Each square is one whole. Read the fraction name and shade the squares to match. Write the decimal fraction on the open expander.

a. two and five-tenths

b. one and seven-tenths

c. one and three-tenths

d. two and six-tenths

2. Read the fraction name. Write the amount as a common fraction or mixed number. Then write the matching decimal fraction on the expander.

a. four and two-tenths

b. sixty-three tenths

c. five and eight-tenths

### Step Ahead

Read the clues. Write the numeral on the expander to match.

a. I am greater than three and less than four. The digit in my tenths place is less than the digit in my ones place.

b. I am less than five and greater than one. The digit in my ones place is twice the value of the digit in my tenths place.

# Teaching a Lesson: The Basics – Student Journal, Grade 5

## 5.1 Comparing and Ordering Thousandths

How do you say each of these decimal fractions?



How could you compare the two decimal fractions to figure out which is greater?



You could shade each fraction on a thousandths grid. Then compare the amounts that are shaded.



I would start with the ones and compare the digits in each place.

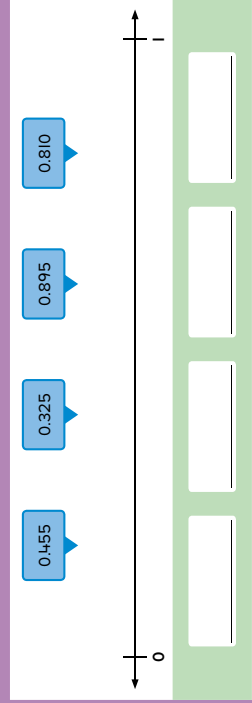
Estimate the position of each decimal fraction on this number line.



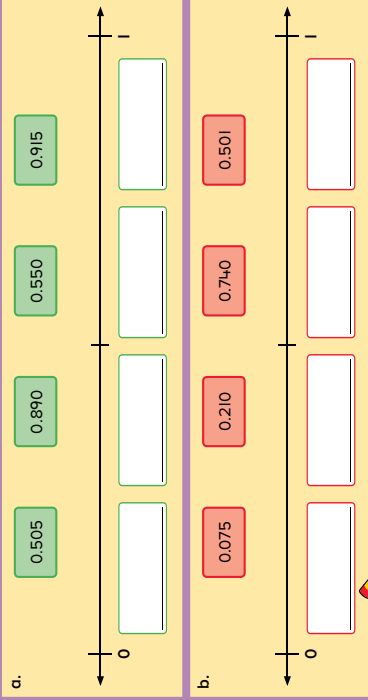
How did you figure out each estimate? Which fraction is greater?

### Step Up

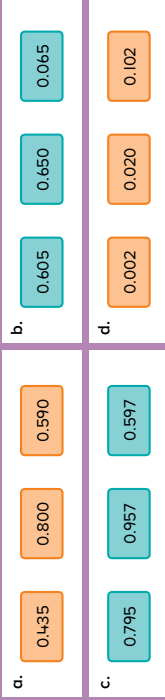
1. Draw an arrow to show the approximate position of each number on the number line. Then write the decimal fractions in order from **least to greatest**.



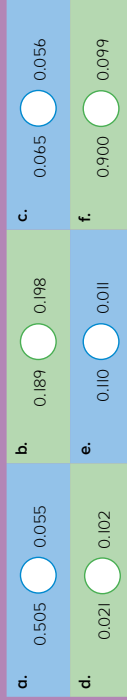
2. Write each set of fractions in order from **least to greatest**. Use the number line to help you.



3. In each group, **loop** the **greatest** fraction.



4. Write **<** or **>** to make each statement true.



### Step Ahead

Kayla records the fastest lap time of 4.5275 seconds.  
Gavin records a lap time that is 0.009 of a second slower.

What is Gavin's lap time? \_\_\_\_\_ seconds

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ORIGO Stepping Stones 5 • 5.1

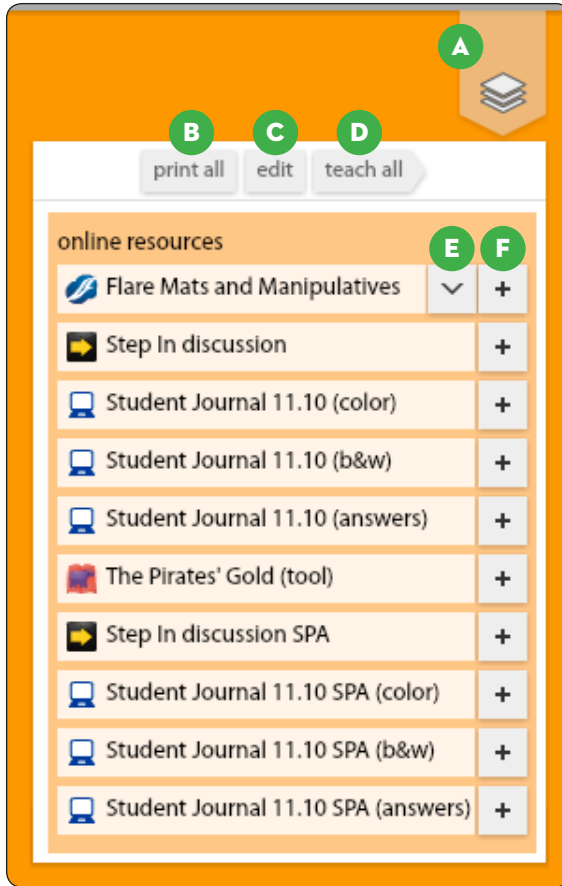
Student Journal Grade 5 Module 5 Lesson 1

105

ORIGO Stepping Stones 5 • 5.1



## Teaching a Lesson: The Basics – *Resource Tab*



Resource Tab

- A** **Resource Tab** – click to access the playlist for the lesson
- B** **Print all** – click to print all of the digital resources in the playlist
- C** **Edit** – click to edit the playlist
- D** **Teach all** – click to launch the viewer and start teaching
- E** **Arrow** – click to view an option for this resource
- F** **+** – click to add this resource to the favorites menu or to another playlist



Click on the **Resource Tab** and select 'teach all' to launch the viewer.

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**Terms:**

Resource Tab	The access point for the collection of digital resources required for the lesson.
Playlist	A sequence of digital tools that you can project for your students to view as you teach a lesson.
Viewer	The display mode that projects the digital tools in the playlist.









# Teaching a Lesson: The Basics – *Ongoing Practice*

Ongoing practice is an essential element to the scope and sequence of **Stepping Stones**.

To view the ongoing practice select **ongoing practice** from the current lesson menu.



## Ongoing Practice Framework – *Kindergarten*

	Developing Fluency – Counting, Subitizing, or Basic Facts	Maintaining Concepts and Skills	Numeral Writing* and Written Computation Practice**
Lesson 1	•	•	
Lesson 2		•	•
Lesson 3	•	•	
Lesson 4		•	•
Lesson 5	•	•	
Lesson 6		•	•

\* Modules 2 – 8  
\*\* Modules 9 – 12

In kindergarten, every lesson has one or two ongoing practice pages that provide essential practice of skills such as the writing of numerals. In the later modules, these pages also provide practice for number facts.

In Lessons 1, 3, and 5 there are additional projectable tools specifically designed to develop fluency of counting and subitizing. In the later modules these also include basic fact practice. Use the Resources Tab to project or print these pages.



Click on the **Ongoing Practice** tab and browse through the ongoing practice pages or projectable tools associated with this lesson. Be sure to pick a lesson from each of the columns shown in the above table to see how the ongoing practice os different for each category.

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# Teaching a Lesson: The Basics – *Ongoing Practice*

## Ongoing Practice Framework – *Grades 1–5*

	Developing Fluency of Basic Facts	Maintaining Concepts and Skills	Written Computation Practice
Lesson 1	•		
Lesson 2		•	
Lesson 3			•
Lesson 4		•	
Lesson 5	•		
Lesson 6		•	
Lesson 7			•
Lesson 8		•	
Lesson 9	•		
Lesson 10		•	
Lesson 11			•
Lesson 12		•	

In lessons 1, 5 and 9, **Stepping Stones** provides a projectable tool specifically designed to develop and maintain fact fluency for the four operations. This tool is provided right through Grade 5, even though students are expected to be fluent in all facts before then. The Resources Tab provides a list of facts that can be read or projected by the teacher. You get to control the duration in which the students can solve each fact.

For the even numbered lessons 2, 4, 6, 8, 10 and 12, the ongoing practice helps students maintain previously learned concepts and skills. **Stepping Stones** provides one practice page that incorporates questions that revisit content from three previous modules or lessons.

Generally, Question 1 comes from **a previous** module of work. Early in the school year, this content is found in the previous year’s work. Question 2 comes from **the previous** module and Question 3 comes from **the current** module. Simply roll over the question to see the related module and lesson.

In lessons 3, 7 and 11, the ongoing practice provides written reinforcement and practice of mental computation strategies the students have been learning. Roll over the page to reveal the focus of the content.



Click on the **Ongoing Practice** tab and browse through the ongoing practice pages or projectable tools associated with this lesson. Be sure to pick a lesson from each of the columns shown in the above table to see how the ongoing practice os different for each category.

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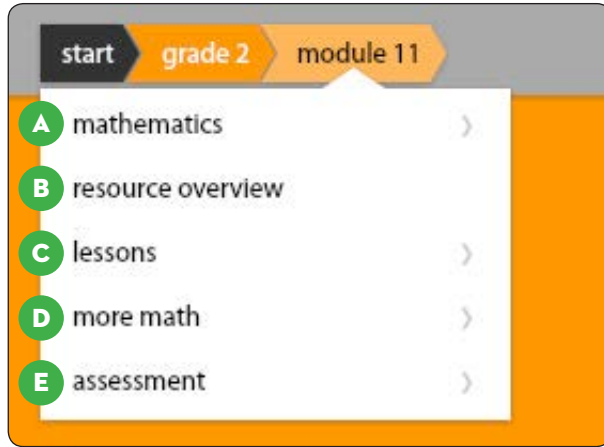
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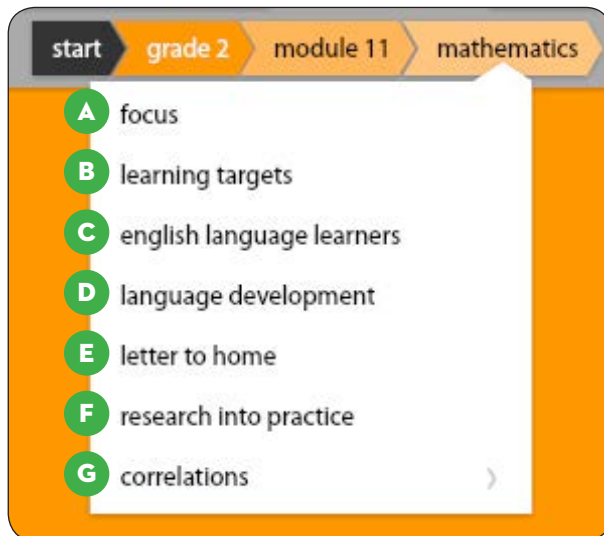
## Planning a Module – *Module Contents*



- A** Mathematical background, learning targets, research, and other resources
- B** A list of all physical resources required to teach the module
- C** Lesson plans, differentiation and ongoing practice
- D** Investigations, problem solving activities, supplemental activities, and cross-curricula links
- E** Multiple methods to assess understanding and skills

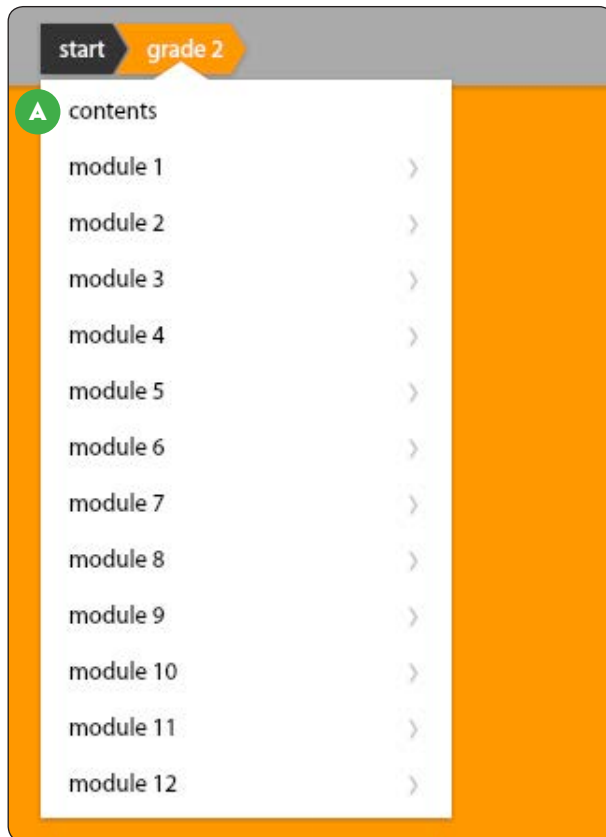


## Planning a Module – *Mathematics Tab*



- A** The mathematical background of the module with related professional learning videos
- B** What will be assessed in the module
- C** Provides suggestions on how to support English language learners during the module
- D** The mathematical vocabulary
- E** A letter for parents or guardians about the module content
- F** See how the module reflects best practices
- G** Correlates lessons to state standards

## Planning a Module – *Module Lessons*



**A** Provides an overview of the lessons found in each module

**Stepping Stones** gives you access to all grade level content from K through 5. Each grade level is comprised of 12 modules. For Grades 1 through 5 there are 12 lessons in each module. Grade K has six lessons per module.

### Grade 2 • Module 11 Contents

LESSON NUMBER	LESSON TITLE
II.1	Extending the Count-Back Strategy to Three-Digit Numbers
II.2	Using Place Value to Subtract Two-Digit Numbers from Three-Digit Numbers
II.3	Using Place Value to Subtract Three-Digit Numbers
II.4	Consolidating Subtraction of Two- and Three-Digit Numbers
II.5	Using a Place-Value Strategy to Subtract Three-Digit Numbers
II.6	Using a Place-Value Strategy to Solve Subtraction Problems
II.7	Introducing the Multiplication Symbol (×)
II.8	Using Multiplication (Equal Groups)
II.9	Using Division Language (Sharing)
II.10	Relating Multiplication and Division (Sharing)
II.11	Using Division Language (Grouping)
II.12	Relating Multiplication and Division (Grouping)

# Planning a Module – *Module Lessons*

## Grade K • Module 1 Contents

LESSON NUMBER	LESSON TITLE
I.1	Creating Groups of Objects
I.2	Creating Groups to Match Pictures
I.3	Creating Groups to Match Numerals
I.4	Creating Groups to Match Numerals and Number Names
I.5	Showing the Sorting
I.6	Sorting in Many Ways

## Grade 1 • Module 1 Contents

LESSON NUMBER	LESSON TITLE
I.1	Identifying Quantities 1 to 6
I.2	Identifying Quantities 1 to 10
I.3	Writing Numerals 0 to 9
I.4	Matching Representations of 1 to 10
I.5	Recognizing Quantities by Sight
I.6	Analyzing Teen Numbers
I.7	Representing Teen Numbers
I.8	Comparing and Ordering Two-Digit Numbers
I.9	Comparing Teen Numbers
I.10	Ordering 1 to 19
I.11	Reading Ordinal Number Names
I.12	Matching Ordinal Number Names and Symbols

# Planning a Module – *Module Lessons*

## Grade 2 • Module 1 Contents

LESSON NUMBER	LESSON TITLE
I.1	Writing Tens and Ones, and Number Names
I.2	Writing Two-Digit Numbers
I.3	Reading and Writing Two-Digit Numbers
I.4	Exploring the Relative Position of Two-Digit Numbers on a Number Track
I.5	Exploring the Relative Position of Two-Digit Numbers on a Number Line
I.6	Working with Two-Digit Numbers on a Number Line
I.7	Comparing Two-Digit Numbers on a Number Line
I.8	Comparing and Ordering Two-Digit Numbers
I.9	Exploring the Properties of Odd and Even Numbers
I.10	Solving Number Puzzles on a Hundred Chart
I.11	Sorting Data in Different Ways
I.12	Interpreting and Constructing One-to-One Picture Graphs

## Grade 3 • Module 1 Contents

LESSON NUMBER	LESSON TITLE
I.1	Using Place Value with Three-Digit Numbers
I.2	Writing Three-Digit Numbers in Words
I.3	Comparing and Ordering Three-Digit Numbers
I.4	Rounding Three-Digit Whole Numbers
I.5	Reviewing Multiplication Concepts
I.6	Reviewing the Array Model of Multiplication
I.7	Introducing the Tens Multiplication Facts
I.8	Introducing the Fives Multiplication Facts
I.9	Reinforcing the Tens and Fives Multiplication Facts
I.10	Introducing Gallons
I.11	Working with Parts of a Liter
I.12	Solving Word Problems Involving Liquid Volume (Capacity)



# Planning a Module – *Module Lessons*

## Grade 4 • Module 1 Contents

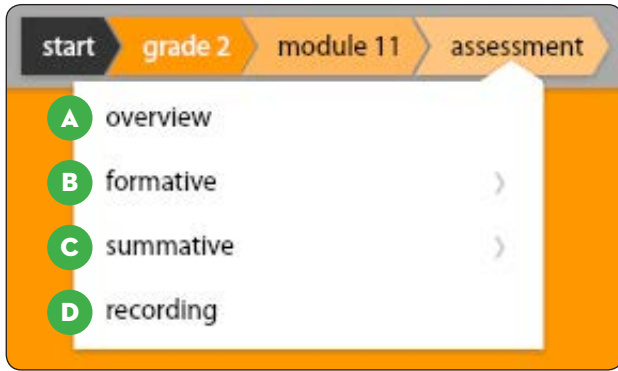
LESSON NUMBER	LESSON TITLE
I.1	Reading and Writing Four-Digit Numbers
I.2	Analyzing Four-Digit Numbers
I.3	Comparing and Ordering Four-Digit Numbers
I.4	Building a Picture of Ten Thousand
I.5	Reading and Writing Five-Digit Numbers
I.6	Analyzing Five-Digit Numbers
I.7	Comparing and Ordering Five-Digit Numbers
I.8	Rounding Five-Digit Numbers
I.9	Reinforcing Rounding with Five-Digit Numbers
I.10	Investigating Square Number Patterns
I.11	Following and Identifying Pattern Rules
I.12	Writing Word Rules for Patterns

## Grade 5 • Module 1 Contents

LESSON NUMBER	LESSON TITLE
I.1	Analyzing Six-Digit Numbers
I.2	Building a Picture of One Million
I.3	Reading and Writing Seven-Digit Numbers
I.4	Locating Large Numbers on a Number Line
I.5	Using Place Value to Compare and Order Seven-Digit Numbers
I.6	Reading and Writing Eight- and Nine-Digit Numbers
I.7	Working with Millions Expressed as Fractions
I.8	Reviewing Multiplication Patterns
I.9	Reviewing the Double-and-Halve Strategy for Multiplication
I.10	Factoring to Multiply Two-Digit Numbers
I.11	Using Partial Products to Multiply (Distributive Property)
I.12	Comparing Mental Strategies for Multiplication



# Assessment: The Basics – Overview



- A** Provides a chart to show the assessment options of the module
- B** Assessments used to make informed decisions to guide instruction
- C** Assessments designed to take place at planned intervals after instruction
- D** Provides options for recording student achievement of the learning targets

Quarterly tests can be selected from the **Assessment Tab** in modules 3, 6, 9, and 12 for each grade.

## Grade 2 • Module 11 Assessment Overview

STANDARD	LEARNING TARGET	FORMATIVE			SUMMATIVE		
		PRE-TEST	OBSERVATION/ DISCUSSION	JOURNAL/ PORTFOLIO	CHECK-UP	PERFORMANCE TASK	INTERVIEW
<b>NUMBER AND OPERATIONS</b>							
2.4.A	Fluently add for totals within 20 (beyond the facts)	●					●
2.4.C	Use a strategy (place-value) to subtract any number from three-digit totals (without bridging)	●	●	●	●		
	Use a strategy (count-on and count-back) to subtract any number from three-digit totals (without bridging)	●	●	●	●	●	
2.6.B	Represent division (grouping model) using concrete materials, pictures, and sentences	●	●	●	●	●	
3.4.E	Represent multiplication using concrete materials, pictures, and equations	●	●	●	●		
3.4.H	Represent division (sharing model) using concrete materials, pictures, and sentences	●	●	●	●	●	

> (Standard): Working toward the standard

(Standard) >: Working beyond the standard

### Terms:

Learning Target Describes what students should be able to do at the end of the teaching and learning sequence

# Assessment: The Basics – *Formative Assessments*

Formative Assessments are used to make informed decisions to guide instruction. These decisions could range from reviewing content, reteaching concepts, or providing additional work for students who require extra assistance or challenges. Formative assessment can occur informally during lessons with observations of students working and their discourse, or formally with written instruments such as pre-tests or journal entries. **Stepping Stones** includes three different options for formative assessment.

- **Pre-tests** – an optional assessment component of **Stepping Stones** designed to inform teachers on what students already know and still need to learn before instruction begins.
- **Observations and discussions** – provides suggestions for teachers on which lessons and activities are better suited to observe how students’ understanding of concepts and skills are developing.
- **Journals and portfolios** – provides suggestions for teachers on which lessons and activities are better suited for generating work samples as evidence of the learning that has occurred.



Roll over this icon in lessons and activities to identify the learning that may be observed.

STANDARD	LESSON	STEP IN DISCUSSION	WHAT TO LOOK FOR
2.4.C	11.2, 11.3, 11.4, 11.5, 11.6 (all: subtract)	11.2, 11.3, 11.4, 11.5, 11.6 (all: subtract)	Can the student add and subtract within 1,000 using concrete models, and a variety of strategies?
2.6.B 3.4.H	11.9, 11.11	11.9, 11.11	Can the student interpret a division fact as a number of objects in a number of shares?
3.4.E	11.8	11.8	Can the student interpret a multiplication fact as a number of objects in a number of groups?



Roll over this icon in lessons and activities to identify the learning that is evidenced by students’ work samples.

STANDARD	STUDENT JOURNAL	PROBLEM SOLVING	INVESTIGATION	LEARNING
2.4.C	11.3, 11.6 (all: subtract)		11.1	Can the student add and subtract within 100 using concrete models, and a variety of strategies?
2.6.B 3.4.H	11.9		11.3	Can the student interpret a division fact as a number of objects in a number of shares?
3.4.E	11.8	11.8		Can the student interpret a multiplication fact as a number of objects in a number of groups?

## Assessment: The Basics – *Summative Assessments*

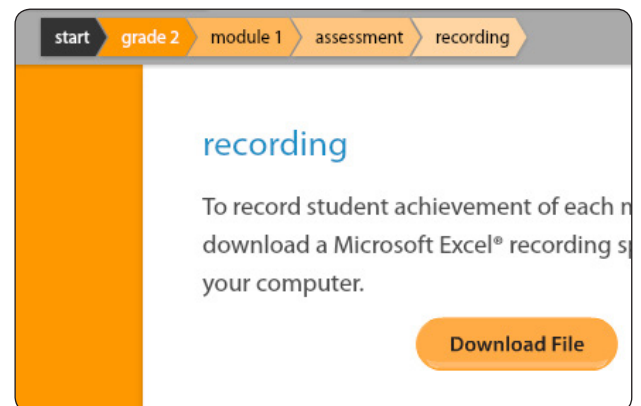
Summative Assessment generally takes place at planned intervals after instruction. It is used to sum up what students know, and then using data generated by these assessments, teachers are able to assign grades or percentages for student performance. Summative assessments are mostly formal by nature and should be linked to pre-assessments. If used wisely, summative assessment can also serve a formative role to modify future instruction. **Stepping Stones** includes three different options for summative assessment.

- **Check-ups** – provides questions that require the student to select the correct answer or to provide a short written response.
  - **Performance tasks** – used to measure depth of understanding. A rubric accompanies each performance task.
  - **Interviews** – used to assess certain concepts and skills such as the fluency of rote counting or mental computation.
- 
- 
- 

## Assessment: The Basics – *Recording*

**Stepping Stones** provides multiple options for recording student achievement of the learning targets. The options allow teachers to record student achievement during a module, over several modules, or over the course of an entire year.

Go to the recording page of Module 1 to download a Microsoft Excel® recording spreadsheet to record student achievement over the course of the year.



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# Stepping Stones Structure – *Teaching Sequence*

**Stepping Stones** embeds a unique teaching sequence for helping students develop deep understanding of mathematical concepts and fluency of skills.

Introduce

This stage involves the use of concrete materials and pictorial representations. At this first stage, **Stepping Stones** includes contextual situations to provide meaning.



Reinforce

This stage provides the opportunity to assimilate and internalize the concepts and skills. It is an additional link to using pictorial models between the introductory work and the symbolic.



Practice

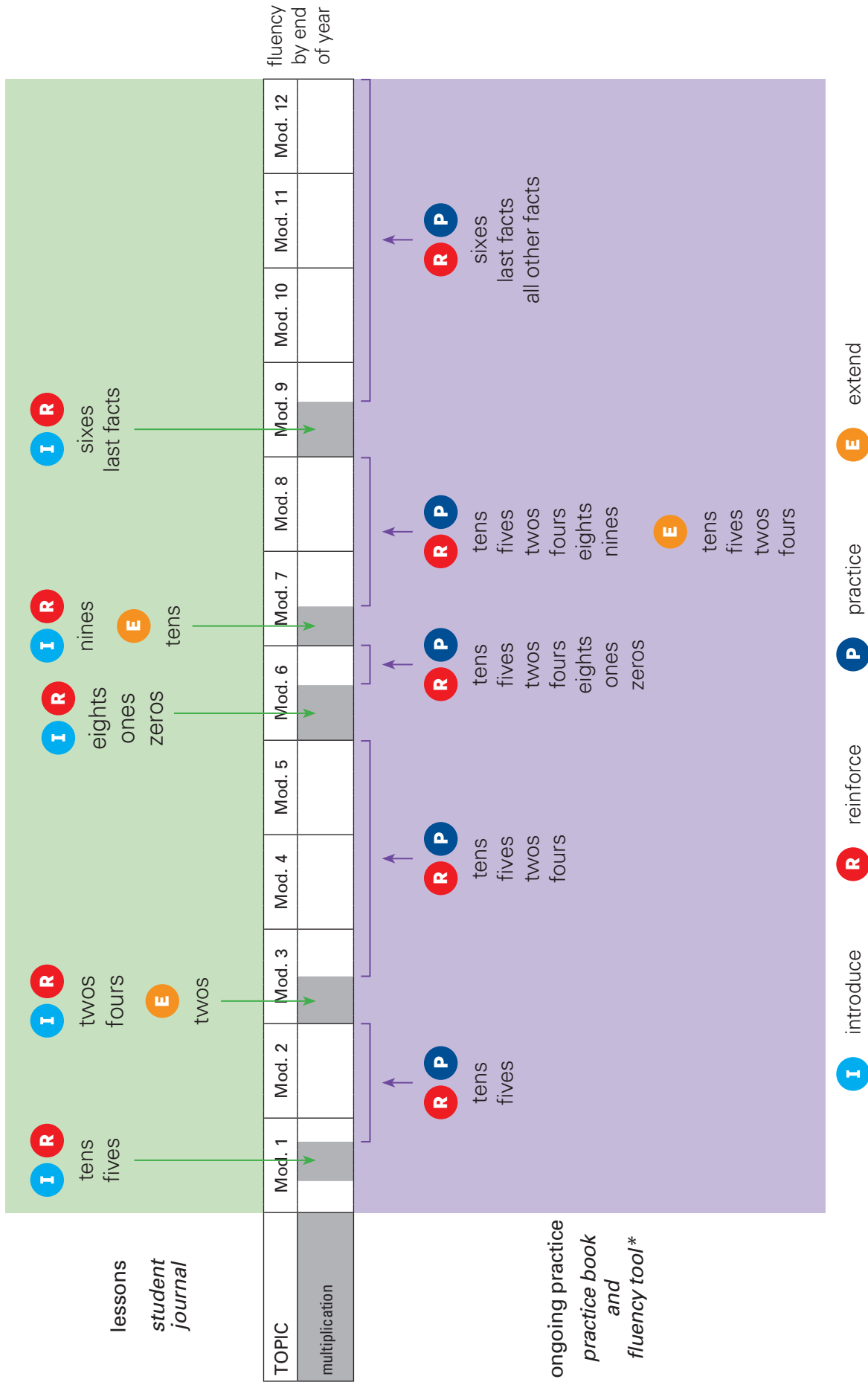
This stage aims to develop accuracy and speed of recall. In this stage, a range of different types of written and oral activities is used.



Extend

As the name suggests, this stage extends students' understanding of the concepts and skills. For example, the 'use tens' thinking strategy for multiplication can be extended beyond the number fact range, including computation with decimal fractions.

# Stepping Stones Structure – Teaching Sequence



\* The fluency tool should be used throughout the year

# Stepping Stones Structure – *Language Stages*

**Stepping Stones** also embeds a developmental sequence for teaching the language associated with mathematical concepts.

Student Language

The student's natural language that is used to describe a situation.

e.g. For a subtraction situation a student may say 'ran away' to describe what happened to the mice.



Materials Language

The new words that are used when acting out the story with classroom resources.

e.g. For a subtraction situation a student may 'take away' the blocks or 'cover' the dots.



Mathematical Language

The new mathematical words that are used with the concept.

e.g. For a subtraction situation the term 'subtract' may be introduced.



Symbolic Language

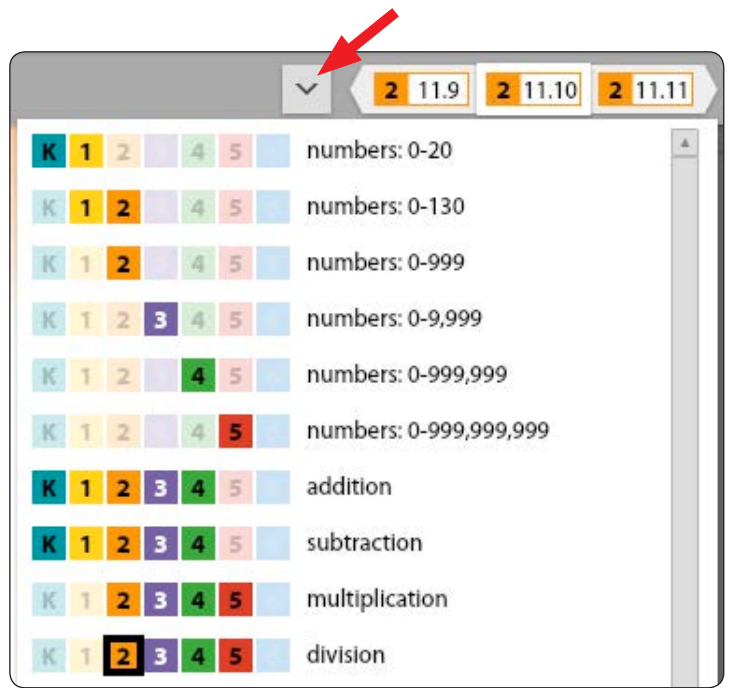
The mathematical abbreviations, symbols, and formulas.

e.g. For a subtraction situation the symbols  $-$  and  $=$  may be introduced.



# Stepping Stones Structure – *Sequence Navigator*

Click the  button to show the topics.



Hover over the highlighted grade to reveal the lessons that cover a particular topic.

Clicking on the lesson takes you to the lesson notes page for that lesson.



- A** Click here to go to the previous lesson in the topic sequence
- B** Shows the current lesson  
Click here to reveal the lesson notes
- C** Click here to go to the next lesson in the topic sequence

**Terms:**

Sequence Navigator

Allows quick access to the mathematical topics covered within **Stepping Stones**

# Stepping Stones Structure – Topic Overview

## Grade K

TOPIC	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8	Mod. 9	Mod. 10	Mod. 11	Mod. 12
numbers 0–20	■	■	■	■	■					■	■	■
addition						■		■				■
subtraction									■	■		■
algebra					■		■					
length				■								
mass						■						
time: hrs/mins												■
time: days/months												■
3D objects							■	■				
2D shapes									■	■		
position				■								
tables	■	■										

## Grade 1

TOPIC	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8	Mod. 9	Mod. 10	Mod. 11	Mod. 12
numbers 0–20	■											
numbers 0–130			■			■						■
addition		■			■		■			■	■	
subtraction				■				■		■	■	
fractions – common fractions							■		■			
algebra						■		■				
length		■										
liquid volume (capacity)				■								
mass				■								
time: hrs/mins			■					■				
time: days/months								■				
money												■
3D objects										■		
2D shapes					■							
position					■							
bar graphs												■
picture graphs											■	
tables											■	

# Stepping Stones Structure – Topic Overview

## Grade 2

TOPIC	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8	Mod. 9	Mod. 10	Mod. 11	Mod. 12
numbers 0–130	■											
numbers 0–999			■		■							
addition		■		■		■			■	■		
subtraction				■				■			■	■
multiplication							■				■	
division											■	
fractions – common fractions									■			
length			■			■						
area									■			
liquid volume (capacity)												■
mass								■				
time: hrs/mins				■								
time: days/months		■		■								
money							■					
3D objects										■		
2D shapes					■							
position					■							
angles					■							
bar graphs	■											
picture graphs	■											
line plots							■					

## Grade 3

TOPIC	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8	Mod. 9	Mod. 10	Mod. 11	Mod. 12
numbers 0–999	■			■								
addition		■						■				
subtraction		■									■	
multiplication	■		■			■	■		■			
division					■		■	■	■			
fractions – common fractions				■		■					■	■
algebra									■			
area										■		
perimeter												■
liquid volume (capacity)	■											
mass								■				
time: hrs/mins			■									
3D objects										■		
2D shapes					■							
angles											■	
bar graphs							■					
picture graphs							■					
line plots							■					

# Stepping Stones Structure – Topic Overview

## Grade 4

TOPIC	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8	Mod. 9	Mod. 10	Mod. 11	Mod. 12
numbers 0–999,999	■							■				
addition		■ ■										
subtraction		■		■								
multiplication			■			■	■					
division				■						■		
fractions – common fractions				■	■	■	■		■			
fractions – decimal fractions											■	■
algebra		■										
length								■		■		
area									■			
perimeter									■			
liquid volume (capacity)											■	■
mass											■	■
time: hrs/mins			■									
2D shapes										■		
angles						■						
line plots										■		

## Grade 5

TOPIC	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7	Mod. 8	Mod. 9	Mod. 10	Mod. 11	Mod. 12
numbers 0–999,999,999	■											
multiplication	■		■									
division								■				
fractions – common fractions		■		■		■			■		■	
fractions – decimal fractions		■			■	■	■			■		■
algebra				■			■					
length						■		■				
volume			■									
liquid volume (capacity)											■	■
mass									■	■		
2D shapes					■							
line plots						■			■	■		

# Online Resources Overview – *Related Resources*

ORIGO **Stepping Stones** gives you instant access to ORIGO’s online support resources. **Stepping Stones** lessons contain quick links to ready-to-use digital tools, games, and images so you can start teaching immediately. **Stepping Stones** modules have links to professional learning videos.

These online tools are part of the many resources that **Stepping Stones** provides to help you create a more engaging classroom.

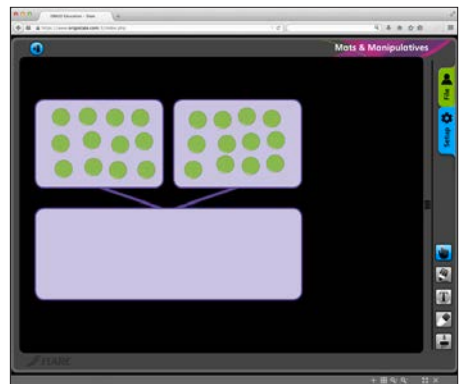
## ORIGO MathEd

**Stepping Stones** gives you hours of online professional learning when it is needed the most. Over 60 short videos are embedded at the start of modules to assist teachers in acquiring the content and pedagogical knowledge they need to be effective.



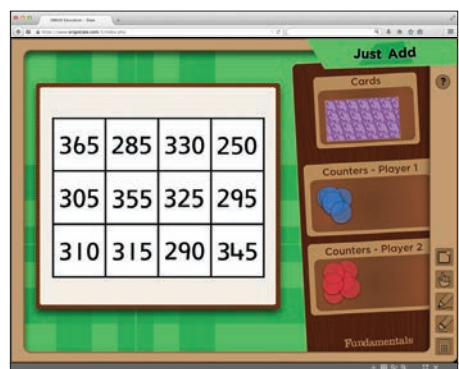
## Flare

Although interactive whiteboards are not essential for the implementation of **Stepping Stones**, various high-quality and flexible tools are embedded in the program and available at a click of a button. **Flare** are dynamic and flexible interactive whiteboard teaching tools. Currently there are over a dozen tools to choose from.



## Fundamental Gameboards

Digital board games for two players allow the teacher to play against the class. Pairs of students can also take turns for further practice or differentiation. These games have simple rules and serve to reinforce and practice thinking strategies. There are over 160 games to choose from.



## Online Resources Overview – *Related Resources*

### ORIGO Big Book Tools

The **Big Book Teaching Tools** bring to life the characters from the **ORIGO Big Books** series. These engaging and easy-to-use interactive tools allow teachers and students to change the mathematics and further develop the concepts from all 36 titles in the series.



### ORIGO Big Book Tunes

Use these engaging **Big Book Tunes** to really bring your mathematics classroom alive. There are 36 tracks – a song for every title in the storybook series. The **Big Book Tunes** can be accessed through their own channel or through the **Big Book Tools**.



## Online Resources Overview – *Other Resources*

### Honey Pot

**Honey Pot** is a free channel on Slate that provides an ever-growing bank of black-line masters covering the full range of elementary math topics.



### Zupelz

**ZUPELZ** develops logical thinking in number through puzzles. This Slate channel has 600 puzzles for Grades 1–6. Teachers have the option to progressively reveal all hints, clues, and answers. The easy-to-use interface is suitable for group and independent work.

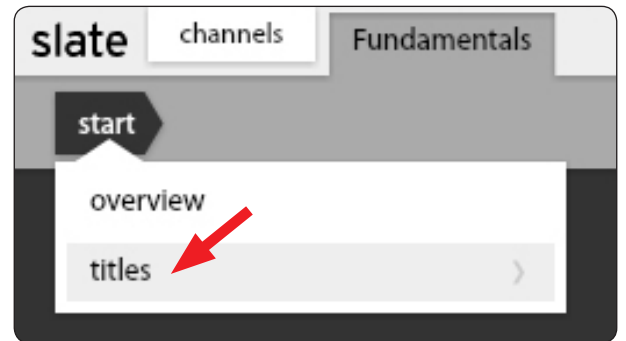


# Online Resources Overview – *Launching and Filtering*

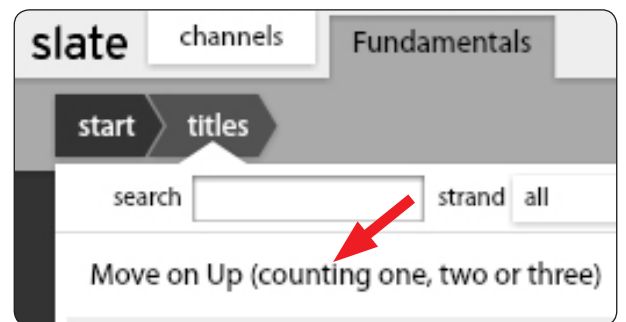
## Launching a resource

To launch a digital resource in the viewer, make your selection from the **Channels** tab. When the resource opens, click **start** and then **titles**.

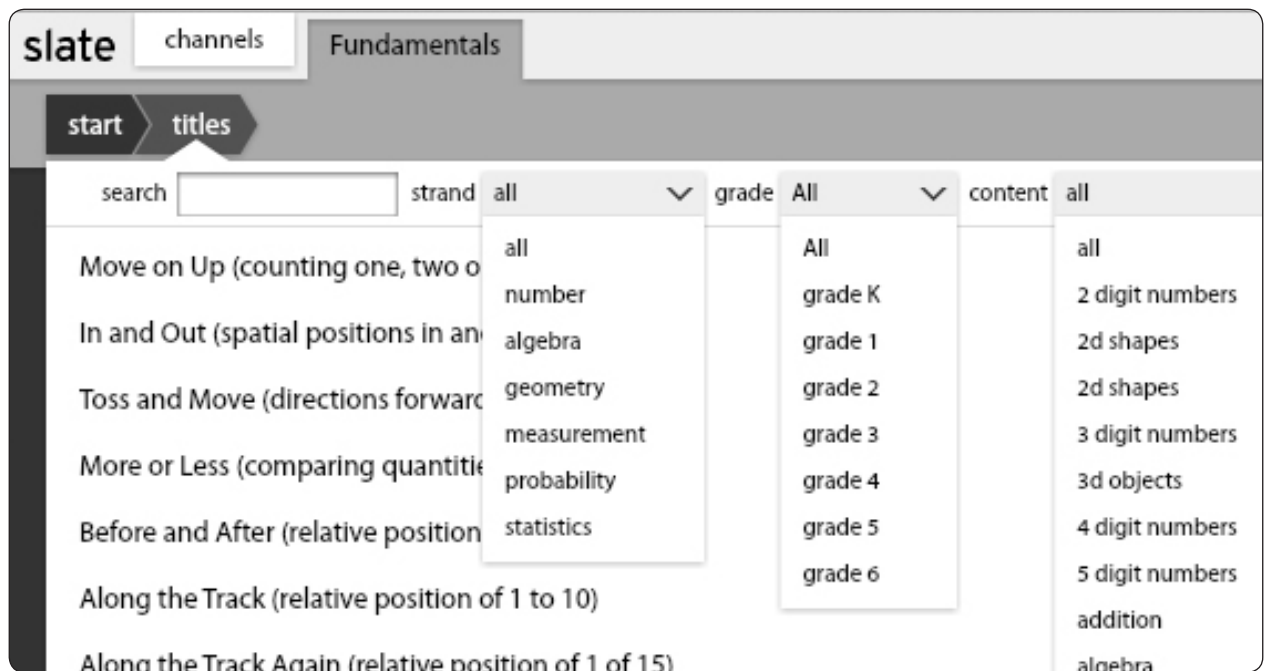
The list of resources available for this Channel is displayed.



To display the resource in the viewer, click on the title and it will launch the viewer.



## Filtering online resources



You can filter the list of resources using the filtering menu. You can filter resources by strand, grade, or content, or any combination of the three.



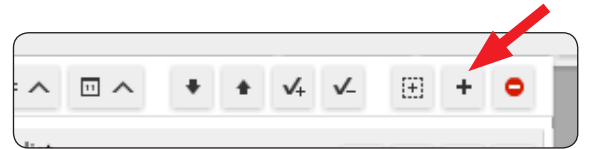


# Using Playlists – *Creating a New Playlist*

To create a playlist, click **playlists** from the top menu in Slate.

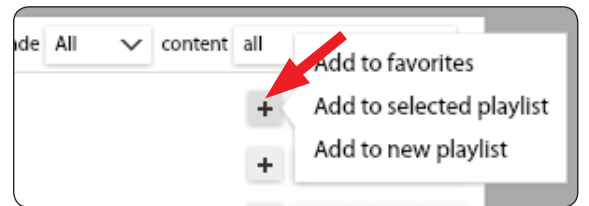


Click **+** from the playlist menu to create a new playlist. Name the playlist by clicking on the title.



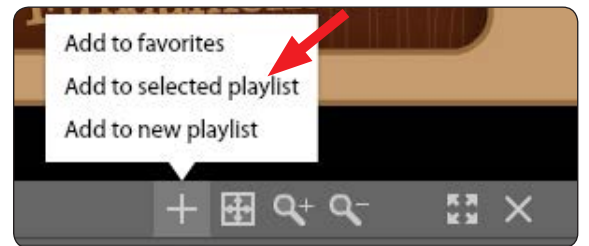
## Adding an online resource from a channel

Go to the Channel Tab and choose a resource to add to the playlist. Click on **start** and select **titles**. Click **+** and choose **add to selected playlist**. As you hover over **add to selected playlist** the name of the selected playlist appears.



## Adding an online resource from the viewer

Go to the Channel Tab and choose a resource to add to the playlist. Click **start** and select **titles**. Click on the title to launch it in the viewer. With the viewer open click **+** in the menu at the bottom of the screen and then select **add to selected playlist**.



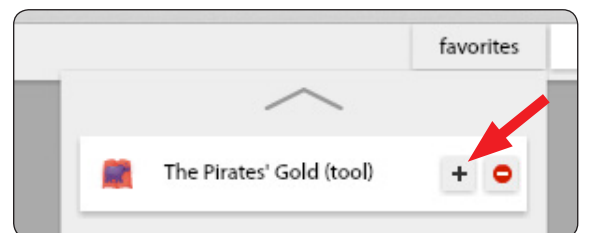
## Adding an online resource from another playlist

Go to the Channel Tab and select **Stepping Stones**. Navigate to a lesson and select steps. Open the **Resource Tab**. Click **+** on the online resource you wish to add and then choose **add to selected playlist**.



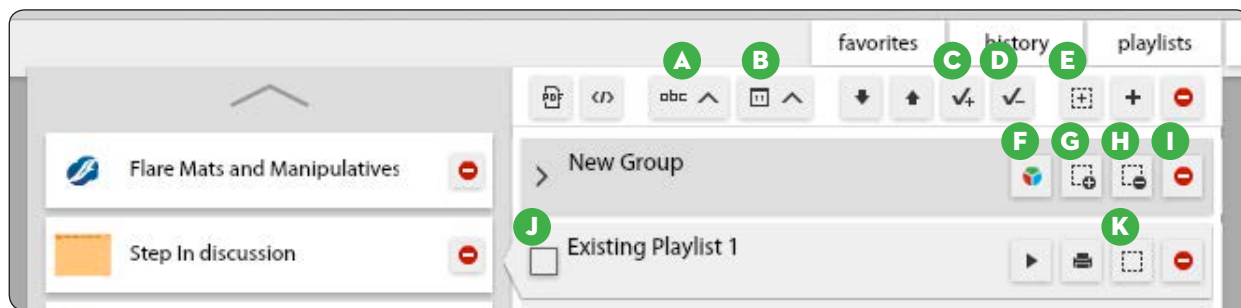
## Adding an online resource from the Favorites Tab

If you have added a resource to your Favorites Tab you can add it to a playlist. Select **favorites** and click **+** on the online resource you wish to add and then choose **add to selected playlist**.



# Using Playlists – *Organizing Playlists*

The Playlist Tab interface



- |   |   |
|---|---|
| <b>A</b> <b>Alpha sort</b> – click to arrange playlists or groups alphabetically        | <b>B</b> <b>Date sort</b> – click to arrange playlists or groups by creation date |
| <b>C</b> <b>Select all playlists</b>  | <b>D</b> <b>Deselect all playlists</b>  |
| <b>E</b> <b>Create new group</b>  | <b>F</b> <b>Choose group color</b> – click to assign a color to a group           |
| <b>G</b> <b>Add selected playlists to group</b>   | <b>H</b> <b>Remove selected playlists from group</b>                              |
| <b>I</b> <b>Delete group</b> (will not delete playlists, only group)                    | <b>J</b> <b>Check box to select playlist</b>                                      |
| <b>K</b> <b>Select playlist groups</b> – click to select which group to add playlist to |   |

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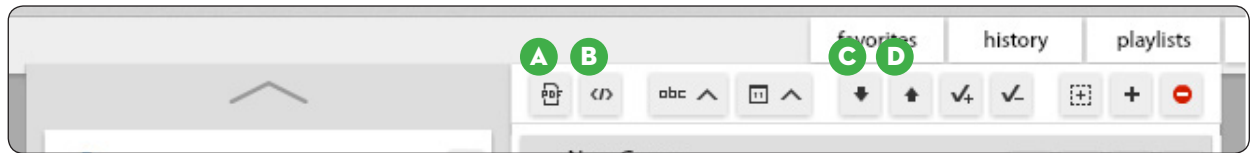
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# Using Playlists – *Advanced Work with Playlists*

## The Playlist Tab interface



**A** **PDF manager** – click to add a PDF to a playlist

**B** **Web object manager** – click to add a web page or web video

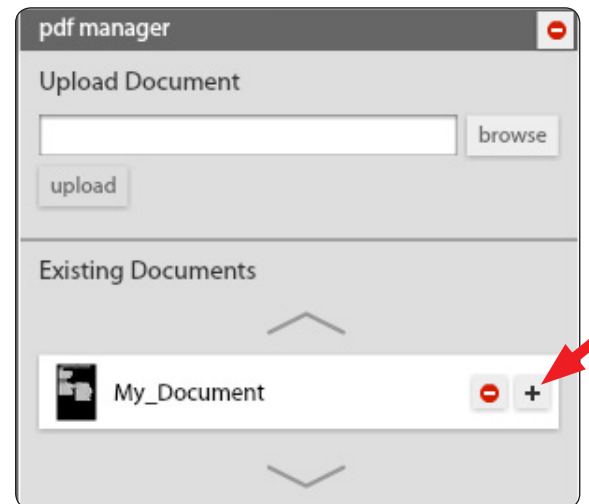
**C** Import playlist(s)

**D** Export selected playlist(s)

## Adding a PDF to a playlist

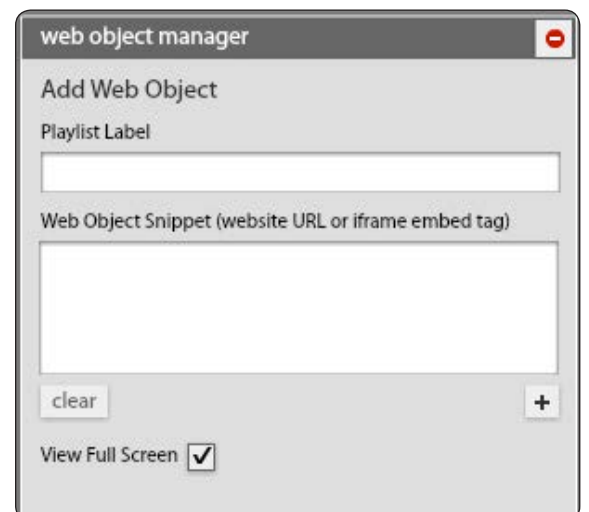
You can add any PDF (not larger than 2 MB) to a playlist that you have permission from the author to use. Click **PDF manager** to access the PDF manager window. From this window click **browse** to find the PDF on your desktop and then select **upload**.

ORIGO will get you to confirm that you have permission to upload this to the PDF manager. Once the document has been uploaded you can add it to a playlist by clicking **+**. Each Slate user can upload 50 MB of PDFs to the PDF manager.



## Importing a playlist

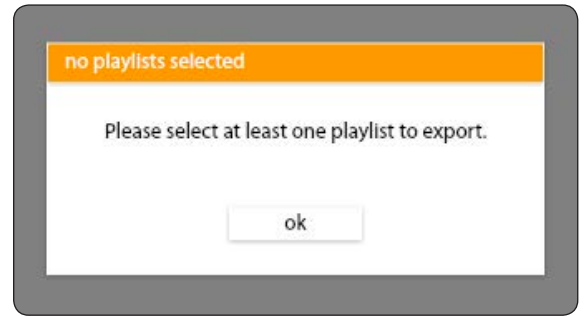
You can import a playlist by selecting **import playlist(s)** from the **Playlist Tab** menu. You will then be asked if you would like to add this playlist permanently or on a temporary basis. If you select 'permanent' it will be saved to your Playlist Tab. Selecting 'temporary' will make the playlist available until you log out and finish your Slate session.



# Using Playlists – *Advanced Work with Playlists*

## Exporting a playlist

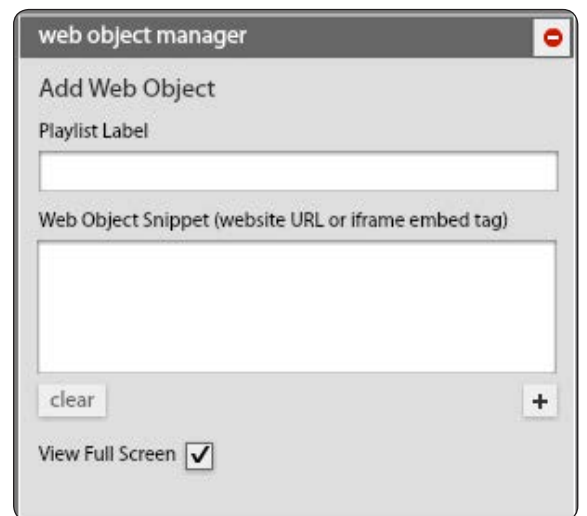
You can export a playlist by selecting **export selected playlist(s)** from the **Playlist Tab** menu. You will be asked to check the box of the playlist(s) you wish to export. You will then be prompted for a name and location for this file.



## Adding a web object to a playlist

You can add a web page or a web video to a playlist. Click **web object manager** to access the web object manager window. In the **playlist label** field create a name for the web object. This will be the label that appears in your playlist. Playlist labels should be at least 6 characters long but no more than 51 characters.

For a website, enter the website URL in the **web object snippet** field. For a web video, enter the iframe embed tag. Web object snippets should be at least 6 characters long and fewer than 2000 characters. Check the **view full screen** box if you want the web object to be viewed full screen. Click **+** to add this web object to a playlist.



If you have added a web page and it is from a different security domain than Slate then it cannot be shown in the viewer. When the time comes to view this resource, you will be notified that this web page will be opened in a new window.

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# Using Digital Books – Interface

## Digital Book interface

The screenshot shows a digital book interface with two pages, 164 and 165, from the 'ORIGO Stepping Stones - Year 2' series. The interface includes a navigation bar at the bottom with icons for Menu (A), Hand (B), Pen (C), Eraser (D), Rewards (E), and Navigation arrows (F). The pages contain math problems and interactive elements.

**Page 164:**

- Step In** Relating Addition and Subtraction
- Saki wrote this addition story to match this picture.
  - There are  apples on the tree and  apples off the tree.
  - How many apples altogether?
- Write the missing numbers. What addition number sentence could you write to match Saki's story problem?
- Addison wrote this subtraction story.
  - There were  apples altogether. The farmer picked  apples.
  - How many apples are left on the tree?
- Write the missing numbers. What subtraction number sentence could you write to match Addison's story problem?
- Step Up** 1. Complete the story problem. Then write a matching addition or subtraction number fact.
  - a.  birds on the fence.  birds fly away.
    - How many birds altogether?
    - $7 + 6 = \underline{\quad}$
  - b.  birds altogether.  birds fly away.
    - How many birds are on the fence?
    - $13 - \underline{\quad} = 6$

**Page 165:**

- Step Ahead** 2. Complete the story problem. Then write a matching addition or subtraction number fact.
  - a.  frogs in the pond.  frogs hop away.
    - How many frogs altogether?
    - $\underline{\quad} = \underline{\quad}$
  - b.  frogs altogether.  frogs hop away.
    - How many frogs are in the pond?
    - $\underline{\quad} = \underline{\quad}$
- Draw apples on and off the tree. Then write addition and subtraction sentences to match.
  - apples on the tree.
  - apples off the tree.
  - How many apples altogether?
  - $\underline{\quad} + \underline{\quad} = \underline{\quad}$
  - $\underline{\quad} + \underline{\quad} = \underline{\quad}$
  - $\underline{\quad} - \underline{\quad} = \underline{\quad}$
  - $\underline{\quad} - \underline{\quad} = \underline{\quad}$

- A** **Menu** – select to access a variety of functions
- C** **Pen** – select to write on or color the page, hold to change color
- E** **Rewards** – hold to see a tally of rewards

- B** **Hand** – select to move the page, pinch to zoom in and out
- D** **Eraser** – use to remove pen markings
- F** **Navigation arrows** – use to move between double-page spreads

# Getting Support and Troubleshooting

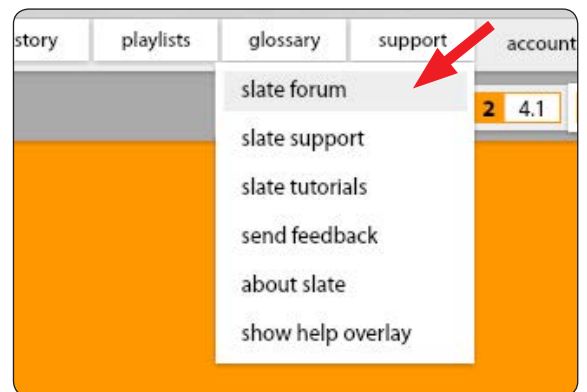
ORIGO Education is committed to supporting teachers using [Stepping Stones](#). There are several options for getting service, support and advice.

For technical support try the following:

- **Quick Start Guides** – these short guides give you easy step-by-step instructions on a variety of issues. Visit [www.origoeducation.com/slate-support-faqs/](http://www.origoeducation.com/slate-support-faqs/) for access to the guides.
- **Implementation Guide** – keep a copy of this document close by. It is full of technical information handy for any user of [Stepping Stones](#).
- **Slate Forum** – find and share solutions with our community of [Stepping Stones](#) users. Access the forum by selecting it from the list under the Support Tab.

## Accessing the Forum

Click [Support](#) in the top Slate menu bar. Then select [forum](#). If this is your first visit to the forum you will be asked to create a forum alias.



For content support try the following:

- **Slate Forum** – find and share solutions with our community of [Stepping Stones](#) users. Access the forum by selecting it from the list under the Support Tab.
- **Implementation Guide** – keep a copy of this document close by. Several chapters are devoted to informing teachers about the structure and approach of [Stepping Stones](#).
- **Feedback button** – if you would like to send feedback to ORIGO, send a message via the feedback button in the Support Tab.