

Science Project

A study to discover new knowledge or new scientific inventions by the learners themselves, using scientific methods to solve problems with teachers and experts as advisors.



Differences between Science Projects and Inventions

Project	Invention
1. Start by formulating hypotheses, causes, and objectives.	1. Start by thinking about inventing, developing, improving existing things, or creating new uses.
2. Proceed according to the scientific process.	2. Use skills and craftsmanship.
3. The output is an academic report and/or product.	3. The output is a product, equipment, or tool. (tangible)
4. Has academic data and supporting theories.	4. Does not necessarily require supporting academic data.



Science and Technology Exhibition

Organizing a science and technology exhibition is the presentation of information or scientific and technological content that is conveyed to viewers or the public.

Designing a science and technology exhibition is the integration of various disciplines to present scientific and technological content or stories by blending various sciences and arts in an atmosphere that inspires learning, to perceive, understand, and be interested in what is presented.





Science-Related Folk Games / Toys as Local Wisdom



Science-Related Folk Games/Toys as Local Wisdom.

1. Spinning toys



<https://www.smartbomcrafts.biz>

Spinning Top

Relies on balance point, angular momentum, and friction to slow down its motion.

2. Spring-powered toys



<https://www.sac.or.th>

Coconut Shell Animal Toy

Uses a rubber band as a spring. To play, twist or pull the rubber band to store energy, then release it to unwind, causing the toy to move.



การละเล่น/ของเล่นด้านวิทยาศาสตร์ที่เป็นภูมิปัญญาท้องถิ่น

3. Sound Toys



<https://www.nsm.or.th/>

Frog Drum

Produces sound from the vibration of the material or air inside the toy, sound reflection, and sound frequency.

4. Force and Motion Toys



<https://www.sac.or.th>

Flying Disc / Bamboo Copter

A toy that can lift into the air using the lift force generated by the shape of its propeller blades.



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5. Balance Toys



<https://pantip.com/topic/36977781>

Bamboo Dragonfly

Learns about balance by positioning the toy's pivot point at the correct center of gravity.

6. Problem-Solving Toys



<https://www.sac.or.th/>

Phaya Leum Ngai (Puzzle Toy)

Helps train observation skills and systematic problem-solving processes.



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7. Gravity Toys



<https://www.shutterstock.com/th/>

Yang Na Seed (Dipterocarp Seed Toy)

Uses gravitational force and the conversion between potential energy and kinetic energy to make the toy move.

8. Animal Model Toys



<https://www.sac.or.th/>

Animals on Wheels

Learns about wheels and axles, mechanical advantage and friction reduction, nature, and ecosystems.



Activities !! Science Play / Science Toys Infographic

Requirements

1. Select 1 local wisdom science toy from the given list.
2. Create an infographic presenting:
 - Shape and characteristics
 - How to play
 - Alignment with scientific concepts
 - Connection to classroom teaching applications



- Animals on Wheels
- Coconut Shell Mouse
- Spinning Top (Gum Mun)
- Bird Whistle
- Spinning Top
- Balance Buffalo
- Coconut Shell Windmill
- Phaya Leum Laeng (Puzzle Toy)
- Earthworm Toy
- Flying Bird
- Wooden Frog
- Cicada Toy
- I-Bo (Traditional Spinning Toy)

