RLP-GAMEA · RLP Video Game Design A — Play, Prototypes, Engines and Worlds

Unit 1: Play, Players and the Designer's Craft

Practice Workbook. The same problems, in the same order, as the Practice sections of the online lessons.

Name _____ Period _____

Lesson 1.1 — What Makes a Game a Game

FLUENCY

1. List the eight formal elements that every game has.

2. Name Caillois's kind of play for each: (a) a foot race; (b) rolling dice to see who goes first; (c) playing make-believe pirates; (d) the dizzy thrill of a spinning ride.

3. Put these early digital games and machines in order and give the year of each: Pong, Tennis for Two, Fairchild Channel F, Spacewar!

APPLICATION

4. Break hide-and-seek into all eight formal elements.

5. A kart-racing game has players race each other, take sharp turns at high speed and grab random item boxes. Which kinds of play does it mix? Give the feature that supplies each.

6. In *Brown v. Entertainment Merchants Association* (2011), the Court said video games communicate in two kinds of ways. Name both and explain why the second one is called the designer's territory.

7. Someone says the Royal Game of Ur, Senet and mancala were just a warm-up before "real" games were invented. Use the lesson to answer them in two or three sentences.

CHALLENGE

8. Change exactly one formal element of tic-tac-toe (for example, its boundary or its objective). State the change, then predict how the game would play differently.

REVIEW

9. Warm-up recall: define *play* as Huizinga describes it, and give one thing children learn through games before school names the skill.

Lesson 1.2 — Your First Godot Scene

FLUENCY

1. Match each file to its job in a Godot project: project.godot, main.tscn, player.gd, coin.png.import.
2. In Godot 2D, what does *Input.get_vector("ui_left", "ui_right", "ui_up", "ui_down")* return when only the left arrow is held? When only the down arrow is held?
3. Which of these can you drag straight onto a Sprite2D's Texture once they are in the project folder: hero.png, hero.kra, sprites.zip, logo.svg, hero.psd?

APPLICATION

4. A sprite has speed 150 px/s. How far does it move in one frame at 60 frames per second (delta ≈ 0.0167 s)? At 30 frames per second (delta ≈ 0.0333 s)? How far in one second in each case?

5. The default window is 1152 pixels wide. How long does a sprite moving at 320 px/s take to cross it?

6. Fix the bug. A student's sprite races off-screen on a fast computer and crawls on a slow one:
   ```
   func _process(delta: float) -> void:
       var direction := Input.get_vector("ui_left", "ui_right", "ui_up", "ui_down")
       position += direction * speed
   ```

7. The lesson's script spins the sprite with *rotation += 2.0 * delta* while Space is held. How much does the rotation value grow if you hold Space for 1.5 seconds?

8. Godot refuses to run a script and reports a "mixed tabs and spaces" error. What caused it, and how do you fix it?

CHALLENGE

9. You want a sprite to cross the 1152-pixel window in exactly 4 seconds. What value should *speed* have, and what would the crossing time be if you then halved it?

REVIEW

10. Review (Lesson 1.1): in tic-tac-toe, which formal element are the empty squares, and why?

Lesson 1.3 — Reading a Game: MDA and the Core Loop

FLUENCY

1. Label each as a mechanic, a dynamic or an aesthetic: (a) how high a character jumps; (b) players camping in a safe spot; (c) tension; (d) the price of a sword; (e) bluffing; (f) fellowship.

2. Name the four building blocks of play that sit inside a core loop, and give each one for the farming loop *plant → wait → harvest → sell → buy seeds*.

3. In one sentence each, define player-centric and designer-centric design, and say which describes *Papers, Please*.

APPLICATION

4. Change one mechanic of Tag: "it" must hop on one foot. Predict one new dynamic and one change in aesthetic.

5. Rewrite this feedback so it follows the course's critique norms: "Your game is boring."

6. A draft platformer loop reads *see a gap → jump → see the next gap*. Which of the four building blocks is missing, and how could you add it?

7. Name two things the lesson says can break immersion, and for each say what the player suddenly notices instead of the game.

REVIEW

8. Review (Lesson 1.2): what is *delta*, and what goes wrong if you leave it out of a movement line?

Lesson 1.4 — Thinking Like a Designer: Roles, Paths and Habits

FLUENCY

1. Name the role: (a) builds the spaces players move through; (b) makes story and play work together; (c) finds, reproduces and reports bugs; (d) keeps the team on schedule and within budget; (e) connects art to the engine.

2. List the four designer habits of mind from the lesson, with a few words on each.

3. Give two differences between working at a large studio and working as an indie developer.

APPLICATION

4. In May 2025 software developers earned a median of $126,120 in Missouri and $135,980 nationally. How much lower is the Missouri median, and what percent of the national median is it (to one decimal place)?

5. Using the same May 2025 Missouri figures, how much more is the median for software developers ($126,120) than for software quality assurance analysts and testers ($85,530)?

6. A student's profile says: "Missouri animators make $65,470." Name two problems with this sentence as evidence and rewrite it.

7. There is no federal category called "game designer." Choose the closest BLS occupation for each role and say what you would write: (a) gameplay programmer; (b) QA tester; (c) 2D animator.

8. You find a studio's careers page and a video interview with one of its developers. What is each useful for, and what caution does the lesson give?

REVIEW

9. Review (Lesson 1.3): the designer builds from mechanics toward aesthetics. In which direction does the player experience the game, and why does that matter in a critique?

Unit 1 checkpoint

1. In a game of marbles, which formal element is the ring drawn on the ground?
   A. Objective
   B. Resource
   C. Boundary
   D. Procedure
2. Which of Caillois's kinds of play is a game of make-believe?
   A. Agon
   B. Alea
   C. Mimicry
   D. Ilinx
3. In 1976 the Fairchild Channel F, developed by a team led by engineer Jerry _____, pioneered interchangeable programmable game _____.
4. True or false: Pressing the up arrow makes Input.get_vector return (0, 1) in Godot 2D.
5. A sprite moves at 240 px/s. At 60 frames per second (delta ≈ 0.0167 s) it moves about _____ pixels per frame, and it crosses the 1152-pixel window in _____ seconds.
6. Which backup is a complete, checked copy?
   A. main.tscn copied to a USB drive
   B. The project folder moved to the desktop
   C. A dated ZIP of the whole project folder on a USB drive, opened once to check it runs
   D. A screenshot of the scene tree

7. Players in a racing game start blocking the narrow shortcut. In MDA terms this is...
   A. A mechanic
   B. A dynamic
   C. An aesthetic
   D. A resource
8. True or false: A core loop that is tedious in thirty seconds can usually be rescued by a good story.
9. Which feedback note follows the course's critique norms?
   A. It's good.
   B. I don't like it.
   C. On level 2 I died three times at the same spike with no warning; it felt unfair. Try a visual cue before the spike.
   D. Make it better.
10. A team member builds the combat numbers and progression. Which role?
    A. Producer
    B. Systems designer
    C. QA tester
    D. Concept artist
11. True or false: A salary figure is good evidence only when it comes with the year it describes and the source it came from.

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