

3.2.5 Wonderful Inventions

Brief description, and rules of the implementation of the learning activity

Wonderful Inventions is a creativity-centred learning activity in which students design imaginative inventions that solve real or fictional problems. Students begin by identifying everyday challenges (in school, at home, in nature), then generate bold, playful, or futuristic solutions. The focus is on divergent thinking; flexible idea generation; building on partners' suggestions; expressing creative reasoning; curiosity-driven exploration. The goal is not a polished invention, but a creative problem-solving process.

Skill focus

- **Primary Skill Focus**
 - Creativity
- **Complementary/ Secondary Skill Focus**
 - Empathy
 - Problem-solving,
 - Curiosity, sense of wonder and openness
 - Flexibility

Age group	Student number	Duration
6-10 years old	Whole class working in pairs or small groups	45-60 minutes

Proposed step by step implementation of the learning activity

1. **Warm-up:** What counts as an invention? The teacher shows 3–4 surprising inventions (e.g., self-watering plant pot, foldable bike). Students discuss: What problem does it solve? Why is it creative? What makes an idea unique?
2. **Creative explorer activity:** identifying problems. Students walk around the classroom or playground and note small “problems” or needs: “My backpack is too heavy.”; “The classroom gets noisy.”; “It’s hard to find lost pens.”; “The bins overflow.” They share findings in pairs and choose one to invent for.
3. **Guided activity:** Idea generation. Students generate multiple creative solutions before choosing one: crazy, impossible ideas; futuristic ideas; funny ideas; very simple ideas. Teacher prompts: “What if the invention could fly?”; “What if it could talk?”; “What if it transformed?”; “What if it helped not just you, but others too?”
4. **Main activity:** Design the invention. Students draw and label their invention. They must include name of invention; what problem it solves; how it works; special functions; who benefits from it. Pairs or small groups present short explanations.
5. **Creative extension:** Students create an advertisement for their invention; a jingle; a mini-story where their invention saves the day.

6. **Whole-class closing reflection:** Students discuss how their creativity grew and what surprised them.

Indoor/Outdoor Classroom layout notes

Ideal classroom layout includes grouped desks for creative work; a circle space for reflection; a “design studio” vibe with materials visible. Outdoors is also suitable for inspiration walks.

How does this learning activity develop this particular skill?

This activity nurtures creativity through generating multiple solutions; imagining unconventional ideas; looking at problems from different angles; transforming everyday frustrations into opportunities; building flexible, exploratory thinking; valuing personal originality. Students learn that creativity is not “being artistic,” but exploring possibilities.

What do we want to achieve regarding primary skill development (student understanding and/or behaviour)?

As a result of this activity, students will

- be able to generate original ideas, explore multiple creative solutions to everyday problems, and express their thinking in imaginative and flexible ways.
- understand that creativity involves curiosity, openness, and the courage to share and refine ideas.
- be able to describe their reasoning and build creatively on the ideas of others.

Suggested use, and practical subject-related examples

Language Arts

- write stories featuring the invention
- create instructions or persuasive texts

Science

- inventions that solve environmental problems
- machines that use renewable energy
- tools to help animals

Social Studies

- inventions that help fairness, empathy, community
- identify who benefits and why

Mathematics

- design shapes, proportions, simple patterns
- measure, draw diagrams

Materials and tools needed for implementation

- Paper, markers, coloured pencils
- Optional: recycled materials for 3D prototypes
- Prompt cards (problem cards, “What if...?” cards)
- Timer
- Presentation area

Guiding questions

- What problem did you notice and why did it interest you?
- How did your idea change as you discussed it?
- What unusual or surprising idea came up?
- Which part of the creation made you feel most imaginative?
- What new question did this invention make you think of?

Tips and Tricks for dealing with challenges

- **Challenge:** Students choose the first obvious idea.
Tip: Require three alternatives before selecting. Use “What if...?” twists.
- **Challenge:** Fear of being wrong or silly.
Tip: Encourage “wild ideas welcome”. Teacher models a humorous invention.
- **Challenge:** Uneven participation in pairs.
Tip: Assign rotating roles (drawer, idea generator, explainer). “Idea ping-pong” — alternate phrases.
- **Challenge:** Difficulty expressing the idea clearly.
Tip: Provide simple sentence frames. Students act out what the invention does.

Difficulty level tailoring

- **Beginner learners (6-7 years old):** Choose from prepared “problem cards.” Draw simple pictures with 1–2 features. Use sentence starters.
- **Advanced learners (8-9 years old):** Create detailed mechanisms or multi-step solutions. Add diagrams, labels, and written descriptions. Present to the class.
- **Expert learners (9-10 years old):** Address community or environmental issues. Create 3D prototypes. Write persuasive or reflective texts about the invention.

Debriefing and Reflection questions

Creativity and Flexibility

- Which idea were you proudest of? Why?
- What made your invention unique?
- Did your idea change during the activity?
- How did your partner help reshape your thinking?

Curiosity

- What new question did your invention raise?