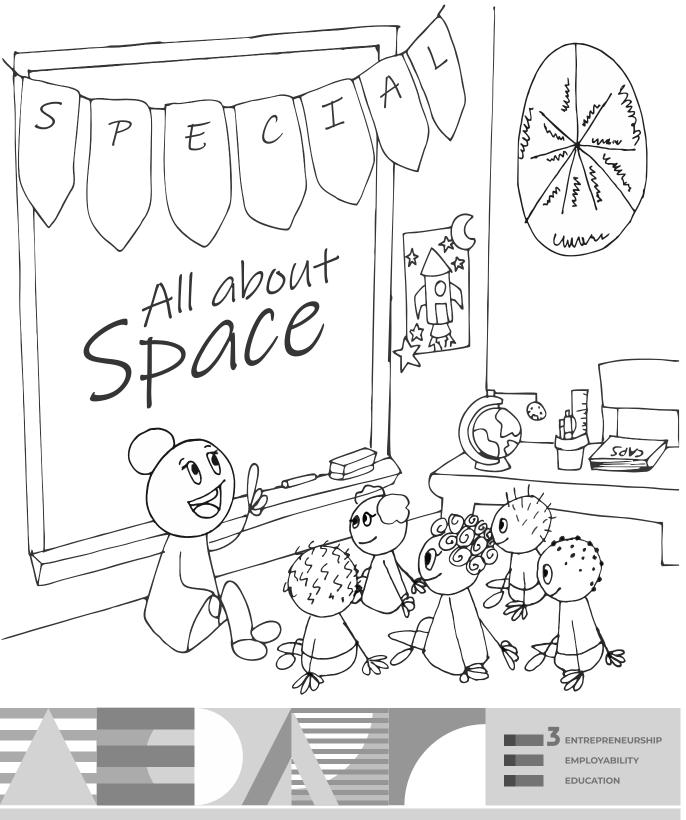
TEACHER'S PROJECT NOTES



PLAYFUL PROJECT-BASED LEARNING | TERM 3 LIFE SKILLS PROJECT









Dear Teacher

Reducing the extremely high levels of youth unemployment is E³'s compelling goal and is at the heart of the E³ Playful Project-based Learning (PPBL) approach. The outcome of this programme is to equip learners with solution-seeking mindsets so they can achieve one, or more, of the three E's - become Entrepreneurs, follow a path into higher Education or become Employed.

Foundation phase learners are many years away from leaving school and finding their way in the big, wide world. They are the lucky ones because if they are exposed to an educational approach that is engaging, interesting and relevant, they are sure to leave school well equipped to participate in the modern economy.

So, what educational approach stimulates learners' engagement and interest and equips them with relevant skills and competencies? The answer is Playful Project-based Learning (PPBL).

The E³ PPBL Foundation Phase projects have at their core a play-based approach as it is through play that children's curiosity, motivation and lifelong love for learning is activated. The PPBL projects are designed to bring maximum fun and learning to the classroom – for teachers and learners. Each project is like an onion and contains layers and layers of learning. When implementing the projects you will:

- Bring the CAPS to life and realise its intended outcomes.
- Promote thinking, connection and empathy critical competencies for a changing world.
- Encourage problem-seeking and problem-solving skills.
- Stimulate the holistic development of each learner.
- Foster a lifelong love of learning.

At the end of each project we hope learners have had such a great experience that they keep coming back for more.

We hope you enjoy unlocking play in your classroom and encouraging a solution-seeking mindset in your learners.

Good luck and remember to have fun!

The F³ team



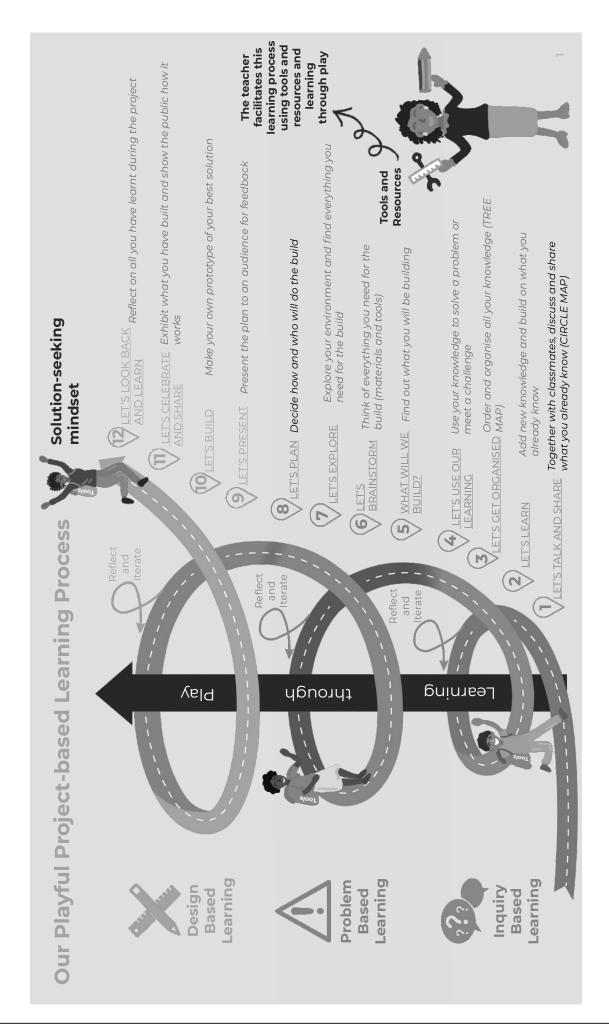


TABLE OF CONTENTS



Letter to teachers

Table of contents	1
PPBL spiral model	2
Competencies for a changing world	3
Competency spinner	3
Measure what you treasure: Competencies for a changing world	4
What is so special about S.P.E.C.I.A.L.	5
Grade 3 project summary	6
Think maps: Making thinking visible	7
- Circle maps	7
- Tree maps	8
CAPS alignment	8
Project planning and preparation guidelines	9
The journey: Stage 1 - Inquiry-based learning	10
Step 1: Let's talk and share	10
Step 2: Let's listen and learn	11
Step 3: Let's get organised	13
Step 4: Let's use our learning	14
The journey: Stage 2 - Problem-based learning	15
Step 5: What are we building?	15
Step 6: Let's brainstorm	16
Step 7: Let's explore	16
Step 8: Let's plan	16
The journey: Stage 3 - Design-based learning	17
Step 9: Let's present	17
Step 10: Let's build	18
Step 11: Let's celebrate and share	19
Step 12: Let's look back and learn	20

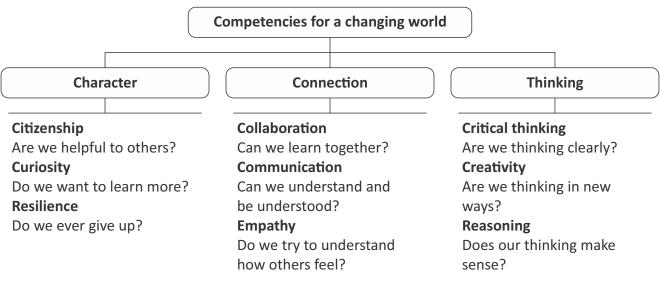


COMPETENCIES FOR A CHANGING WORLD



"Thriving in today's fast changing world requires breadth of skills rooted in academic competencies such as literacy, numeracy and science, but also including such things as teamwork, critical thinking, communication, persistence, and creativity." (Skills for a Changing World: Advancing Quality Learning for Vibrant Societies McGivney E., Winthrop W. 2016)

E³ has focused on three competencies, Thinking, Connection and Empathy all of which are unlocked and learnt through the Playful Project-based Learning process. This unlocking and learning is designed to be experiential i.e. the learning is in the doing. Activities within each project constantly urge learners to think, connect and empathise. This tree map shows the competencies in more detail.



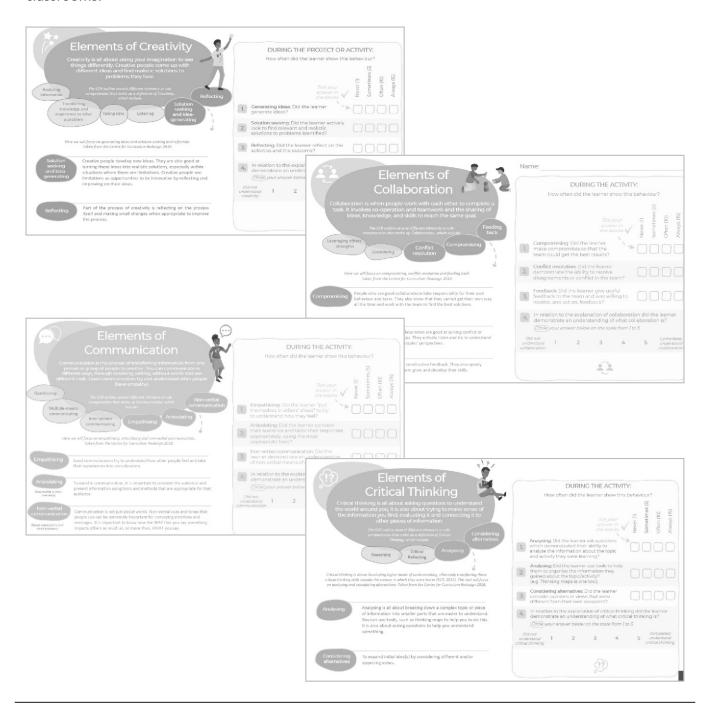
It's easy to forget about competencies in the busyness of a school day. Making a competency spinner is a fun and easy way to keep engaging with these essential behaviours. You, or better still, your learners can make competency spinners. Keep a big spinner on the wall. Spin it weekly to see what competency to focus on—and acknowledge when you see these behaviours in your learners. They will catch on quickly and start to recognise the various competencies in their peers and most importantly in themselves.



MEASURE WHAT YOU TREASURE: COMPETENCIES FOR A CHANGING WORLD

The Playful Project-based Learning approach is being implemented to better equip learners to cope in a rapidly changing world outside of school. Being equipped means creating opportunities where learners can develop competencies such as Connection, Communication and Thinking that contribute to a solution-seeking mindset. This changing approach to teaching and learning must be supported by a shift in mindset towards what we assess and measure. It is no longer enough to only assess CAPS content, we need to also be looking for and acknowledging behaviour and actions that reflect competency-based behaviour.

To guide you as you start on this journey of learning, a competency checklist called **Measure what you treasure: Competencies for a changing world** has been included in the Teacher's Resource Pack. This will focus your observations and assist your rating of learners' competency development that, collectively, characterise what Playful Project-based Learning (PPBL) looks like in South African classrooms.



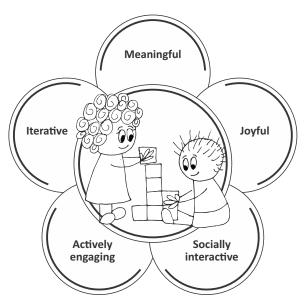
WHAT IS SO SPECIAL ABOUT S.P.E.C.I.A.L.?

It's no secret that humans learn best through play. When we are enjoying a task, even if it is extremely challenging, we are likely to become deeply engaged in the process, and ultimately achieve a positive outcome.

What does playful learning look like?

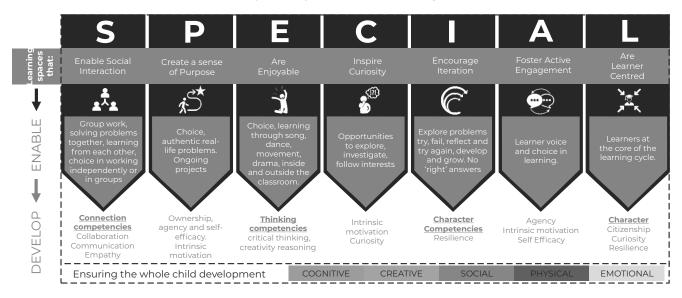
The Lego Foundation, (http/www.legofoundation.com) highlights five characteristics of playful learning. If the activities experienced by learners are **meaningful**, **joyful**, **socially interactive**, **actively engaging** and **iterative** they can be considered playful.

Being deeply committed to bringing out the PLAY in the Playful Project-based Learning process, E³ has used these five characteristics and added two unique elements that, collectively, characterise what playful learning looks like in South African classrooms.



What does play look like in South Africa?

The 7 Essential Characteristics of Playful Project-based Learning





Challenge yourself: Create a S.P.E.C.I.A.L. banner for your classroom. Reflect on it through the day. If even one characteristic is evident in your learners then you can be sure you have started to create a positive and playful learning environment.

Social Interaction Enjoyment Iteration centred Purpose Curiosity Learnei Active Reflect Reflect inquiry-based Learning: is an active learning method that involves learners asking questions about a topic, triggering learners curiosity and to solve a problem or Use your knowledge Learners are challenged to think of meet a challenge Decide how and who will do the build **Problem-based Learning:** Learners work in teams to formulate complex, real-world problems, and propose possible solutions I creative ways they could use to teach the grade 2s about space. Reflect on all you have learnt during reflection questions to guide their Learners reflect on the process of make a prototype of -earners plan and sketch a design or the project using a set of their rocket. thinking. LEARNING LET'S USE LET'S PLAN (12) LET'S LOOK BACK AND YOUR **®** LEARN **Design-based Learning:** Learners produce solutions to complex problems by designing 4 environment and find everything you need for | LET'S GET Order and organise all ORGANISED your knowledge (TREE MAP) and homes for the materials they their classrooms, school grounds, Explore your Learners explore for example, need. These must be largely organise and categorise all their found materials and items. Learners use a TREE MAP to Exhibit what you have built and show the public how it knowledge about space. they were build. Then the rockets are launched and flight distances measured rockets and explain how Learners exhibit their (7) LET'S EXPLORE and compared. (T) LET'S he M 1<u>LET'S</u> Think of everything you need for the build (materials and tools) might need in terms of material and Learners brainstorm what they tools, to build and launch their Building on what you already know and add new knowledge information about the topic to add Learners are introduced to new to their prior knowledge. Use your knowledge, rockets. materials they collected rockets. Using all the and in line with their Learners build their terated plan. 10 LET'S BUILD 6 LET'S BRAIN LET'S LEARN N WHAT WILL Find out what you will be building out what they are made of and how project. They are shown pictures of cardboard space rockets and work they could be build and launched. Learners are introduced to the Think about what you already know and designs s to their peers Learners present their plan share what they already for feedback and iteration. know about the topic of Present the plan to an audience for feedback Learners discuss and space. AND SHARE LET'S TALK PRESENT Problem nquiry -_earning esign earning earning based based

۵

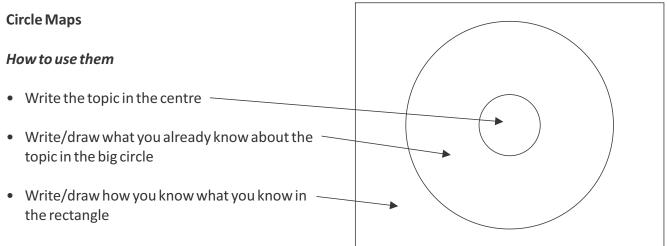
ш

4

Grade 3 project summary

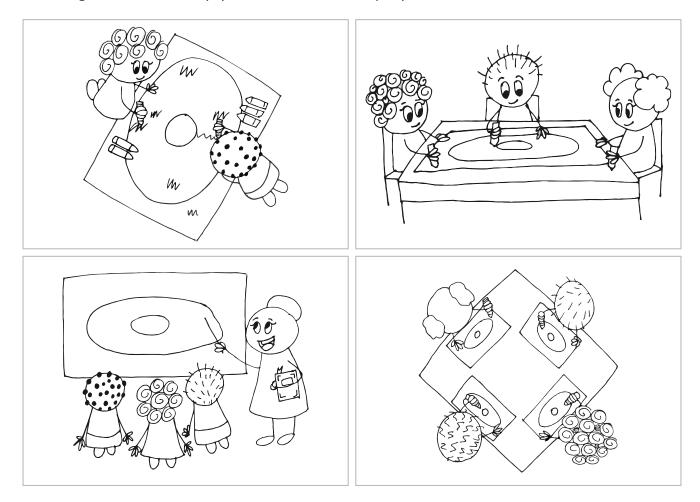
THINKING MAPS: MAKING THINKING VISIBLE

Thinking maps are a simple yet highly effective tool that are wonderfully versatile and can be adapted to suit many ages and contexts. There are eight types of thinking maps, but only two types are used in the Foundation Phase projects, the Circle Map and the Tree Map. (More information on Thinking Maps is available in the Teachers Resource Pack.)



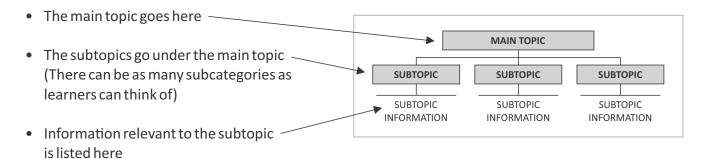
When to use them

Circle maps are used whenever you want to capture brainstorm-like activities. They are used in the first step of almost all the E³ projects where learners think, discuss and share what they already know about a topic and then write or draw this knowledge onto the map. This is a way of establishing learners' prior knowledge. Here are four ways you could use a circle map in your classroom.



Tree Maps

Tree Maps are used to organise information from a circle map activity into conceptually similar groups.



Although the Thinking Map templates are available for printing, it is great when learners draw their own. In this way they don't depend on a worksheet, but learn a portable skill they can use at home.

CAPS ALIGNMENT



Grade 3 Life Skills: Beginning knowledge, personal and social well-being.

Term 3. Topic: Space. Can learner demonstrate knowledge of the Sun, Earth from space, planets, stars, and space travel.

1	2	3	4	5
Learner says only a few space-related words but there is minimal comprehension. Learning appears rote rather than meaningful. Struggles to give more even if prompted or assisted. Knowledge is fragmented and overall concept of space is not understood.	Learner remembers most of the space-related words. Understanding is growing and learner can add some simple descriptive detail. Learner can give more when prompted with questions. Learner is aware of own gaps in understanding.	Learner describes/ explains in some detail their knowledge about space. Understanding is literal and learner can answer what and where questions. Scaffolding needed to help learner answer why or how (Why does the Earth look blue from space?)	Recall and understanding is well consolidated. Learner can explain concepts around space using rich detail/ explanation. Learner shows an interest and asks own questions to learn more. Learner can assist peers who are struggling.	Learner's understanding of space is excellent. Learner has explored the topic independently and applied knowledge to own project e.g., making a model of the planets or a telescope. Learner can 'teach' and support peers who are struggling.

PROJECT PLANNING AND PREPARATION GUIDELINES



These are some guidelines to help you prepare for implementing the project.

PROJECT PLANNING AND PREPARATION CHECKLIST	
Collect and store found and recycled materials.	
Ensure learners have the DBE Term 3 Life Skills workbooks in the Language Of Learning and Teaching (LOLT).	
Gather any resources you already have, and that your learners can contribute, to create a theme table or display.	
Decide how you want to use the thinking maps and make and copy accordingly.	
Have a place, such as a project portfolio, where learners can store their thinking maps.	
Diarise a date when the space rockets will be launched. Invite lots of people and make it a true celebration.	
Plan your groups in advance and place learners together strategically. If group work is unfamiliar, then practise collaboration and group work skills through games and shorter activities.	
Think about a classroom management strategy. Decide on rules that make the classroom an enjoyable learning space for everyone.	

THE JOURNEY: STAGE 1

INQUIRY-BASED LEARNING

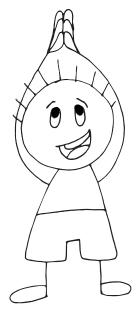


STEP 1

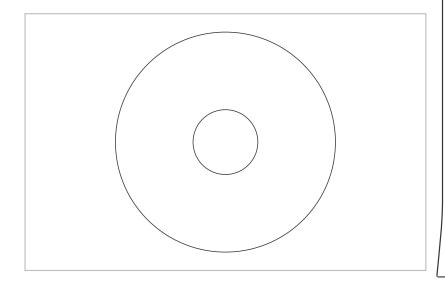
Let's talk and share



1. Start this step with some fun by playing a game called, "I am a rocket!" Ask learners to stand in the shape of a space rocket.



- 2. Ask learners to count down from 10 and then launch themselves up into space. Give them a chance to do double take offs (both legs) and single take offs.
- 3. After their launch, learners can land back at their desks when you can ask them to imagine what they saw as they travelled through space.
- 4. Draw a circle map on the board such as the one below, which learners can copy into their exercise books.



NOTEPAD
Note your bright ideas here:
Note your reflections here:

- 5. In groups, learners need to discuss WHAT they know about space travel, what the earth looks like from space, the stars and planets, and telescopes. They also need to explain HOW they learnt their knowledge.
- 6. Using a bright colour, learners write or draw their knowledge onto their circle maps.



Teaching tip: Planning for groups

Random grouping: Learners write their name on a piece of paper and put it into a bag. Shake the bag and pull out names randomly. The first 6 names are in one group, the second 6 are in group two etc.

Fit for purpose: Create groups strategically to include a range for abilities, skills and temperaments.

STEP 2

Let's listen and learn



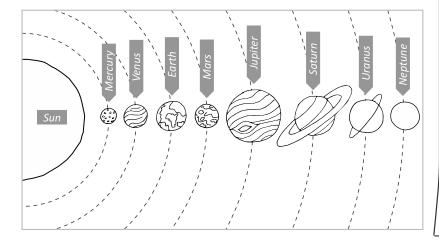
- 1. Refer learners to their DBE Life Skills grade 3 book 2, terms 3,4: pages 26 31. Allocate each group a section of information to read. As a group, they will be responsible for helping each other read and understand the information and share what they have learnt with the rest of the class using this *thinking framework*:
 - Three facts we learnt.
 - One question we want ask and learn more about.
 - Where we think we could find the answer to our question.



S.P.E.C.I.A.L.

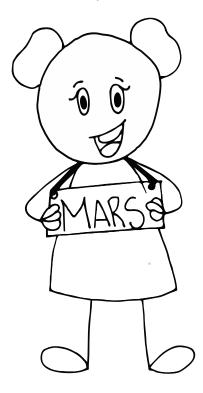
Using a thinking framework helps learners start to think about their thinking, ask questions and become actively engaged on tasks.

2. At this stage you will need to teach learners more about the planets' names, their position from the Sun, and how they move.



) N	5	ے) iP	J A I		3	, ,	7	(<u>)[</u>	,			Y
No	ote	yo			ght	ic	lea	as l	he	re	5	Y	/	
		, -										_		
							_		_	_		_		
							_			_		_		
							_			_		_		
							_		-	-		_		
							-		-	-		_		
							-		-	-		_		
							-		-	-		_		
							_			_		_		
							_		_	_		_		
							_		- –	_		_		
							_		-	_		_		
							_		- –	_		_		
No	ote	yo	ur	ref	lec	tio	ns	s h	ere	e:				
							_		- –	_		_		
							-		-	-		_		
							-		-	-		_		
							_		-	-		_		
							_		_	_		_		
							_		- –	_		_		
							_		- –	_		_		
							_			_		_		
							_			_		_		
							-			-		_		
							-		-	-		_		
							-		-	-		_		
							_	_	_	_				

- 3. Explain that the Sun is the centre of the solar system and the is one of eight planets which all orbit the Sun in an unchanging order.
- 4. Learners will role play the solar system, so organise them into groups of 9. In their groups they must make name labels of the sun and the planets.



- 5. From this brief explanation it's time to go outside to move and learn.
- 6. First, learners can stand in place and **rotate** (spin around).
- 7. Then, learners can pair up and take turns to **orbit** (circle) each other.
- 8. After they have practised rotating and orbiting, challenge learners to rotate and *orbit at the same time*, just like planet Earth.
- 9. In groups of 9, learners arrange themselves like the solar system i.e. with someone as the Sun in the middle and the others each representing a planet.
- 10. The 'planets' must be in the correct order and orbit around the Sun keeping that order.
- 11. Learners can take turns playing the Sun and the planets.

25	J		25	75	35	7/7
NOT	ГЕР	PAD				4/
Note	youi	r brig	ht id	eas h	ere:	
		- — — -				
Note	youi	rene	ectioi	is ne	re.	

Let's get organised



1. Refer learners back to their circle maps and encourage them to add, in another colour, all the new knowledge they have learned about space.



Teaching tip: Making new knowledge visible

Seeing is believing: When learners add their new knowledge to their circle maps they make their new learning visible to themselves which is both satisfying and motivating. It's also a quick way for you to check how each learner is progressing and who needs extra support.

2. In groups, learners will start to group or categorise their knowledge using a tree map.



Teaching tip: Scaffolding the tree map activity

If learners are unfamiliar with the concept of categorisation or grouping, it's best you start with a practice run.

Ask learners to call out all their favourite foods and write these on the board.

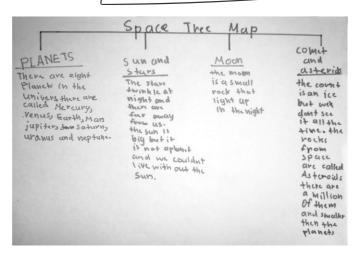
Then encourage them to group foods that are similar or that go together. Common groupings are fruit, vegetables, meat, and dairy. Wherever possible, let learners come up with their own categories.

Learners can draw a tree map and discuss how to categorise the information on their circle maps and transfer these categories onto their tree maps.

NOTEPAD
Note your bright ideas here:
Note your reflections here:

I got it on		There are eight	and learn	1
my books	/	Planets in the univers there are	about	+
/	rocks from space, the	COIR Magazini		
/	VOCKS from	eirth, Mars jur surteun, uranus and Ju	re Herry	
	space are cold Asterid	wands and	PCTO3	
	of then	(0000)	but it is not	
	then the	(SPace)	or planet and we couldn't	
	Planch	the stars	1112 With mit 11	
	is a small	+WINEILC CI+		
	rock the	at und there a		
1	the hi	n tur away f	rom /	
	THE MI	comet is a du	st that is	
		ice but we	don+	
		time		

Circ	e	тар	by	Wa	Iter	aged	9
------	---	-----	----	----	------	------	---



Tree map by Walter aged 9

Let's use our learning



- 1. In this step learners need apply their learning to a new situation.
- 2. Setting up a real-life challenge is always useful for encouraging application.
- 3. Challenge each group to think of the most creative way to teach what they have learnt about space to the grade 2 learners.
- 4. Depending on time, this can stay in the planning stage or you could develop it into a mini project to present to the grade 2s.



S.P.E.C.I.A.L.

Building in real-life applications or reasons for learning creates a sense of **purpose**.



Cross-curricular connections

There are a number of options for cross-curricular activities in this step. Learners could:

LANGUAGES

Listening and speaking

Tell a story about travelling through space.

Set up interviews for example between an astronaut and an alien or between two planets.

Writing

Use the organised information in the tree map to draft and write a Big Book that includes drawings and captions or paragraphs.

LIFE SKILLS

Visual arts

Create a hanging mobile or poster showing the solar system.

Creative Arts

Create a classroom drama where learners use the planets as characters.

NOTEPAD	
Note your bright ideas here:	<i>b</i>
Note your reflections here:	

THE JOURNEY: STAGE 2

PROBLEM-BASED LEARNING



This step takes us into a new phase of the project which is problem-based learning. From here, learners take control of the project and use what they have learnt to solve a problem. This includes a lot of collaborative learning, where learners share ideas, make decisions, design plans and solve problems. Your role from here is to guide, facilitate and advise.

STEP 5

What are we building?



- Introduce learners to the project and explain that they
 will work in groups and collaborate to design and build a
 space rocket and the problem they need to solve is that
 the rocket must be launched in a creative but safe
 manner.
- 2. Explain that once the rockets are built, there will be a rocket launching competition to see which group can launch their rockets the longest distance.
- Begin the process by showing models, pictures and/ or videos of a variety of space rockets. (More available in the Teacher's Resource Pack, but please feel free to add in your own.)







- 4. Give learners time to look carefully at the different rockets and analyse the:
 - Different materials used
 - The different shapes they could use
 - How many different parts there might be
 - How the different parts are joined
 - The textures and possible colours

0		0			7//\
NO.	ΓEΡ	AD			\mathcal{H}
Note	your	brigh	nt idea	as here:	
Note	your	refle	ctions	s here:	
	,				



Teaching tip: Encourage the creative thinking competency

The pictures used are only for inspiration and not for copying. Learners need to think creatively and design their own rockets which may be a completely different shape. As long as they fit the criteria, there are no right or wrong space rockets.

Refer to page 3 for more on competencies.

STEP 6

Let's brainstorm



1. In their groups, learners brainstorm what they might need to build a rocket based on their observations from Step 5.



Teaching tip: Thinking Maps

A good tool for the brainstorm is a **circle map** where someone in the group can note all the ideas.

Learners can then use a **tree map** to get their ideas organised and keep what is useful from the brainstorm.

Refer to page 7 for more on Thinking Maps

STEP 7

Let's explore



- 1. Based on the tools and materials collected on the tree map, learners gather their tools and materials.
- 2. They can use what is available in the classroom but are also encouraged to explore their environment more widely for found materials and objects.

STEP 8

Let's plan



- 1. Once learners have collected what they need, they collaborate and discuss and plan how their rocket will be constructed and how it can be launched.
- Learners must make rough sketches and designs in their exercise books or on scrap paper to show their planning. These plans will be presented to the class for comment and feedback in *Step 9 Let's Present*.

NC) P				(5		C)	()	4	9		
Not	e	yc	ur	· b	ri	gh	ıt	id	le	as	h	e	re	:	>			
	_			_	-	_	_	-	_	_	_	_	_	_	_	_		-
	_			_	-	_	_	-	_	_	-	_	_	-	-	_	_	-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_	_	-
	_			_	_	_	_			_			_	_	_	_	_ :	
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		_
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		-
	_			· _	_	_	_	_	_	_	_	_	_	_	_	_		-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		-
	_			_	-	_	_	-	_	_	_	_	_	_	_	_		-
	_			-	-	_	-	-	_	-	_	_	-	-	_	-		-
	_			_	-	-	-	_	-	-	-	-	_	-	-	_		-
	_			_	_	-	_	-	_	-	-	_	_	-	-	_	_	-
Not	e	yc	our	r	et	le	ct	10	n	S I	16	ere	9:					
	_			-	-	_	-	_	_	-	-	_	_	-	-	_		-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_	_	-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		_
	_			_	_	_	_	_	_	_	_	_	_	_	_	_	_	-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		-
	_			_	_	_	_	_	_	_	_	_	_	_	_	_		-
	_			_	-	_	_	-	_	_	_	_	_	_	_	_		-
	_			_	-	_	-	-	_	_	_	_	_	-	_	_	_	-
	_			_	-	_	_	-	_	_	_	_	_	_	_	_		-
	_			_	-	_	-	-	_	_	_	_	-	-	_	_		-
	_			-	_	-	-	-	-	-	-	-	-	-	-	-		-



Teaching tip: The competencies

The 4 problem-based learning steps should not be rushed as the process of planning and designing are as, if not more, important than the product.

Through this process learners develop Character, Thinking and Connection which are all skills for a changing world.

Refer to page 3 for more on competencies.

THE JOURNEY: STAGE 3

DESIGN-BASED LEARNING



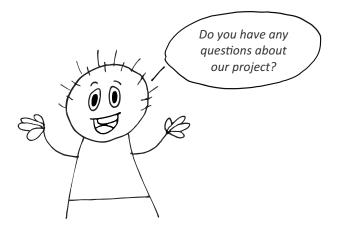
The design phase is where the design comes to life as a built object. Before building, learners create a design prototype. They present these to their peers for feedback and then iterate and change or improve on the original design.

STEP 9

Let's present



- 1. In this step, each group makes a first public presentation of their plans for their rockets. This can be set up in a number of ways:
 - Each group can present their sketches and design plans to the class. Learners in the class can ask questions and give positive and useful feedback.
 - You can set up a group presentation space. Have half the groups set up their presentations and the other half of the class move from presentation to presentation viewing the plans, asking questions and giving feedback. The groups then swap places. This is less formal and will suit shy, more anxious learners better.



NOTEP	AD			'5 F	
Note your	brigl	ht ide	eas her	e:	
			- – – -		
	. – – –				
	. – – –				
Note your	refle	ction	s here	:	
		· — — –			
		· — — –	- – – -		
		· — — –			
		· — — –	- – – -		
			- – – -		
		· — — –	. – – -		
			. – – -		



Teacher tip: Peer review and feedback guide

Providing the learners with a reviewing and feedback guide helps focus their obervations, organise their thinking and make their feedback appropriate. Creating a guide like this together with learners is an excellent way to stimulate critical thinking.

FEEDBACK GUIDE	<u>•</u>	•	(2)
What are we looking for in a successful rocket?			
Does the plan make sense or is it confusing?			
Are they using only found and recycled materials?			
Has the group explained how the rocket will be launched?			
Will this rocket hold together?			

2. The groups need to discuss the feedback and decide if they need to make any design changes to strengthen their space rocket.



S.P.E.C.I.A.L.

Getting feedback and making changes to improve on the original design based on this feedback is an example of **iteration**.

STEP 10

Let's build

1. Learners have their materials, their tools and their iterated design plans. They are now ready to build their space rockets and the launching pads. This is the most fun part when all the learners' hard work and planning is brought to life.

NOTEPAD	
Note your bright ideas here:	
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
Note your reflections here:	
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-
	-

Let's celebrate and share



- 1. Today is the day that learners present their rockets to a wider audience and participate in the rocket launching competition.
- 2. One idea for celebrating and sharing is to set up an exhibition and invite all learners in the school and where possible the community to come a view the rockets. The learners must be prepared to explain how they made their rockets and how they will be launched.
- 3. After the exhibition, the launching competition can start. This is lots of fun and a great opportunity to integrate Mathematics.
- 4. Learners can measure the distance from where the rockets were launched to where they landed. These measurements can be represented, for example, as data on bar graph.



Cross-curricular connections

The distance measurements can also be used to:

MATHEMATICS

Numbers, operations and relationships

Describe, compare and order numbers.

Order whole numbers.

Use ordinal numbers.

Solving problems in context: addition and subtraction.

Context-free calculations: addition and subtraction.

Measurement

Length

Estimate, measure, order and record length using metre sticks. Estimate and measure lengths in centimetres using a ruler.

Data handling

Represent data on a bar graph.

Answer questions about data on a bar graph.

NOTEPAD	
Note your bright ideas here:	>
Note your reflections here:	

Let's look back and learn

"We don't learn from experience, we learn from reflecting on experience." (John Dewey)

In this final step, each learner thinks back on their experience of the project and answers these reflection questions.

Space

- Share five new facts you learnt about space.
- What is the most interesting new thing that you learnt about the planets?
- Explain two main differences between Earth and the other planets.

• The rocket building project

- What did you love the most about the project?
- What did you find the most difficult about the project?
- What was the biggest problem you had to overcome when building the rocket and how do you solve it?
- What advice would you give to other learners who might do this project?

Working in a group

- What was the best part of working in your group?
- What do you think was the most important thing you did for your group?
- What was difficult about working in a group?
- What was the biggest problem you had to overcome when working in a group and could you solve it?

Yourself

- What did you do in the project that makes you feel proud of yourself?



Cross-curricular connections

The reflection activity lends itself well to writing.

LANGUAGE

Writing

Shared, group and independent writing

Writes personal texts in different forms.

Writes and illustrates sentences on a topic to contribute to a book.

NOTEPAD	K
Note your bright ideas here:	<i>b</i>
Note your reflections here:	