Problem Solving in Santa's Workshop

Overview of Learning
Students will explore the processes and challenges involved in Santa's workshop, focusing on problem-solving, collaboration, and creativity. This context will encourage students to engage with concepts such as teamwork, logistics, and the importance of helping others, while integrating literacy and numeracy skills.

Inquiry Questions
1. How does Santa's workshop work to get everything ready for Christmas?
2. What happens if a problem arises in the workshop?
3. How do the elves work together to solve problems?
4. Why is it important to make sure everything is ready on time for Christmas?
5. What can we learn from the teamwork in Santa's workshop?

Narrative
In the heart of the snowy North Pole, Santa's workshop buzzes with excitement as Christmas Eve approaches. The elves, each with their own special skills, are hard at work crafting toys and organising the delivery schedule. However, a sudden snowstorm threatens to delay everything. Rudolph is unwell, Dancer is lame, and Prancer is not eating her food. The sleigh is broken, and Santa Claus has lost his map. To make matters worse, he has a sore back after slipping on ice. Some of the children's letters have got lost in the snow, adding to the urgency. Inside the bustling workshop a team of Problem Solvers gather in concern. They know that they must come up with solutions quickly to ensure Santa's sleigh is ready on time. Together, they must find a way to overcome these unexpected challenges and ensure that children around the world wake up to a merry Christmas morning.

Team: Problem Solvers
- **Powers**: The Team can fix broken machines, organise logistics, and coordinate the reindeer support.
- **Responsibilities**: They are responsible for ensuring all toys are delivered

safely and on time.
- **Values**: Teamwork, creativity, and perseverance guide their actions.

Purpose
The Team's purpose is to solve the problems caused by the various challenges, ensuring everything is ready for Santa's big night.

Project (Tasks & Activities)
Elf Workshop: The elves making the toys for Christmas.
Reindeer Care: The Team devises a plan to care for Rudolph, Dancer, and Prancer, ensuring they receive the necessary attention and treatment.
Machine Fixers: The Team works in pairs to fix the broken sleigh and the frozen machines using tools and creativity. They learn about basic mechanics and problem-solving strategies.
Letter Recovery: The Team creates a strategy to locate the lost children's letters in the snow, integrating problem-solving and teamwork.

Other Points of View
- **Santa Claus**: Concerned about the impact of the snowstorm and the condition of the reindeer but trusts the elves to solve the issues. He feels confident in their abilities despite his sore back.
- **Elves**: Some are worried about the tight deadline and the state of the reindeer, while others are excited to tackle the challenges and work together.
- **Reindeer Doctor**: Focused on keeping the reindeer healthy and ready for their journey. Concerned about the weather conditions and the health of the reindeer.
- **Children Around the World**: Eagerly waiting for Christmas morning, unaware of the challenges in the workshop but hopeful that everything will go smoothly.

- **The children's parents and carers:** Eager to ensure Christmas is a happy time.

Scenario Sequence

Episode 1 – Meeting Father Christmas

- Gather the students together. Put an empty chair beside you.
- Say: “When I sit on this chair, I’m going to be someone in a story. See what you notice.”
- Teacher in role (TIR): Sit on the chair and look stressed. Don’t overdo it! Rub your face, shake your head gently from side to side, stare at the ground.”
- Relax, come off the chair and ask: “What did you see?” Encourage the students to describe the actions of the character.
- Ask them to mirror what they saw: “Try doing the same thing as the person in the story.”
- Give them feedback: “Yes, they were rubbing their face and shaking their head. Why do people do that?”
- Say: “I’ll go back into the story; this time you might be able to hear what they are thinking.”
- Sit back on the chair, repeat the actions and say with a heavy sigh: “Oh, what am I going to do? There is so much to get ready, and I can’t do it all on my own!”
- Come off the chair and ask: “What did you hear?” Don’t worry if the children can’t work out who you are representing, all will be revealed in the next step.
- Say: “Let’s listen again and see if we get any more clues.”
- Sit back on the chair, repeat the actions, and say: “I’m so worried about Rudolph, he really doesn’t seem himself.”
- Come off the chair and ask: “What did you hear that time?”
- Discuss.
- Say: “Let’s hear a bit more about the story.”
- Sit back on the chair and repeat the action, this time while you are doing the actions narrate: “Father Christmas sat on the large wooden chair in his office at the top of the stairs in his workshop. All around him was the sound of elves busy making toys for Christmas Day.”

Elves

- Say: “Please stand up. Let’s have a look and see what these elves are up to?”
- Enact looking over the balcony down at the elves and narrate: “Father Christmas looked over his balcony at all the elves busy making toys. Some were making teddy bears.”
- Say to the students, “You’d could be the elves! Let’s see which ones are making teddy bears.”
- Enact making a teddy bear, showing the students what to do.
- Continue: “Some were making wooden train sets.”
- Again, enact making a wooden train set – using a saw and a hammer – so the students can see what to do.
- Say, “I’ll tell you what I’ll put Santa’s list on the board (see Powerpoint) and you grab and piece of paper and draw the toys you are making as the elves.”
- TASK – students draw the toys. Encourage them to label them if this is appropriate.
- As they draw go round as Father Christmas. Enact ticking the toys off the list.

Continue

- After completing the drawings, collect them in a pile and bring the students back together on the carpet.
- Narrate: “The elves were busy making the toys, but Father Christmas wasn’t entirely happy, he was still worried about Rudolph, one of the reindeer that pulled his sleigh. He’d called a Team of Problem Solvers (enact holding a phone), who he’d heard were very good, and they said they could help.”
- Come off the chair and ask: “What did you hear?”
- Discuss this with the students, make sure they understand all the details.
- Say: “If you’d like to know more, you’ll have to come into the story: everyone stand up!”
- Stand up with the students and say: “Oh, thank goodness you’re here! I have such a big problem, I hope you can help. I went down to the stable this morning and one of my reindeers – Rudolph, do you know him? –

was laying on the straw looking very unhappy. That is so unlike him, usually if he hears me coming he's up at the gate, swishing his tale. I don't know what's wrong with him, will you come with me and have a look?"

Episode 2 - Reindeer Care

- Say: "I'm just going to pause the story there for a moment. Everyone sit down. Let's make a circle."
- "Let's imagine we've walked over to the reindeer stables with Father Christmas, and this is what we see." Narrate: "Lying on the straw at the back of the stable, the Team of Problem Solvers could see Rudolph. He was breathing heavily, his ears drooping, his eyes red and full of tears."
- [TIR, now as a member of the Team]: "What do you think?" (Narrator) "asked one of the Team."
- Discuss this with the students. Don't give them answers, just let them talk about what they think might be wrong.
- Say: "I think it would be alright to touch him, as long as we do it gently."
- Reach out as if you are touching Rudolph's side. Encourage the students to do the same. Move your hand up and down. "Oh, he is breathing heavily! Does he feel hot to you?"
- Ask: "What do you think we should do? Shall we take his temperature?"
- "I think I've got a thermometer in my bag." Enact unzipping an imaginary bag. Ask: "Have you got one in your bag?" Some of the students might join in.
- Put a picture of a thermometer up on the board.
- Say: "Let's see if he's hot. Let's gently put it in his mouth." Gently enact putting the thermometer in Rudolph's mouth.
- Look at the imaginary thermometer and say, "Oh, yes, that does look hot. I wonder what's wrong."

- Discussion.
- Say: “Perhaps it’s a fever. What should we do if it’s a fever?”
- Discussion.
- Listen to the students’ ideas and administer the solution. Hopefully medicine! Enact giving this to Rudolph.
- Sit back and watch. Then narrate: “The Team gave Rudolph the [medicine] and sat back to watch. At first nothing happened, then gradually the reindeer began to move. Slow at first and then a little quicker: his breathing eased, his eyes opened, and his ears pricked up. Eventually his tail began to sway and he lifted his head.”
- Ask: “Shall we give him some food? What do reindeers like to eat?”
- Enact feeding the reindeer with the students.
- Say: “Shall we go back and tell Father Christmas what we’ve done? Stand up everyone!”

Part 3 - Workshop

- Narrate: “The Team went back to the workshop and climbed the steps up into Father Christmas’ office. Santa was sat in his chair when they arrived.”
- Sit back on the chair and signal for the students to sit down.
- TIR as Father Christmas. Ask: “Did you see Rudolph?”
- Let the students tell you about their encounter with Rudolph and how their medicine made him better.
- “Oh, that is such good news! Thank you, thank you! You have really saved me. Would you like to take a look around my workshop? The elves are very busy making toys for all the boys and girls.”

- TASK. Say: “Let’s pause the story there for a moment: what do you suppose Father Christmas’ workshop looks like. I expect there will be machines of all kinds – some making toys, some wrapping presents, others sorting the finished toys into boxes ready to be sent out – and there will be elves everywhere, busy at work. Let’s all grab a piece of paper and **draw** what’s going on.”
- Put a picture of Father Christmas’ workshop on the board.



- The students’ draw their versions of the workshop.

Part 4 – Machine Fixers

- As they are drawing, say: “Father Christmas is worried some of the machines might go wrong. Can you please take a close look while you are looking around the workshop and if you find something that doesn’t look right – a pool of oil, a loose screw, some smoke coming from the engine, or a broken piece of machinery – can you please add it to your drawing so we know what needs fixing.”
- As the students draw, walk round and ask them if they’ve spotted anything.

- Gather them back on the carpet and ask them to leave their pictures behind.
- Teacher as a member of the Team: “How did you get on? Did you find anything that needs fixing?”
- Discuss these things with the Team: “Oh dear, that doesn’t sound good. We’d better get on and fix them. We don’t want the machines breaking down this close to Christmas. Have you brought your tool bag? This is mine.”
- Enact unzipping an imaginary tool bag. “I’ve got all my tools in here. What sort of tools do you think we’re going to need for this job?”
- Discuss. Suggest:
    - “We might need a spanner for tightening loose bolts.”
    - “A screwdriver could help with any screws that have slipped out.”
    - “We may need a cloth to wipe up oil or clean messy parts.”
    - “We might need a hammer if something has come loose.”
    - “And we’ll need our torch so we can see properly inside the machines.”
- “Well, we’d better get started. Everyone stand up. Let’s put on our overalls, we don’t want our clothes to get dirty.” Enact this, encouraging the students to join in. “We’d better put on our gloves and safety glasses.” Etc.
- Continue: “Let’s start with this packing machine, does anyone know what’s wrong with it?”
- Enact fixing the machine, encourage the students to join in. Talk as you go along: “Oh, I don’t like the look of that pool of oil! Can someone crawl under the machine and mop it up? Try not to get any on your overalls.” Etc.
- Do this a couple more times.
- Sit back down. “Goodness me, I’m glad we got on top of that. Can you imagine what would happen if all the machines stopped working. There would no presents for all the children on Christmas Day. Do you think we should tell Father Christmas?”
- Go with what the students want. For example:

- Sit back on the chair as Father Christmas: “Did you like my workshop? What’s that, some of the machines were broken? Oh, that’s not good, did you manage to fix them? Thank you so much!” etc

Part 5 – Snowstorm

- Come off the chair and say: “That was good. I’m glad we were able to help. But unfortunately, it is not the last of Father Christmas’ problems. I don’t know if you noticed, but the wind has really started to blow hard outside and it looks like a storm is coming!”
- Show the students a **picture** on the board of a **snowstorm** around Father Christmas’ workshop.



- “The worst thing is a bag of letters from children was meant to arrive today with their Christmas wishes. It must have got lost in the storm.”
- **Show picture of mail bag in a pile snow.**



- “What do you think we should do?”

- Discussion. Give the point of view of disappointed children, but emphasise that it will not be easy: “We will need to wrap up warm and be careful not to get lost!”
- Ask: “What kind of equipment do you think we will need for this job?”
- **Show picture of Arctic weather clothing and equipment.**



- **TASK:** Students draw pictures of the equipment they are going to need, looking at the example on the board.

Part 6 - **Letter Recovery**

- Gather them back together once they’ve finished, leaving their pictures behind.
- “So here we are! Let’s get ready, shall we?” Ask everyone to stand up and then enact putting on Arctic clothing: snowsuit, gloves, hat, etc.
- Say: “It’s worse than we thought. There’s not just one bag of mail missing, but a whole lot! And some of the bags have split, so there are wet letters all over the place. We’re going to have to bring them all back and count them. Let’s get started.”
- Enact and narrate: “The team opened the door and were met with a huge gust of wind and snow. They pulled their scarves tight around their necks and set off into the storm. It seemed an impossible job, but they were determined to find every letter.”
- **TASK:** Say: “Right, let’s see how many letters we can find. Please grab a piece of paper and draw a letter every time you find one. Bring them over here and we’ll put them all together.”

- Have paper of the right size and shape on the tables and **show some examples of letters** on the board. The students draw the letters and bring them on to the carpet.



- Once this is done, gather all the students together on the carpet in a circle.
- “Gosh, what a lot of letters. We’d better count them all to make sure they’re all here.”
- Count the letters with the students.
- Finish by visiting Father Christmas again and giving him an update. TIR sitting on the chair.

Possible Next Episodes for Future Planning

The Broken Sleigh
A crack has appeared in one of the sleigh runners. The team must inspect it, test ideas for repairs, and help the elves make a new part.

The Missing Reindeer
One of the reindeer hasn’t returned from a practice flight. The team must look at clues, listen to reports from elves, and plan a safe search.

The Reindeer Health Check
Two reindeer are coughing and refusing to eat. The team needs to observe, sort simple symptoms and decide what care is needed.

The Star Map Problem
Part of the star map Father Christmas uses to navigate has smudged. The team must recreate the missing section and check that the route is safe.

The Lost Toy List

The master list of finished toys has been mislaid. The team must work with the elves to recount and organise presents.