

Games and Activities for Different Assessment Purposes with Dice and 4DFrame

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Glossary on Assessment

- Summative 總結性評估
- Formative Assessment 進展性評估
- Assessment of Learning 對學習的評估
- Assessment for Learning 促進學習的評估
- Assessment as Learning 作為學習的評估
- Performance Assessment 實作評量
- Authentic Assessment 真實評量 / 實作評量




Assessment of Learning

- To inform students, teachers and parents of student's proficiency of the learning outcomes
 - Usually in form of quiz, test and examination.
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Assessment for Learning

- To enable teachers to determine the teaching and learning materials or activities that are suitable for students
 - To provide students with descriptive feedback on his / her learning
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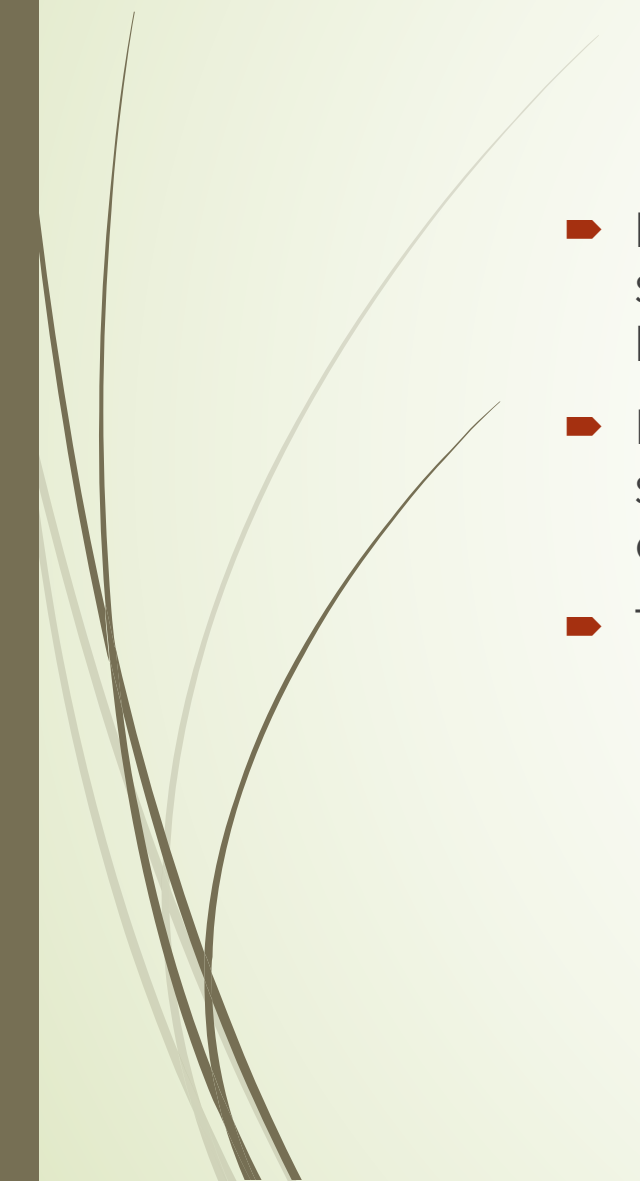


Assessment as Learning

- To guide students to monitor and critically reflect on his / her learning
- To help students to develop meta-cognition
- To provide students with how they can adjust and articulate his / her learning
- Students can report about their learning



Performance Assessment

- In performance assessment, students need to complete different tasks to show their performance and understanding on the mathematics knowledge concepts.
 - During the assessment, students need to use different skills and strategies such as observation, verifying, induction, investigation, analyzing and explanation.
 - This is what EDB refers to ‘實作評量’.
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Authentic Assessment



- In an authentic assessment, the student not only completes the given tasks to demonstrate their mathematics knowledge and skills, but also does it in real-life context.
- It is important that students can apply developed skills to another situation.
- It can be conducted with collaborative efforts of group projects.
- There are lots of different forms:

Open-response questions - a brief written or oral answer, a mathematical solution, a drawing, a diagram, chart or graph

Portfolio - journal writing, review by peers, artwork and diagrams, group reports, student notes and outlines, rough drafts to finished work

self-assessment;



4DFrame Performance Assessment or Authentic Assessment

- Performance Assessment
- Sample questions

Use 4 cm tubes and tripods to make a cube.

Use 4cm, 5cm and 6cm tubes and tripods to a cuboid.

Create a pyramid with pentagonal base using 4cm and 7cm tubes.

Create a prism and a pyramid freely. Draw your design on the spaces provide.
Explain your solid by producing a video within 1 minute.



Dice Games to facilitate Assessment as Learning

- ▶ Example (P2 multiplication)

See handouts





Dice Games to facilitate Assessment as Learning

- How do students know whether they get the correct answer or not?
- Can we help students to develop self-reflection and self-regulated skills?
Can students sustain playing the games?
- High-order thinking questions
- Mission cards for students
- Games made with different stages / levels
- Self-evaluated checklist
- The dice are given / lent to students



Informal Mathematics Curriculum



- Owing to the tight teaching schedule and the reduced class time, Games and activities can be done with informal mathematics curriculum.
- Games can be played during the class period.
- Games and activities are infused mathematics concepts with can be used in collaborative mathematics board design.
- Mathematics fun day can be arranged during the post-exam period.



Games and Activities that facilitate Assessment as Learning

- Example of using Games and Activities in informal curriculum
- In one of our project schools, dice are given to students. They can bring them home and play the multiplication games with family members.
- The dice become a learning tool for students.
- In another project school, students can choose mission card of the week from teacher. For example, the mission card shows 'I can recall the multiples of 3.' The students can collect a stamp for a completed mission.