



Year 3: Outcomes of a Chance Experiment Lesson Walk-Through

(Click on sections below or scroll to view PDF)





Introducing PRIME Pedagogy

Welcome to Scholastic PRIME[™] Mathematics for Australian schools.

The program covers the three strands of mathematics in the Australian Curriculum: Mathematics. The three strands are **Number and Algebra**, **Measurement and Geometry**, and **Statistics and Probability**.



Scholastic PRIME[™] Mathematics is a blended resource. Core curriculum lessons are printed in the Core Book and can be viewed online through the PRIME[™] Teaching Hub. The Teaching Hub is a digital resource bank that also includes other resources that can be viewed on screen or downloaded.

Each topic in Scholastic PRIME[™] Mathematics comprises three parts, Let's Remember, Lessons and Assessments.

Let's Remember offers an opportunity for systematic recall and assessment of prior knowledge in preparation for new learning. It is available through the Teaching Hub.



2 Each topic contains several units. Within each unit is a series of daily lessons, with each lesson focusing on a concept or an aspect of it. Every lesson uses an explicit teaching model of I Do - We Do - You Do to introduce concepts and skills.







(continued...)



Let's Do provides opportunities that could be used as We Do activities for guided learning or You Do activities for informal formative assessment. Systematic variation of tasks reinforces students' understanding and enables teachers to check learning and identify remediation needs.



Let's Practise provides You Do activities to reinforce understanding of the concepts and skills taught and to demonstrate mastery. More Practice may be downloaded from the Teaching Hub.



Think About It develops metacognitive skills by providing opportunities for mathematical communication, reasoning and justification. It is available through the Teaching Hub.

Each topic ends with a **Problem Solving** unit which contains routine and non-routine word problems. A 4-step process is used to guide students to systematically solve problems and to apply appropriate problem-solving strategies.

Unit 4: Proble Lesson 1: Word (Constant) Marce Constant What site within What site within Marce Constant Marce	In Solving problems	Word problems provide a meaningful context for stuc to apply mathematical knowledge. The focus is on the strategies and the proc problem solving.	oth s of	Create Your Own develops higher-order thinking skills. and metacognitive skills. It is available through the Teaching Hub.
2 Neuraltro. 3 ompine	mind dour meet it: limit (condex also model. (c	Tarian Al can an fun des 204 str Al str Al str	Lesson 2: Mind stretchor Citi Leon A sets core of an id fastine, fire without a host core y mon S passife. Cash a square tobles, core in and 5 peoples. The S passife. Cash a square tobles, core in and 5 peoples. The S passife. Cash a square tobles, core in and 5 peoples. The source of the core is a stretchild of the core is a stretchild to a stretchild. The core of the stretchild of the stretchild the antihement S the stretchild of the stretchild of the stretchild of the S the stretchild of the S the stretchild of the stretchild of the stretchild of	Mind Stretcher allows students to apply knowledge gained to non-routine problem situations to develop higher-order thinking skills.
Shaah Na goocowa ay No gooclant Pasta waxan pomedi	F (4) 20 - Estimation h 194 cm - Estimation MI collection collect.	n Al (powertow RZ, stron RZ, Annu RZ, Annu RZ, Annu	Sim with (brid), Four years and deach horizon decomposition of the decompo	and Searce
324	support of the logarithm the part of	Pageing Comparts (Carolo Will in and and address -	Kobiew and 2 yourse habies.	

Assessments in PRIME^M are available for every topic and provide multiple opportunities for summative assessment. Every task in each assessment is aligned to a Content Description of the Australian Curriculum: Mathematics. The assessments are available in two formats:

- PRIME[™] Digital Assessments (online) is a student's resource that provides comprehensive reports
 of individual student and class performance to the Australian Curriculum.
- PRIME[®] Assessments (paper and pencil) may be downloaded from the Teaching Hub.



The Topic Overview is found under the lightbulb icon

👔 ne HUB menu bar.

PREPARE

It lists all objectives for each lesson, materials and resources required and any new vocabulary introduced in the topic.

Topic 15: C	hance		Strand:	Statistics and P
Topic Overview		*Hub reso	urces refer to pages four	id only in the Tead
Unit	Objectives	Materials	Resources*	Vocabul
Let's Remember	 To identify events as 'certain' or 'uncertain' to happen To identify events as 'possible' or 'impossible' to happen To describe the possible outcomes of familiar activities and events as being 'likely' or 'unlikely' to happen 		• Hub pp. 81A-81B	
Unit 1: Chance Experimen	ts			
Lesson 1: Outcomes of	To list all the possible outcomes in a chance experiment or situation	1 copy of Recording Sheet 1 (CM15.1) per group 1 copy of Recording Sheet 2 (CM15.2) per group 1 paper bag per group 1 play coin per student 3 red counters and 3 green counters per group 5 sticker labels per group	CB pp. 82-85 Hub p. 85A	outcome random
Lesson 2: Conducting chance experiments	To conduct chance experiments and compare the expected and actual results	1 copy of Recording Sheet 3 (CM15.3) per group	CB pp. 86–89Hub p. 89A	actual resul expected results

The suggested duration for each lesson is 60 minutes.





FOLLOW UP



A Lesson Note link is found at the top of each new lesson page in the HUB.

The Lesson Notes displayed will correspond to the student book page displayed onscreen.

Let's Remember does not appear in the Student Book (it is only viewed/printable via the HUB). It enables the teacher to quickly check that all students have the prerequisite knowledge and skills to undertake the work within the next Topic.

Let's	Chance	Which event is Beely to happen? Tick (*) the correct box. a) Your head feels hot when you have a fever. b) The boys will play soccer in the snow. c) A baby can solve a fraction word problem.	
Remember	<form><form><form><form><form><form><form><form></form></form></form></form></form></form></form></form>	1. Which event is unlikely to happen? Tack (*) the correct box. a) I might catch a cold if someone sneezes on me. b) There wilb be thunder during a storm. c) I will travel to Antarctica with my family. c) I will travel to Antarctica with my family. d) This is the lands with likely or unlikely. a) It is	
	Topic 15 Chance Topic Contents Let's Remember Unit 1: Chance Experiments Mote for Teachers Note for Teachers Nuclear to list all possible outcomes or combinations of outcomes that can take place. They also carry out simple experiments and observe variations in experiment results. This builds the foundation to the concept of theoretical and experimental probability which will be taught in later grades. Students are also taught to make experiment predictions, and go on to see the differences between their predictions or expected results and the actual	 Recali: 1. Identifying events as 'certain' or 'uncertain' to happen (CB 2B Topic 11) 2. Identifying events as 'possible' or 'impossible' to happen (CB 2B Topic 11) 3. Identifying events as 'certain', 'uncertain', 'possible' or 'impossible' to happen (CB 2B Topic 11) 4. Describe the possible outcomes of familiar activities and events as being 'likely' or 'unlikely' to happen (CB 2B Topic 11) 5. Describe the possible outcomes of familiar activities and events as being 'likely' or 'unlikely' to happen (CB 2B Topic 11) 6. Describe the possible outcomes of familiar activities and events as being 'likely' or 'unlikely' to happen (CB 2B Topic 11) 6. Describe the possible outcomes of familiar activities and events as being 'likely' or 'unlikely' to happen (CB 2B Topic 11) 	Location of previous learning is shown here in case back-teaching is necessary for some students.
	emphasise to students that making predictions is an important part of any experiment and that it is quite normal if their predictions do not come true. They should understand and recognise that we can never be certain of what will happen unless the event is a certain one or an impossible one.	ntify practical activities and everyday events that involve chance. Describe comes as 'likely' or 'unlikely' and identify some events as 'certain' or possible' (ACMSP047)	© 2018 Scholastic Education Intern

HUB LESSON NOTES (page 2 of 4 pages)

PREPARE

FOLLOW UP

(continued...)

Unit 1: Chance Experiments

Lesson 1: Outcomes of chance experiments Let's Learn

Objective:

To list all the possible outcomes in a chance experiment or situation

Materials:

- 1 copy of Recording Sheet 1 (CM15.1) per group
- 1 copy of Recording Sheet 2 (CM15.2) per group
- 1 paper bag per group
- 1 play coin per student
- 3 red counters and 3 green counters per group

Have students get into small groups. Distribute 3 red

counters, 3 green counters, 1 paper bag and 1 copy of

Recording Sheet 1 (CM15.1) to each group. Ask students

to put all the counters into the bag. Tell the groups to let

one student pick 2 counters from the bag without looking

into the bag. Another student would record the results of

the picks in Recording Sheet 1. Tell students to conduct

this experiment three or four times with different students in each group taking turns to pick the counters and

record the results. Then, have students look at the results

Ask: Do you get the same results for all the students? (No)

Conduct chance experiments, identify and describe possible outcomes and recognise variation in results (ACMSP067)

5 sticker labels per group

Resources:

- CB pp. 82-85 Hub p. 85A

Vocabulary:

outcome random

coin if they have one.

results, a head or a tail.

Write: outcomes

of their experiments.

(a)

Abstract

or a tail.

(b)

co

ø

Concrete

Chance Unit 1: Chance Experiments You will learn to... Lesson 1: Outcomes of chance experiments Let's Leom sses a coin. She can get a head or a tai Ana t There are 2 possible The 2 possible results or outcomes ng a coin is a head or ere are 3 red balls and 3 green balls in a bag en **randomly** picks 2 balls from the bag. is says Ben is likely to pick 1 red ball and 1 g eg expects Ben to pick 2 red balls. osa predicts that Ben will pick 2 green balls. When we pick randomly, we are picking without looking. It is equally likely to pick any ball. any of them could be right as there is a chance that out of these 3 outcomes: Distribute a play coin to each student. Ask each student 82 Ø to toss the coin. Alternatively, students may use their own Explain that since each student is picking the counters Ask: Did you get a head or a tail when you tossed the without looking into the bag, the results will be random, coin? (Answer varies.) What are all the different possible that is, it may possibly be different each time. results you can get when you toss a coin? (Head or tail) How many possible results can you get? (2) $\ensuremath{\textit{Say:}}$ When you toss a coin, you can get two possible students read the scenario in (b) on CB p. 82. Relate this scenario to the experiments done earlier. Say: Without looking, Ben randomly picks 2 balls from the bag containing 3 red balls and 3 green balls. Explain that 'randomly' means that Ben does not choose Explain that the outcomes of a chance experiment or situation are the possible results that we can get. which coloured balls to pick because he does not look Say: The possible outcomes of tossing a coin are a head into the bag when picking the balls. So, Ben cannot know beforehand what coloured balls he will pick. Ask students to look at the pictures in (b) on the page. Ask: What do we see in the first picture? (1 red ball and 1 green ball)

Say: Luis says Ben is likely to pick 1 red ball and 1 green ball. Ask: What do we see in the second picture? (2 red balls) Say: Meg expects Ben to pick 2 red balls. Ask: What do we see in the third picture? (2 green balls)

Say: Rosa predicts that Ben will pick 2 green balls. Point out that Luis, Meg and Rosa are all making guesses because they do not know what coloured balls

main that the words 'likely', 'expect' and 'predict' are used when we are making guesses. Say: Ben says any of them could be right because the

result must and can only be one of these three outcomes

Topic 15: Chance

The Concrete-Pictorial-Abstract process is clearly outlined in an easy-to-follow lesson plan for beginning teachers, or a guide for more experienced teachers.

Ben will pick



Pictorial

Abstract

ESSON NOTES (page 3 of 4 pages)

PREPARE

FOLLOW UP

(continued...)

(c)

Have students continue to work in groups using the counters for this activity. Distribute 1 copy of *Recording Sheet 2 (CM15.2)* and 5 sticker labels to each group. Tell students to imagine that the 3 red counters are 3 different tee-shirts and that 2 of the green counters are 2 different pairs of pants. Ask students to write '11', '12' and '13' on three different sticker labels and paste them on the red counters to represent the 3 tee-shirts. Then, get them to write 'P1' and 'P2' on two different sticker labels and paste them on the green counters to represent the 2 pairs of pants.

Say: You have three tee-shirts and two pairs of pants. Let us see how many combinations of outfits you can make with these tee-shirts and pants.

Encourage students to use their counters to explore and match the different tee-shirts and pants, and get them to record their results in *Recording Sheet 2*. Get some groups to share their results when they are done.

Pictorial

Have students read the problem on CB p. 83. Relate this problem to the earlier activity.

Ask: For each pair of pants, how many tee-shirts can Jake wear it with? (3) How many pairs of pants are there? (2) So, what is the total number of combinations of outfits Jake can have? (6)

Abstract

Explain that in this situation, there are 6 possible outcomes that Jake can get if he is looking for a tee-shirt and pants combination.



The Content Description being taught from the Australian Curriculum: Mathematics is identified for each lesson.

opic 15: Chance

Content Description for the Australian Curriculum related to this lesson.



6



FOLLOW UP

(continued...)



Correct answers are shown in the lesson notes for teachers' reference. Information about More Practice is listed at the end of the Lesson Notes.



TEACH



VIEW DEM LESSON

HUB

A video featuring a parallel demonstration lesson is accessed via a link at the top of each new lesson page on the HUB.

The Dem Lessons may be used as preparation for teachers, or shown directly to students as part of an I DO—WE DO lesson.

The video may be used to help differentiate learning between students: the teacher may demonstrate a more challenging example to extend some students, while others watch the video demonstration.



STUDENT PAGES (page 1 of 4 pages)

PREPARE

TEACH

Each new lesson in the HUB has:

- A Dem Lesson
- Lesson Notes
- Let's Learn
- Let's Do
- Let's Practise
- More Practice

The Content Description being taught from the Australian Curriculum: Mathematics is identified for each lesson.



STUDENT PAGES (page 2 of 4 pages)

PREPARE

TEACH



Pictorial support forms an important bridge between concrete and abstract thinking.







This page demonstrates how thought bubbles throughout lessons guide metacognition: awareness and understanding of mathematical thought processes.





TEACH

			Lesson Notes		
le	l's Pracilse				Let
Fac	like blanks.		1	2	
(Le	Tim spins the spinner on	ICE.	(*	1	
	Which die me possible o	oleemes innedingen			
2.	a) There are 4 red be	ads and 4 blue beads in a	box. Rovi randomly pic	ks	
	4 Decos irem ibe c	Jox. Ust on the possible out	cordes man worn carrige		
	-				
	C. Contractor				
	b) How many possible	outcomes are there?			
3.	This is the breakfast mer	nu at Marigold Cafe.			
	Food	Drink			
	sandwich	fiuit juice			
	cake	tea			
	pie	coffee			
		hot chocolate			
11	a) How many food ite	ms are on the menu?			
	b) How many types of	f drinks are on the menu? _			
and the second second	c) Dan wants to order eat a sandwich or I of food and drink D	1 food item and 1 drink. H have a fruit juice, List the po dan can have.	e does not want to ossible combinations		
1 Constants	-				
- Ammunity				_	
Cost	al) Charge experient a derify dod dess ba	and the second			
(a)184	(IACANBROAT)			85	

In all lessons, Let's Practise consolidates learning from each lesson.





TEACH

Image: Section of the spinse once. Image: Section of the spins	More Practice		Name: Date: Date: Date: More Practice	
from the HUB.		 □ □	<form><form><form><form><form><form></form></form></form></form></form></form>	More Practice may be printed
				from the HUB.

The same strategies and concepts students learn and practise in the Student Book are used in More Practice.

More Practice further consolidates deep learning. This material is suitable to use for homework.





FOLLOW UP

The answers for every student page in the HUB may be displayed onscreen.

The answers are quickly toggled on and off via the

on in the side menu.

	Name:	Date:	
	lesson 1: O	utcomes of chance experiments	
	More Practice	oreonies of chance experiments	
	Fill in the blanks.		
	1. Jacob spins the spinner What are the possible o 1, 2 and 3	ronce. putcomes Jacob can get?	
	2. a) There are 3 red cul Randali randomly outcomes that Ran	bes, 3 blue cubes and 3 green cubes in a box, picks 3 cubes from the box, List all the possible idall can get.	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I red, 1 blue, 1 gree	en <u>I blue, 2 red</u>	-
0	I red, 2 blue	J blue, 2 green	
	1 red, 2 green	I green, 2 blue	-
	3 red	1 green, 2 red	-
	<u>3 blue</u>	3 green	
	b) How many possible	e outcomes are there? <u>10</u>	
	3. 2 children can form a g List all the possible com	roup to play a game. Look at the children below. binations of children in a group.	
?		5 <u>2 2 2</u> <u>.</u>	
	Sue and Chris	Christ and Don	
	Sue and Fred	Chris and Cassev	
	Sue and Don	Fred and Don	
	Sue and Cassey	fred and Cassey	
	Chris and Fred	Don and Cassey	
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Answers may be revealed gradually by clicking any of the green highlighted boxes, or all at once by clicking the page number.



From the student pages in the HUB, paper and pencil assessment for the entire topic may be downloaded via the ico the side-bar.



3B Topic 15 Assessment: Chance







Digital Assessment is accessible via Scholastic Learning Zone.

1. Teacher assigns assessment tasks to students.



2. Students complete assessment online.



3. Teacher views class results or specific errors made by students online.



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FOLLOW UP