Sample assessment task

Year level	3
Learning area	Technologies
Subject	Digital Technologies
Title of task	Game Time

Task details

Description of task	Students are to generate a game that the class can use to assist them to learn a particular skill, e.g. times tables, spelling rules. They will plan, develop and share their own game with others.
Type of assessment	Formative
Purpose of assessment	Inform progression through a learning cycle
Assessment strategy	Graphic organisers Visual representations
Evidence to be collected	Graphic organiser with game plan/design detailed Interactive game completed Evaluation sheet
Suggested time	2 x 45 minute lessons

Content description

Content from the Western Australian Curriculum	***Digital systems*** Digital systems and peripheral devices are used for different purposes ***Representations of data*** Different types of data can be represented in different ways ***Digital implementation*** Use visually represented sequenced steps (algorithms), including steps with decisions made by the user (branching) Create and communicate ideas and information safely **Creating solutions by:** ***Designing*** Develop and communicate ideas using labelled drawings and appropriate technical terms ***Evaluating*** Use criteria to evaluate design processes and solutions developed

Task preparation

Prior learning	Students have been using various applications and games to support classroom learning and have been shown flowcharts.
Assessment differentiation	Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks.

Assessment task	
Assessment conditions	In pairs
Resources	- Software/Applications - Tablets - Laptops - Manual games that may help generate ideas, e.g. Boggle (spelling game), Battleships (maths, coordination)

Instructions for teacher

Overview of task

Discuss with students the idea of creating your own class resources by making games that can help others learn a skill such as times tables.

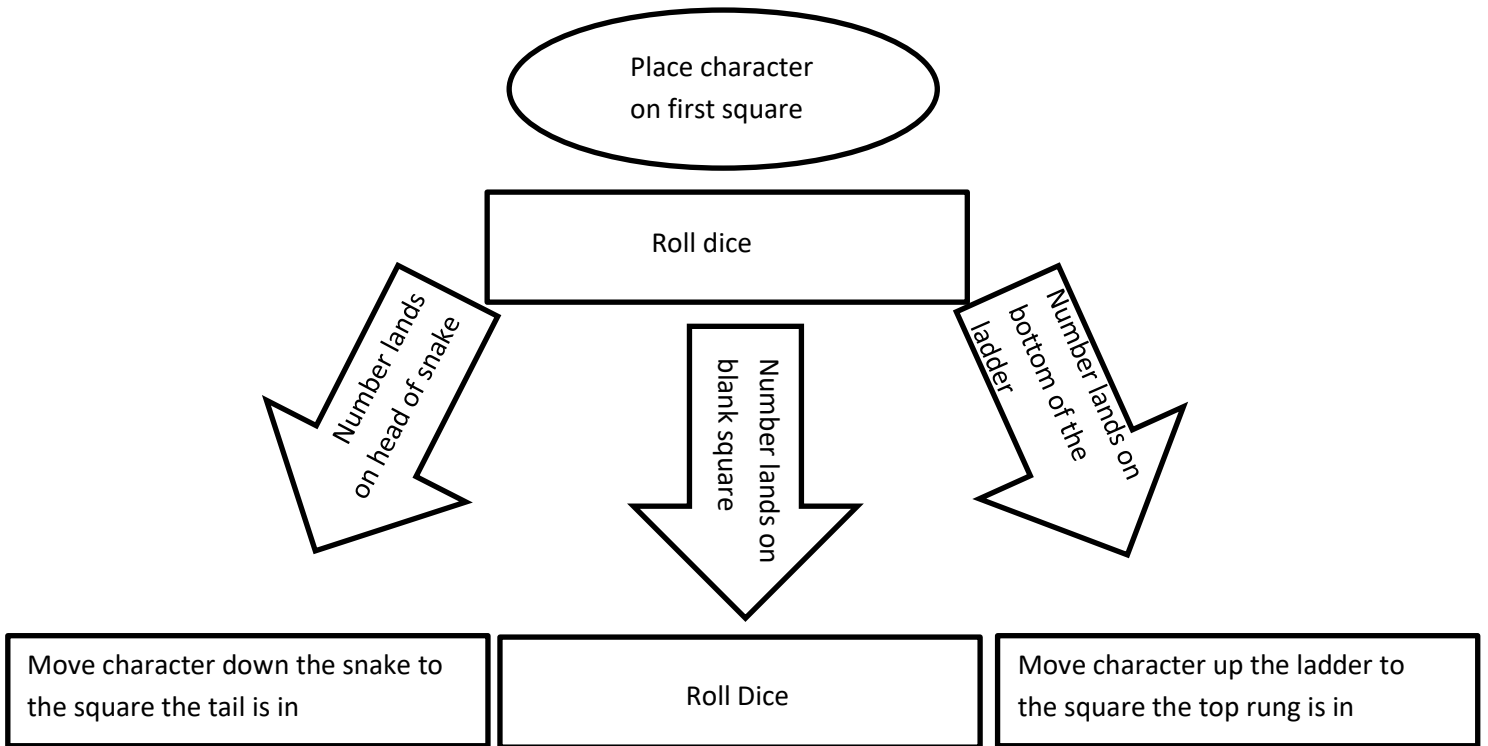Play games (both digital and board/card) to evaluate other developed games.

Pairing students is up to the teacher; ensure a spread of skills to enable success with the tasks.

Students design a learning game with a clear outline of what the game's purpose is and which allows for user input.

Task instructions

Part 1.

1. As a class, brainstorm "games" or applications that are used to assist in learning (mathematics-based, creative writing, coding)
   Trigger Questions/Prompts: What is common with these games (engaging, fun, colourful, characters, at their level of learning, rewarding)? Why do you think they are used (time, engaging)?
2. What are possible games that could be made to assist the class with its learning or teach a skill?
   Trigger Questions/Prompts: Relevant to class theme, "*We are looking at the Earth's rotation and its effect this term for Science: what would be a game that would help with your learning?*"
3. Generate a list of possible game ideas and place the list in a prominent place so students can use it for their planning.
   Prompts: Snakes and Ladders, card games
4. From the list, the teacher chooses a game to model and organise ideas using a graphic organiser, including the specifics of the game, e.g. spelling game that demonstrates rules we have to learn. Put prominently with the list of game ideas to which students may refer.
5. In pairs, students will evaluate the game options that are laid out; teacher to organise a range of games for the students to interact with and evaluate. The games can be board, card and/or digital-based.
6. Once evaluations are complete, students are to work in pairs and design a game *from the brainstormed list* and complete a graphic organiser to show all the different aspects of the game. Students will move through the 'Game Developer Sheet'.
   Trigger Questions/Prompts: Games are developed through brainstorming and planning. *Are there characters? Who are the characters? What is the games purpose? Will there be levels? Is it hard or easy? How will the user interact with the game?*
7. Students will create a flowchart of the core sequenced steps of the game.
   Prompts: Brief and broad look at a flowchart for Snakes and Ladders

```
                    ┌─────────────────────┐
                    │   Place character    │
                    │   on first square    │
                    └─────────────────────┘

              ┌──────────────────────────────────┐
              │             Roll dice             │
              └──────────────────────────────────┘
        ╱                      │                      ╲
   Number lands          Number lands on         Number lands on
   on head of snake       blank square           bottom of the
                                                  ladder
        ▼                      ▼                      ▼
```

Move character down the snake to the square the tail is in	Roll Dice	Move character up the ladder to the square the top rung is in

Part 2.

1. Using the design, students will develop a digital version of the game using a chosen software or through PowerPoint.
2. In pairs, they will have the opportunity to demonstrate the game to the whole class before it is used in a 'Game Morning'.

Any worksheets or scaffolding specific to the task

- Criteria to evaluate the games
- Design a game – graphic organiser sheet
- Flowcharts

Student handouts
Game Review Sheet:
Select at least three games to play with a partner and evaluate, using the following criteria:

			Judgements/evaluation
Game 1:	**Yes**	**No**	**GAME NAME:**
Is the game interactive? Can you make a choice? *Test and analyse the choices and describe the options and outcomes.*			
Is the game easy to use? Do you like it being easy/hard? *Justify your reasons.*			

	Yes	No	
Do you like the game and what have you learnt from the game? *Explain your answer.* *Tip: Strategy, skill, coordination.*			
Game 2:	**Yes**	**No**	**GAME NAME:**
Is the game interactive? Can you make a choice? *Test and analyse the choices and describe the options and outcomes.*			
Is the game easy to use? Do you like it being easy/hard? *Justify your reasons.*			
Do you like the game and what have you learnt from the game? *Explain your answer.* *Tip: Strategy, skill, coordination.*			
Game 3:	**Yes**	**No**	**GAME NAME:**
Is the game interactive? Can you make a choice? *Test and analyse the choices and describe the options and outcomes.*			
Is the game easy to use? Do you like it being easy/hard? *Justify your reasons.*			
Do you like the game and what have you learnt from the game? *Explain your answer.* *Tip: Strategy, skill, coordination.*			

Now it is your turn!!

Your game could be a board game or a computer game
Create a flowchart of your game

When creating your learning game, think of the users and how they will interact with your game – Will there be the following?
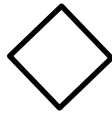
Flowchart key:

Oval = Entry or exit point

Rectangle = Task or Action

Rhombus = Condition (Yes or No)

Arrow = links to the next step

Using the flowchart as a prompter, develop a flowchart of how users will interact with your game, including changes in the game.

Game Developer Sheet

Game Developer Team Name: _____ Date: _____

What type of game are we making?
_____
_____

What is the aim of the game?
_____
_____

What characters will be in the game? Do they have any "special powers"?
_____
_____
_____
_____

Use the back of this page to continue your game developing brainstorm.

Sample marking key

Explanation:

- For each question, there is a criterion-referenced marking key, which shows the type of response expected in order for students to gain the full range of marks within each question.

The "Answers could include" section gives a sample of the sort of response that could be expected and how the mark allocation is made.

Description	Marks
Digital Implementation	
Demonstrates extensive knowledge and understanding through a detailed, labelled, graphic organiser that matches the end game. Works collaboratively with partner and incorporates ideas. May assist others in the class.	5
Demonstrates a high level of competence when planning the game, using the graphic organiser that is accurately labelled and matches the end game. Works collaboratively with partner incorporating ideas.	4
Able to accurately explain how to program a sprite, with basic details included in a drawing. Uses some technical terms to explain the movements. Works collaboratively with partner. Uses all ideas that may not be incorporated but joined.	3
Demonstrates narrow understanding and has inaccuracies in explanations and labelled drawing. Attempts to work with a partner; however, is not successful in sharing ideas and prefers to work alone.	2
Demonstrates basic understanding of programming and produces a drawing that is illogical. Does not work collaboratively.	1
Subtotal	**5**

Description	Marks
Designing	
Using the graphic organiser, independently designs a game that shows all the necessary steps for success and includes appropriate technical terminology.	5
Using the graphic organiser, independently designs a game with the necessary steps and technical terminology.	4
Using the graphic organiser, applies varied and consistent knowledge to the design process that shows accuracy. Uses some technical terminology in labels.	3
With assistance, designs a simple game using the graphic organiser that may have 3 or 4 steps. There are inaccuracies in the design.	2
Demonstrates basic competence in designing a game.	1
Subtotal	**5**

Description	Marks
Evaluating	

Demonstrates clear and comprehensive understanding of judging the games and justifies answers giving examples for clarity.	5
Demonstrates clear understanding of the evaluation process when making judgements and included examples, if necessary.	4
Demonstrates competent understanding of evaluating, with minimal justification and 1 or 2 examples.	3
Attempts to make judgements about the games that may not be accurate. Shows no justification or examples and needs prompts.	2
Requires assistance to make judgements about the games.	1
Subtotal	**5**
Total	**15**