

TEACHER'S PROJECT NOTES



- 3 ENTREPRENEURSHIP
- EMPLOYABILITY
- EDUCATION

PLAYFUL PROJECT-BASED LEARNING | TERM 3 LIFE SKILLS PROJECT



basic education
Department:
Basic Education
REPUBLIC OF SOUTH AFRICA



GRADE 2

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.

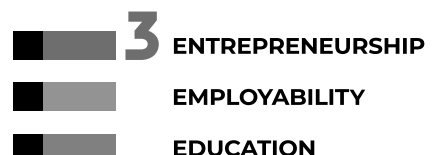
Good luck and remember to have fun!

The E³ team



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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 2 project summary	6
Think maps: Making thinking visible	7
- <i>Circle maps</i>	7
- <i>Tree maps</i>	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	12
Step 3: Let's get organised	13
Step 4: Let's use our learning	15
The journey: Stage 2 - Problem-based learning	16
Step 5: What are we building?	16
Step 6: Let's brainstorm	17
Step 7: Let's explore	18
Step 8: Let's plan	18
The journey: Stage 3 - Design-based learning	18
Step 9: Let's present	18
Step 10: Let's build	19
Step 11: Let's celebrate and share	19
Step 12: Let's look back and learn	21

Our Playful Project-based Learning Process

Solution-seeking mindset



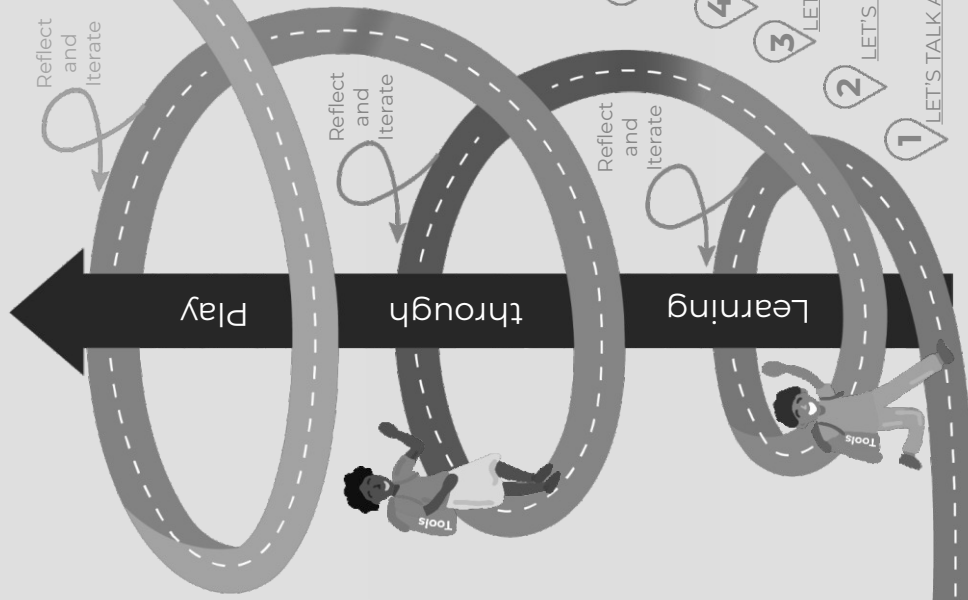
Design Based Learning



Problem Based Learning



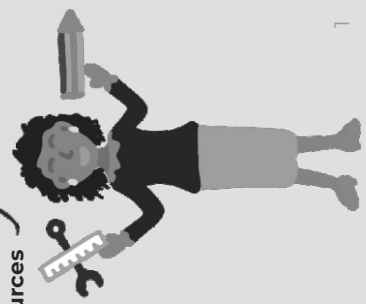
Inquiry Based Learning



- 12 LET'S LOOK BACK AND LEARN *Reflect on all you have learnt during the project*
- 11 LET'S CELEBRATE AND SHARE *Exhibit what you have built and show the public how it works*
- 10 LET'S BUILD *Make your own prototype of your best solution*
- 9 LET'S PRESENT *Present the plan to an audience for feedback*
- 8 LET'S PLAN *Decide how and who will do the build*
- 7 LET'S EXPLORE *Explore your environment and find everything you need for the build*
- 6 LET'S BRAINSTORM *Think of everything you need for the build (materials and tools)*
- 5 WHAT WILL WE BUILD? *Find out what you will be building*
- 4 LET'S USE OUR LEARNING *Use your knowledge to solve a problem or meet a challenge*
- 3 LET'S GET ORGANISED (MAP) *Order and organise all your knowledge (TREE)*
- 2 LET'S LEARN *Add new knowledge and build on what you already know*
- 1 LET'S TALK AND SHARE *Together with classmates, discuss and share what you already know (CIRCLE MAP)*

The teacher facilitates this learning process using tools and resources and learning through play

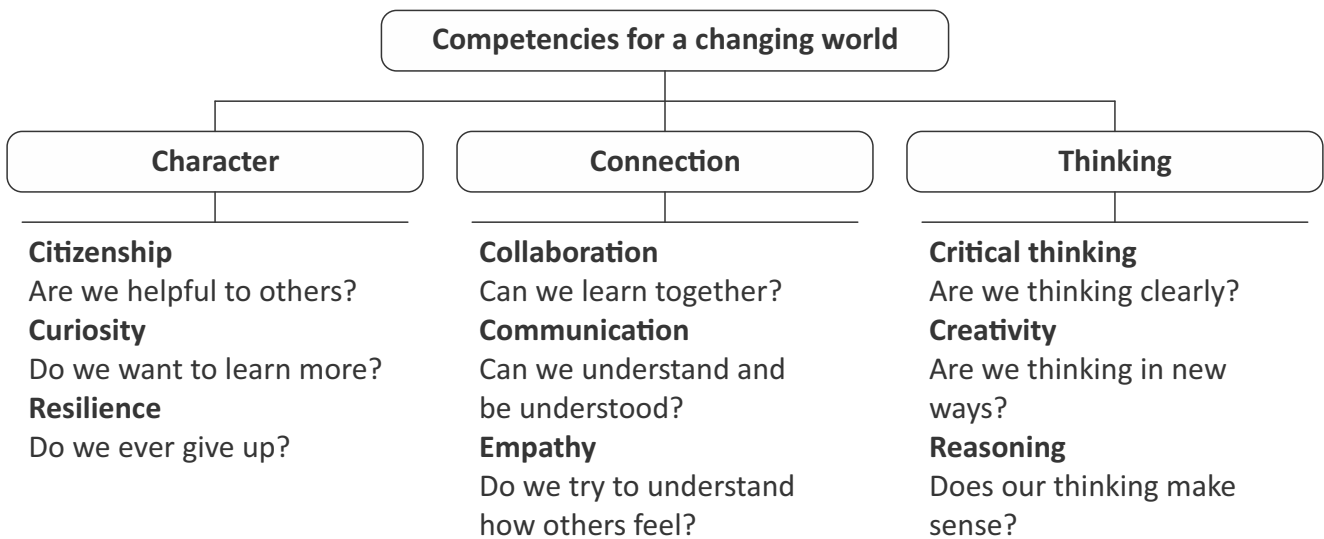
Tools and Resources





“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.

Elements of Creativity

Creativity is all about using your imagination to see things differently. Creative people come up with different ideas and find realistic solutions to problems they face.

The CCR outlines several different elements or sub-competencies that make up Creativity, which include:

- Analyzing information
- Transforming knowledge and experience to solve a problem
- Taking risks
- Listening
- Solution seeking and idea-generating
- Reflecting

Here we will focus on generating ideas and solution seeking and reflecting.

Solution seeking and idea-generating Creative people develop new ideas. They are also good at turning these ideas into realistic solutions, especially within situations where there are limitations. Creative people see limitations as opportunities to be innovative by reflecting and improving on their ideas.

Reflecting Part of the process of creativity is reflecting on the process itself and making small changes when appropriate to improve the process.

DURING THE PROJECT OR ACTIVITY:

How often did the learner show this behaviour?

Tick your answer in the boxes

Never (1) Sometimes (2) Often (3) Always (4)

1. Generating ideas: Did the learner generate ideas?
2. Solution seeking: Did the learner actively look to find relevant and realistic solutions to problems identified?
3. Reflecting: Did the learner reflect on the activities and the outcome?
4. In relation to the explanation demonstrate an understanding of your answer below

Did not understand creativity 1 2

Elements of Communication

Communication is the process of transferring information from one person or group of people to another. You can communicate in different ways, through speaking, writing, without words and use different tools. Good communication tries and understand other people (have empathy).

The CCR outlines several different elements or sub-competencies that make up Communication, which include:

- Questioning
- Multiple means communicating
- Inter-personal communicating
- Empathising
- Articulating
- Non-verbal communication

Here we will focus on empathising, articulating and non-verbal communication.

Empathising Good communicators try to understand how other people feel and take their experiences into consideration.

Articulating To excel in communication, it is important to consider the audience and present information using tools and methods that are appropriate for that audience.

Non-verbal communication Communication is not just about words. Non-verbal cues and tones that people use can be extremely important for conveying emotions and messages. It is important to know how the WAY that you say something impacts others as much as, or more than, WHAT you say.

DURING THE ACTIVITY:

How often did the learner show this behaviour?

Tick your answer in the boxes

Never (1) Sometimes (2) Often (3) Always (4)

1. Empathising: Did the learner "put themselves in others' shoes" to try to understand how they feel?
2. Articulating: Did the learner consider their audience and tailor their responses appropriately, using the most appropriate tools?
3. Non-verbal communication: Did the learner demonstrate an understanding of non-verbal means of communication?
4. In relation to the explanation demonstrate an understanding of your answer below

Did not understand communication 1 2

Elements of Collaboration

Collaboration is when people work with each other to complete a task. It involves co-operation and teamwork and the sharing of ideas, knowledge, and skills to reach the same goal.

The CCR outlines several different elements or sub-competencies that make up Collaboration, which include:

- Leveraging other strengths
- Considering
- Conflict resolution
- Compromising
- Feeding back

Here we will focus on compromising, conflict resolution and feeding back.

Compromising People who are good collaborators take responsibility for their own behaviour and tasks. They also know that they cannot get their own way all the time and work with the team to find the best solutions.

Collaborators are good at solving conflict or issues. They actively listen and try to understand other perspectives.

Constructive feedback. They also openly share their own views and help others grow and develop their skills.

DURING THE ACTIVITY:

How often did the learner show this behaviour?

Tick your answer in the boxes

Never (1) Sometimes (2) Often (3) Always (4)

1. Compromising: Did the learner make compromises so that the team could get the best results?
2. Conflict resolution: Did the learner demonstrate the ability to resolve disagreements or conflict in the team?
3. Feedback: Did the learner give useful feedback to the team and was willing to receive, and act on, feedback?
4. In relation to the explanation of collaboration did the learner demonstrate an understanding of what collaboration is?

Did not understand collaboration 1 2 3 4 5 Completely understood collaboration

Elements of Critical Thinking

Critical thinking is all about asking questions to understand the world around you. It is also about trying to make sense of the information you find, evaluating it and connecting it to other pieces of information.

The CCR outlines several different elements or sub-competencies that make up Critical Thinking, which include:

- Reasoning
- Critical Reflecting
- Analysing
- Considering alternatives

Critical thinking is about developing higher levels of understanding, often by considering these critical thinking skills outside the context in which they were learnt (ROO, 2023). The tool will focus on analysing and considering alternatives. Taken from the Centre for Curriculum Re-design 2026.

Analysing Analysing is all about breaking down a complex topic or piece of information into smaller parts that are easier to understand. You can use tools, such as thinking maps to help you do this. It is also about asking questions to help you understand something.

Considering alternatives To expand initial idea(s) by considering different and/or opposing views.

DURING THE ACTIVITY:

How often did the learner show this behaviour?

Tick your answer in the boxes

Never (1) Sometimes (2) Often (3) Always (4)

1. Analysing: Did the learner ask questions which demonstrated their ability to analyse the information about the topic and activity they were learning?
2. Analysing: Did the learner use tools to help them to organise the information they gathered about the topic/activity? (e.g. Thinking maps is one tool)
3. Considering alternatives: Did the learner consider opinions or views that were different from their own viewpoint?
4. In relation to the explanation of critical thinking did the learner demonstrate an understanding of what critical thinking is?

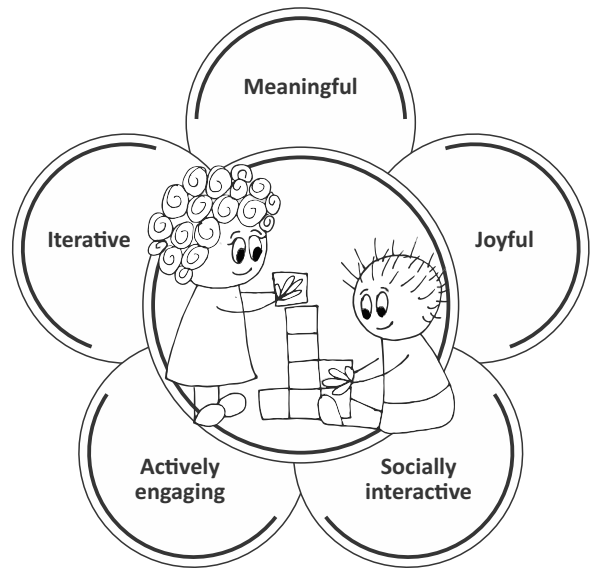
Did not understand critical thinking 1 2 3 4 5 Completely understood critical thinking

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?

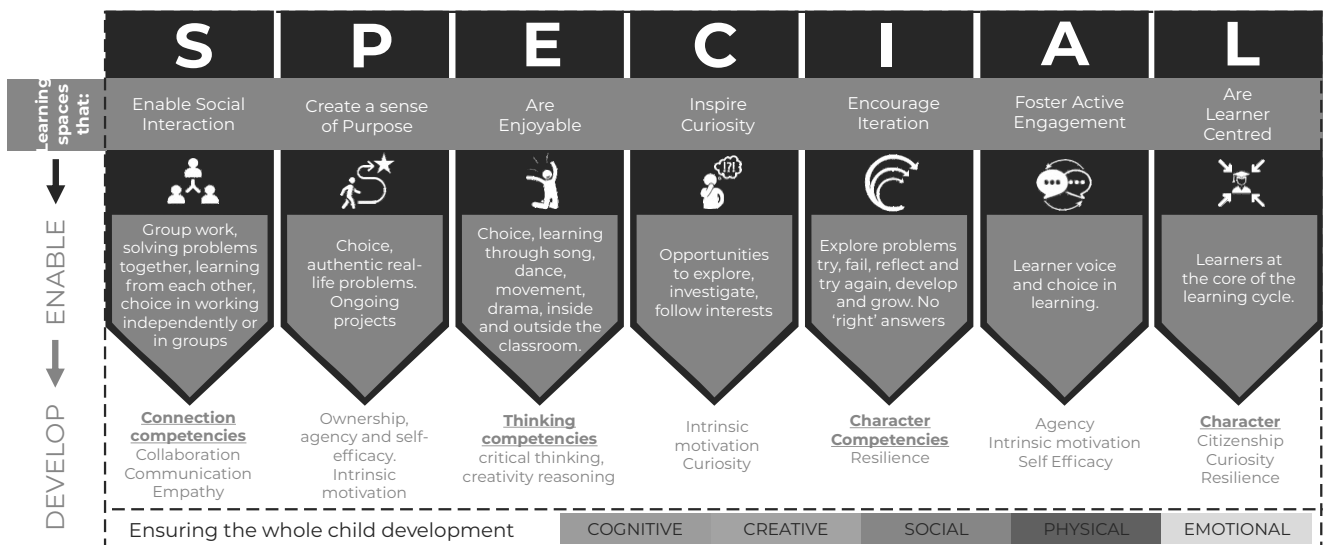
The Lego Foundation, (<http://www.legofoundation.com>) highlights five characteristics of playful learning. If the activities experienced by learners are **meaningful**, **joyful**, **socially interactive**, **actively engaging** and **iterative** they can be considered playful.



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.

Grade 2 project summary

Inquiry-based Learning: is an active learning method that involves learners asking questions about a topic, triggering learners curiosity and engagement in a topic

 <p>Inquiry - based Learning</p>	<p>1 LET'S TALK AND SHARE Think about what you already know</p> <p>Learners discuss and share what they already know about the topic of road safety. This is noted on a circle map.</p>	<p>2 LET'S LEARN Building on what you already know and add new knowledge</p> <p>Learners are introduced to new information about the topic to add to their prior knowledge of road safety.</p>	<p>3 LET'S GET ORGANISED Order and organise all your knowledge (TREE MAP)</p> <p>Learners collect data about different forms of transport they use and grow a tree map. They also create questions they would like to ask a traffic officer.</p>	<p>4 LET'S USE YOUR LEARNING Use your knowledge to solve a problem or meet a challenge</p> <p>Learners apply their knowledge to think of creative ways to help the grade 1s in their school understand and follow road safety rules.</p>	<p>S Social Interaction</p> <p>P Purpose</p> <p>Reflect and Iterate</p>
 <p>Problem - based Learning</p>	<p>5 WHAT WILL WE BUILD? Find out what you will be building</p> <p>Learners are introduced to the project which is to build a road vehicle with wheels that turn. They explore pictures of various types of vehicle to inspire their own design.</p>	<p>6 LET'S BRAINSTORM Think of everything you need for the build (materials and tools)</p> <p>Learners brainstorm what they might need in terms of materials and tools, to build their vehicles.</p>	<p>7 LET'S EXPLORE Explore your environment and find everything you need for the build</p> <p>Learners explore their classrooms, school grounds, and homes for the materials they need. These must be largely found items and recycled materials.</p>	<p>8 LET'S PLAN Decide how and who will do the build</p> <p>Learners plan and sketch a design or make a prototype of their vehicles.</p>	<p>E Enjoyment</p> <p>C Curiosity</p> <p>I Iteration</p> <p>Reflect and Iterate</p>
 <p>Design - based Learning</p>	<p>9 LET'S PRESENT Present the plan to an audience for feedback</p> <p>Learners present their plans and designs to their peers for feedback and iteration. They must be prepared to answer peers' questions.</p>	<p>10 LET'S BUILD Use your knowledge, materials and tools to build the project</p> <p>Learners build their vehicles according to their iterated plan, using the materials they collected.</p>	<p>11 LET'S CELEBRATE Exhibit what you have built and show the public how it works</p> <p>Learners show what they have learnt about road safety through a role play or song. At the exhibition they explain their project and answer questions from the public.</p>	<p>12 LET'S LOOK BACK AND LEARN Reflect on all you have learnt during the project</p> <p>Learners reflect on the process of the project using a set of reflection questions to guide their thinking.</p>	<p>A Active Engagement</p> <p>L Learner centred</p> <p>Reflect and Iterate</p>

Design-based Learning: Learners produce solutions to complex problems by designing, building, and testing prototypes (a "prototype") that solve some of the problems learners identified in the problem phase.

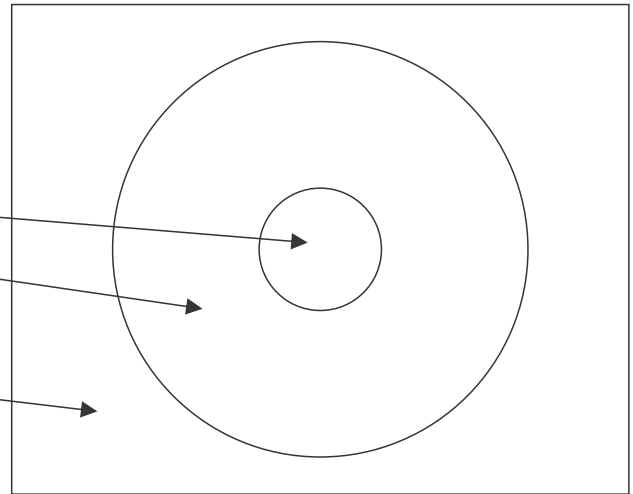
THINKING MAPS: MAKING THINKING VISIBLE

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.)

Circle Maps

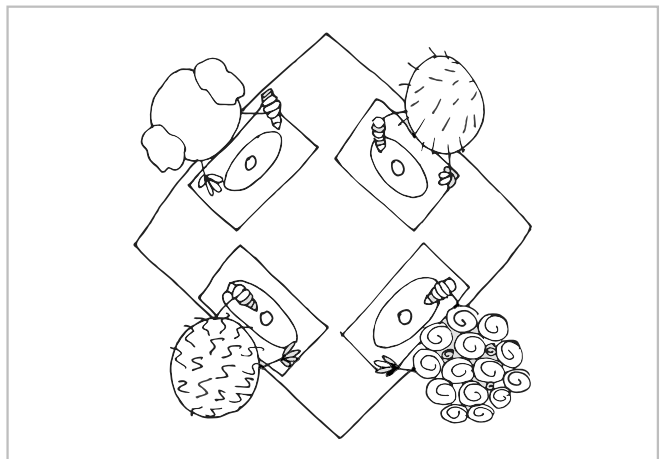
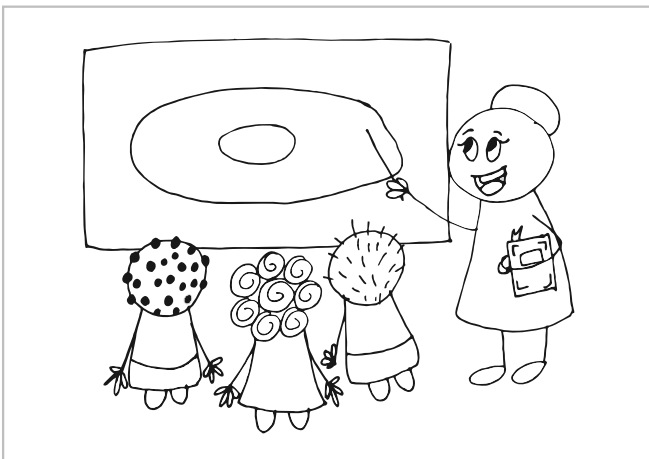
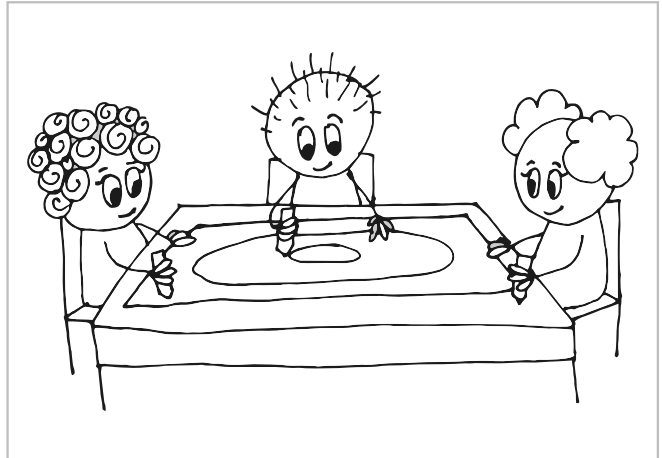
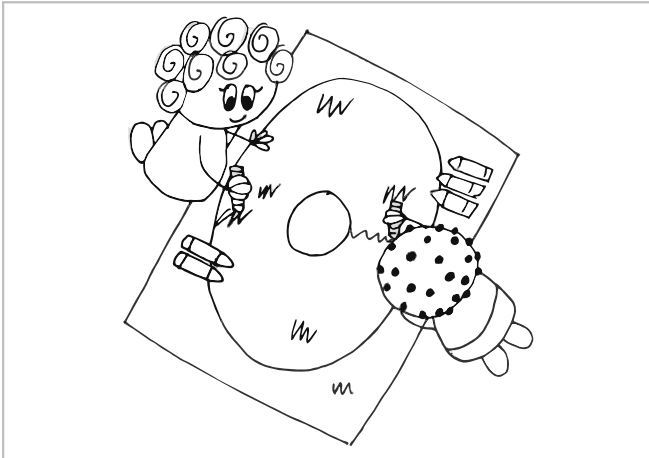
How to use them

- Write the topic in the centre
- Write/draw what you already know about the topic in the big circle
- Write/draw how you know what you know in the rectangle



When to use them

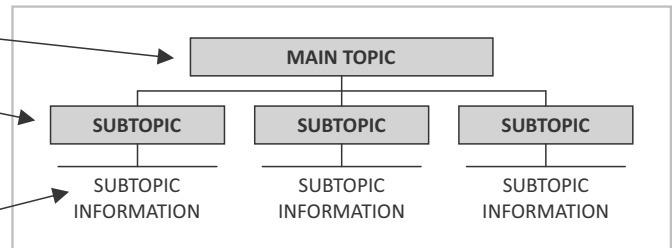
Circle maps are used whenever you want to capture brainstorm-like activities. They are used in the first step of almost all the E³ projects where learners think, discuss and share what they already know about a topic and then write or draw this knowledge onto the map. This is a way of establishing learners'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

- The main topic goes here
- The subtopics go under the main topic (There can be as many subcategories as learners can think of)
- Information relevant to the subtopic is listed here



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

Term 3. Topic: Road safety. *Can learner demonstrate knowledge of the road safety including safety rules for pedestrians and cyclists, identify and explain common road signs and how traffic officers help us.*

1	2	3	4	5
Learner has rote learnt words related to road safety but has little to no meaning attached. Struggles to connect road safety to own context i.e., cannot explain what rules he/she uses and why. Learner unaware of own gaps in learning and does not benefit much from additional assistance.	Learner has partial recall of road safety words and can explain the reason for some rules, road signs and people that keep us safe on the road. Needs help bridging road safety from book learning to own context e.g., may struggle to recall road safety signs they see on the way to school or what pedestrian rules they use.	Learner describes / explains most road safety rules, signs and people who keep us safe on the road. Can apply rules to own context i.e., explains what roads signs exist in their area, and what rules they use to keep safe. Learner asks questions to learn more.	Comprehension is good. Learner can explain road safety concepts clearly and in some detail. Clear application of the rules to their context i.e., can answer, "What rules do you use and why?" Learner is curious and asks questions to a variety of people to learn more.	Excellent understanding of road safety. Learner has explored the topic, e.g., has found books on the subject. Learner can explain which rules apply to their context but knows why it is important to understand all rules i.e., why you must learn about robots even if there are none in the area.

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.	<input type="checkbox"/>
Not everyone likes change, so if PPBL projects are new to the school be sure to explain to parents, caregivers and learner what the projects are all about and more importantly the benefits of the PPBL approach to learning and teaching.	<input type="checkbox"/>
Different coloured bottle caps/ counters for data collection.	<input type="checkbox"/>
If possible, invite a traffic police officer to participate in an interview with learners. Invite the same officer to the Celebrate and Share event.	<input type="checkbox"/>
Ensure learners have the DBE Term 3 Life Skills workbooks in the Language Of Learning and Teaching (LOLT).	<input type="checkbox"/>
Gather any resources you already have, and that your learners can contribute, to create a theme table or display.	<input type="checkbox"/>
Decide how you want to use the thinking maps and make and copy accordingly.	<input type="checkbox"/>
Have a place, such as a project portfolio, where learners can store their thinking maps.	<input type="checkbox"/>
Diarise a date when the vehicles will be presented and celebrates. Invite lots of people and make it a true celebration.	<input type="checkbox"/>
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.	<input type="checkbox"/>
Think about a classroom management strategy. Decide on rules and that make the classroom an enjoyable learning space for everyone.	<input type="checkbox"/>

THE JOURNEY: STAGE 1

INQUIRY-BASED LEARNING

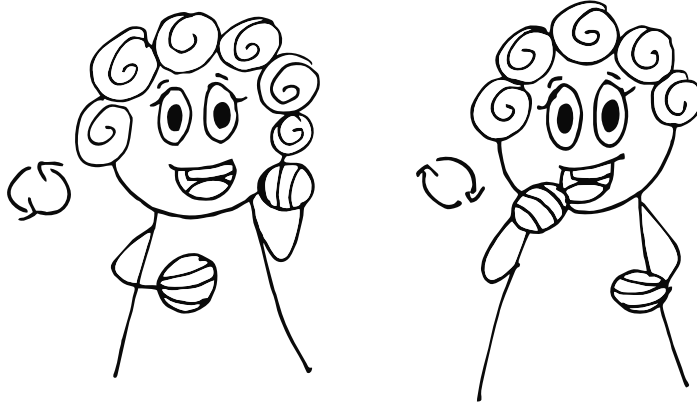


STEP 1

Let's talk and share



1. This project focuses on road safety. To start establishing the vocabulary around this theme start with a movement activity called, "Move like a motor car." Ask learners to pretend to hold a steering wheel and:
 - Drive straight.
 - Turn your steering wheel to make a right turn.
 - Turn your steering wheel to make a left turn.
 - Lean back wards as we drive up a hill and lean forwards as we drive down a hill.
 - While 'driving straight' press down on a pedal with your right foot and then you left foot.
 - Look right, look left and look right again.



2. Learners can write their own instructions on large sentence strips which other learners can read and follow.

Turn right and turn right again



Teaching tip: Healthy bodies, healthy minds

- While learners are 'driving' encourage them to sit up straight, pull their tummies in and drop their shoulders to develop core stability.
- The steering wheel can be 'held' with arms straight out or with elbows slightly bent. Holding this position strengthens the shoulder muscles which ultimately affects pencil control and handwriting.

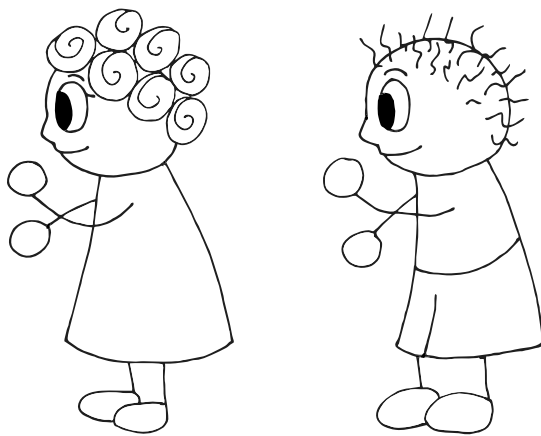
NOTEPAD



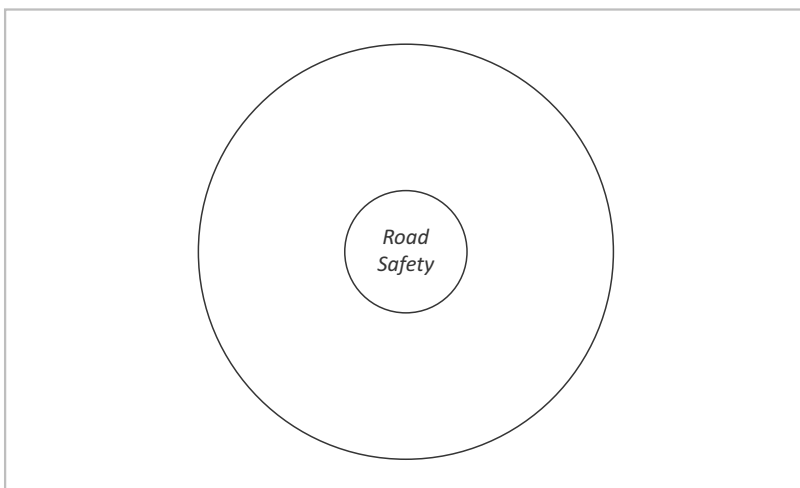
Note your bright ideas here:

Note your reflections here:

4. Take this activity outside so learners have enough space to steer and move at the same time. Learners can:
 - Drive forwards, and backwards (reversing) along straight or curving or zigzag lines.
 - Drive in shapes for example driving along the shape of a square with all the right-angle turns or a circle to feel the curve.
 - They can speed up and slow down moving from walking to running and back to walking.
5. To add a challenge, learners can play, "Follow the driver". In this game learners pretend to be in a car and the driver and passengers need to move together at the same speed and turn in the same direction at the same time, as would happen in a real car. Adding more passengers will increase the challenge and the fun.



6. After the driving game, learners can park back at their desks and prepare to share all they know about road safety.
7. In groups, learners discuss WHAT they know about road safety and share their experiences about being pedestrians, cyclists or passengers. They also need to explain HOW they learnt their knowledge. Using a bright colour, learners write and/or draw their knowledge onto a circle map to make their thinking visible.



NOTEPAD



Note your bright ideas here:

Note your reflections here:

STEP 2

Let's listen and learn



1. Refer learners to their DBE Life Skills grade 2 book 2, terms 3,4: page 23.



Rules for pedestrians (people who are walking)

- Before you cross a street, always look right, then left and then right again to make very sure there are no cars, bicycles, taxis or buses coming.
- If a road is very busy find a stop street, or a robot or a zebra crossing and cross the road there – not anywhere in between.
- If there is a zebra crossing or a scholars' patrol, use it. These are the safest places to cross a road.
- Don't walk in the road. Walk on the pavement. If there is no pavement, walk as far away from the cars as you can. Always walk on the right-hand side of the road so that you can see the traffic coming towards you.
- Don't play any games near a road.
- Be extra careful before you cross at a place where cars enter or turn off the street.



Rules for people on bicycles



- Make sure there is nothing wrong with your bicycle. Check your tyres, the brakes, the pedals, the chain, the handlebars, bell and light before you ride.
- At night or when the light is bad, you need a bright light on your bicycle at the front, and a shiny sticker on the back.
- Always wear a helmet. It will help to keep your head from getting hurt if you fall or you have an accident. A helmet can save your life.
- If there is a special cycle path, use it instead of the road.
- Plan how you will get to where you are going.
- Use the safest route, not just the shortest route.
- Use the correct hand signals clearly when you turn.
- Never ride next to another cyclist – always ride behind one another.
- Never do tricks on your bicycle when you are riding in the road.



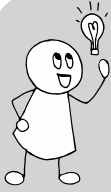
2. The focus of this step is to introduce learners to the rules for pedestrian and cyclist safety using a learner-led reading strategy.
3. Arrange the learners into groups making sure there is at least one good reader per group. Allocate each group one of the sets of rules in the DBE workbook. There will be groups doing the same reading. (Feel free to add in different or extra resources here.)
4. The lead reader in each group reads the rules. The rest of the group listens and follows in their books.
5. After reading, each member of the group must ask the lead reader or the group at least one question about the reading. It can be something they don't understand or something they might want to know more about.
6. The groups can then swap and repeat the process with the new set of rules. Learners can take turn to be leader readers where appropriate.

NOTEPAD



Note your bright ideas here:

Note your reflections here:



Teaching tip: Benefits of learner-led reading

- Smaller groups mean more learners will participate.
- Develops active listening skills.
- Stimulates questioning skills.
- Fosters metacognition and active learning: learners think about and evaluate what they do and do not understand.
- Teachers can facilitate, walk around the groups, listen to the reading and questioning, and offer support where needed.

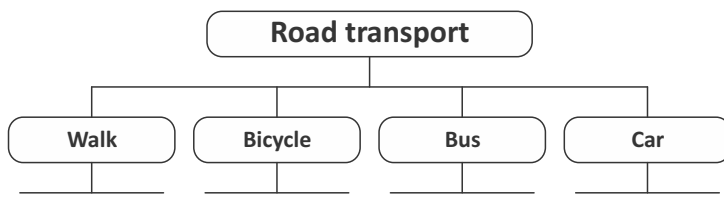
7. To tie up this step, learners can turn to page 22 of the DBE Life Skills workbook and discuss, all the road safety rules they can see being broken and what they should do instead.

STEP 3

Let's get organised



- Learners will participate in creating a tree map to organise their knowledge about road safety. Start this step with a little problem to solve. Ask learners how they can find out:
 - What types of transport learners use to come to school and
 - How many learners use each type of transport?
- Let them grapple with the problem. There will probably be learners who will come up solutions and who can lead this activity. If not, facilitate the process and get learners to move into groups according to the transport they take to school.
- Using the different categories of transport, you can create the tree map.
- You can make copies of this tree map for each learner or create a big map on the board for learners to copy into their exercise books. These do not need to be precise and neat, but they do need to show each subcategory clearly.



5. Learners need to add at least three safety rules under each subtopic of transport. They can discuss what information could go under each subtopic in their groups, but each learner must fill in their own tree map.

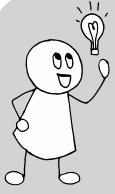
NOTEPAD



Note your bright ideas here:

Note your reflections here:

6. A quick look at the tree maps will help you assess who is coping and who needs help.



Teaching tip: Interviewing a real-life traffic police officer

Learners love a guest visitor, and road safety is a great time to invite a traffic police officer to talk to the learners.

This can be set up like an interview. Before the visit, ask learners what questions they would like to ask the police officer. This makes questioning purposeful, gives a sense of ownership of the interview and shows that their interests and thoughts are respected.

NOTEPAD



Note your bright ideas here:

Note your reflections here:



Cross-curricular connections

Setting up an interview with learners offers an authentic opportunity for developing language skills.

LANGUAGE

Listening and speaking

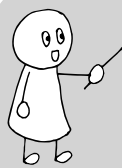
Participates in discussions, asking and answering questions. Uses appropriate language with different people such as interviews different people.

Reading and phonics

Reads own and others writing.

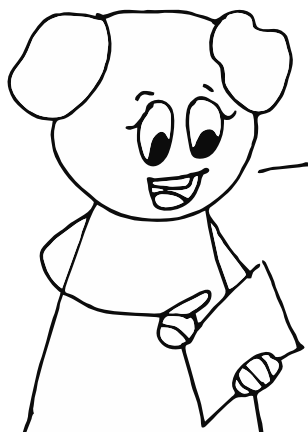
Writing

Uses correct punctuation (in this case questions marks) so that others can read what has been written.



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

Giving learners opportunities to reflect on and ask questions about topics that interest them **inspires curiosity** and nurtures intrinsic motivation and lifelong learning.



Why is the sky blue?
Why is snow white?
Where does the sun go after it sets?
Why...? Where...?
When...? How...?
So many questions!

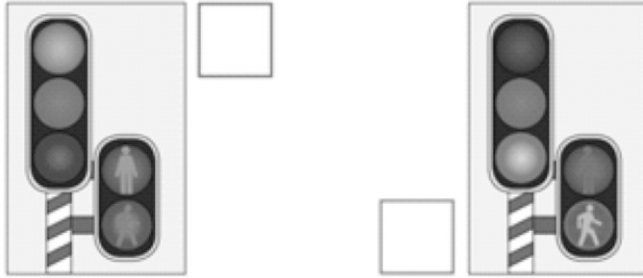
STEP 4



Let's use our learning

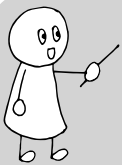
1. Begin this step by sharing this problem (or something similar) with learners.

"In assembly, the principal spoke to the Foundation Phase about the importance of road safety because there have been reports of learners breaking all sorts of rules and putting themselves in danger. The principal is particularly worried about the grade 1 learners who run across the road without looking."



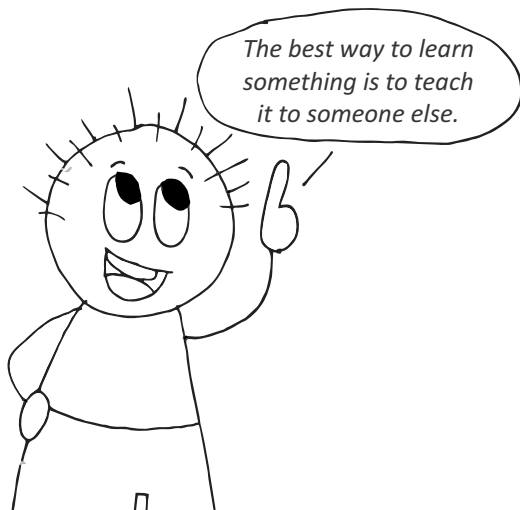
Place a tick (✓) in the box next to the robot that shows that it is safe to walk across the road.

2. Ask learners how they think they could help the grade 1 learners better understand road safety in a fun and interesting way. If they get stuck, inspire them with some ideas such as creating a story, putting on a play, making up a song or playing a game.
3. This can stay in the discussion and planning stage, or you could develop it into a mini project to present to the grade 1 class.



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

*Building in real-life applications or reasons for learning, such as learners helping each other to learn creates a sense of **purpose**.*



NOTEPAD

Note your bright ideas here:

Note your reflections here:

THE JOURNEY: STAGE 2



PROBLEM-BASED LEARNING

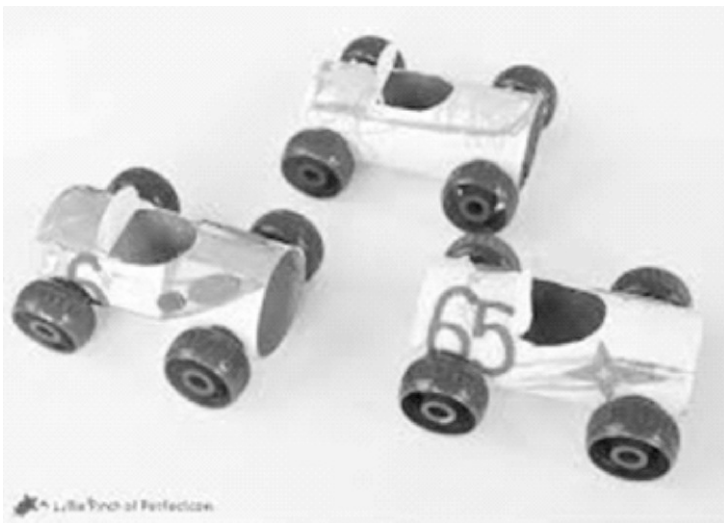
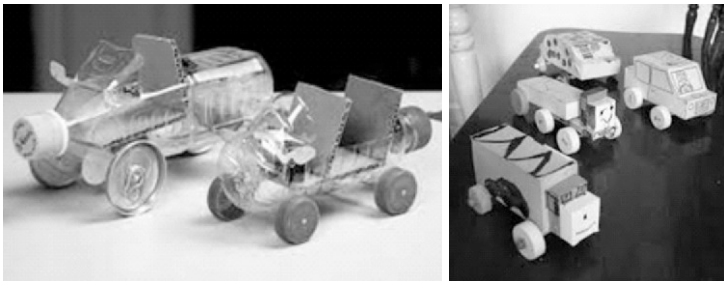
This step takes us into a new phase of the project which is problem-based learning. From here, learners take control of the project and use what they have learnt to solve a problem. This includes a lot of collaborative learning, where learners share ideas, make decisions, design plans and solve problems.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

STEP 5



What are we building?

1. It is now time to introduce learners to the project. Explain that they will work in groups and collaborate to design and build a road vehicle of their choice. The problem they need to solve is the wheels must turn so that the vehicle can roll down a slope.
2. All the vehicles must be made from found items and recycled materials. Nothing should need to be bought.
3. Begin the process by showing models, pictures and/ or videos of a variety of vehicles. (More available in the Teacher's Resource Pack but please feel free to add in your own.)



NOTEPAD



Note your bright ideas here:

Note your reflections here:

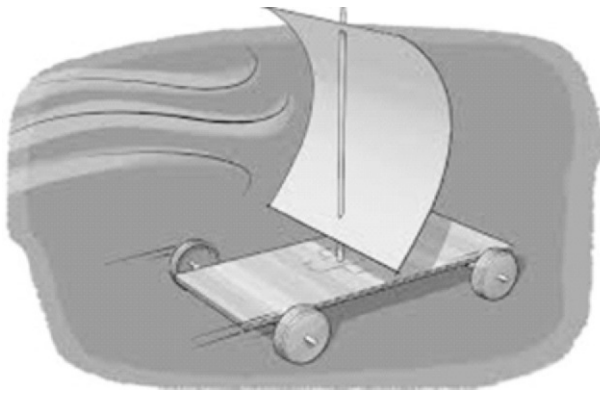
4. Give learners time to look carefully at the different vehicles and work out:
- The different materials used
 - The shapes they could use
 - How many parts there might be
 - How the different parts are joined
 - The textures and possible colours
 - How the wheels have been made and how they turn



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 vehicles which may be completely different designs. As long as they fit the criteria, there are no right or wrong road vehicles.

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 their vehicle.



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

NOTEPAD



Note your bright ideas here:

Note your reflections here:

STEP 7



Let's explore

1. Learners gather the tools and materials they need to build the vehicle.
2. They can use what is available in the classroom but are strongly 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 to discuss and plan how their vehicle will be constructed making sure the wheels will be able to turn.
2. Learners can make 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**.



Teaching tip: The competencies

The four 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 vehicles.
2. They present and explain the plans to their peers who ask questions and give feedback.

NOTEPAD



Note your bright ideas here:

Note your reflections here:

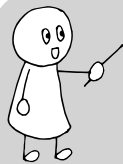


Teacher tip: Peer review and feedback guide

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

WHAT ARE WE LOOKING FOR IN A SUCCESSFUL VEHICLE?			
Does the plan make sense or is it confusing?			
Are they using only found and recycled materials?			
Has the group explained how the wheels will turn?			
Will this vehicle hold together?			

- The groups need to discuss the feedback and decide if they need to make any design changes to strengthen their vehicle.



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



- Learners have engaged in a lot of thinking, planning and designing and have collected their materials and tools. They are now ready to work together to build their vehicles. This is such a fun step as learners' hard work and preparation is brought to life.

STEP 11

Let's celebrate and share



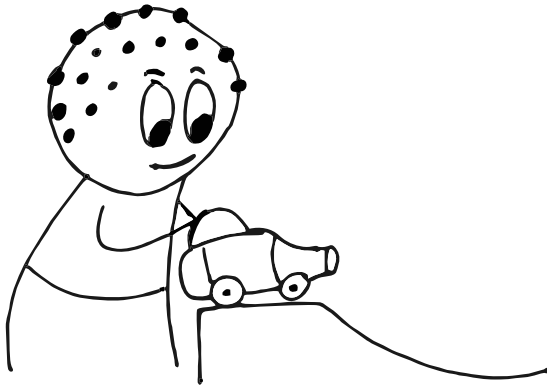
- Today is the day that learners present their vehicles to a wider audience to celebrate and share their wonderful, creative and functional vehicles.
- An exhibition can be set up and invitations sent to learners in the school, parents and people in the community to come and see the vehicles. The learners must be prepared to explain how they made their vehicles and demonstrate how the wheels work.

NOTEPAD



Note your bright ideas here:

Note your reflections here:

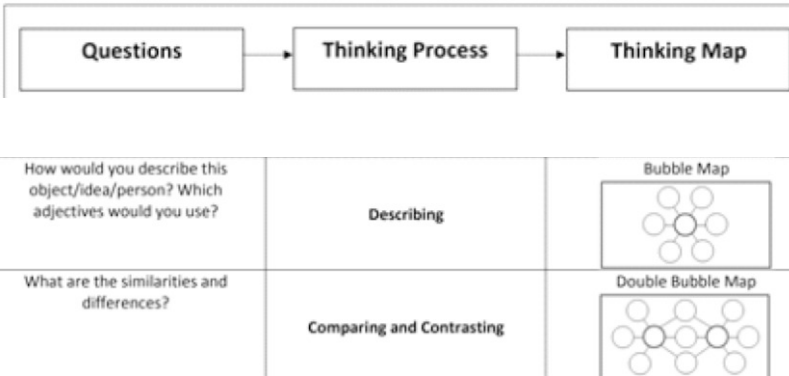


- Learners can use the Celebrate and Share step to also show what they have learnt about road safety through, for example, a song or role play. This will add great festivity to the exhibition.

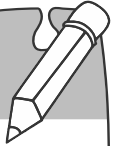


Teaching tip: Using Thinking Maps

Using the Bubble Map, learners can list all the adjectives they know to describe their vehicles. This can lead to a descriptive paragraph.
 Using the Double Bubble Map, learners can compare what is the same and what is different between two of the vehicles.
 Please see the Teacher's Resource Pack for more on Thinking Maps.



NOTEPAD



Note your bright ideas here:

Note your reflections here:

STEP 12

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 needs to think back on their experience of the project and answer these reflection questions.

- **Road safety**
 - Share five new things you learnt about road safety.
 - What is the most important piece of road safety advice you would share with your friend?
 - What would you like to learn more about road safety?
- **The vehicle 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 vehicle 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?

NOTEPAD



Note your bright ideas here:

Note your reflections here:



Cross-curricular connections

The reflection activity lends itself well to observing and assessing speaking and writing skills.

LANGUAGE

Listening and speaking

Talks about personal experiences

Writing

Shared, group and independent writing

Writes 1-2 paragraphs (at least eight sentences) on personal