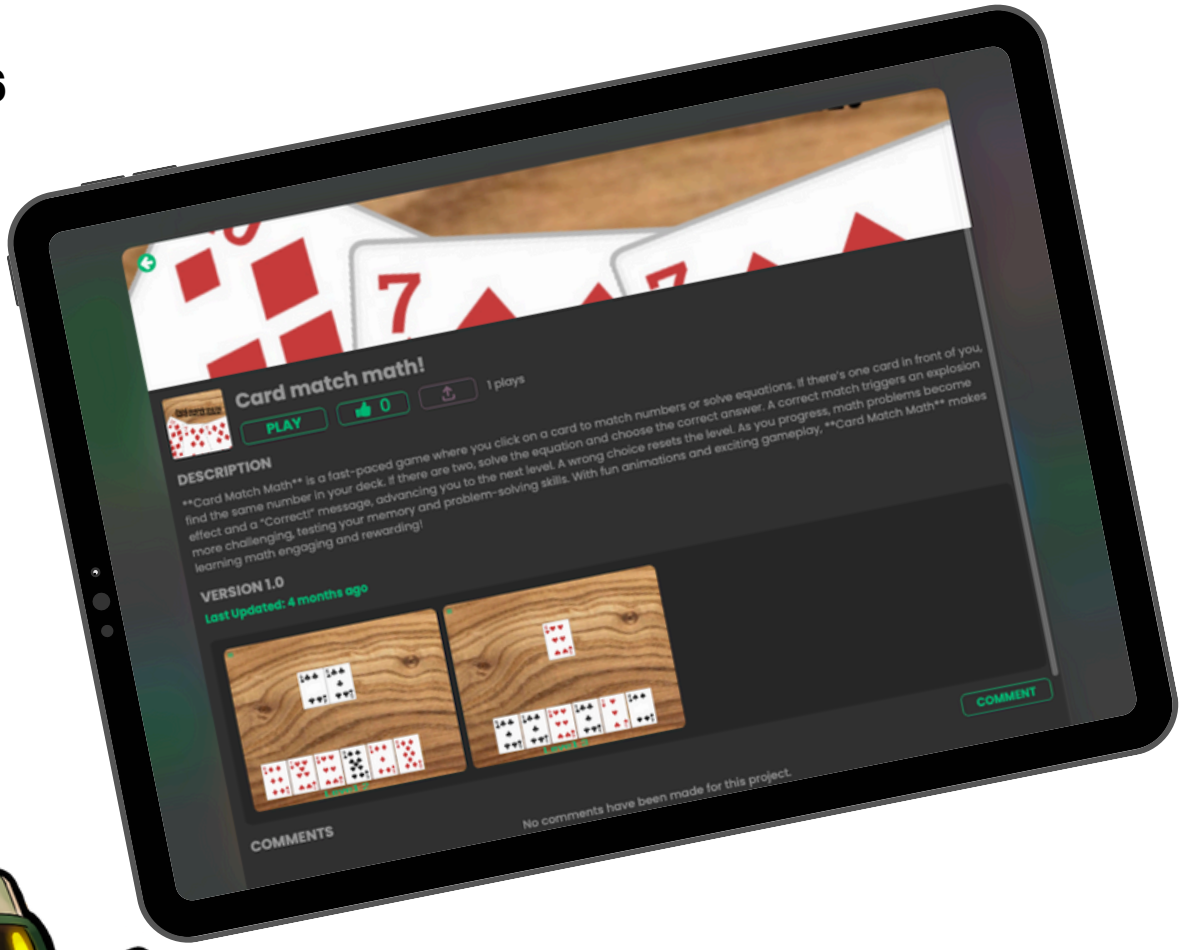
hyperpad

PRIVATE TUTORS

Math Fun

For K-6





Educational Program | By Krystal Yee

hyperpad

About Us

hyperPad is an app that lets you create your own mobile games and interactive apps—like stories, prototypes, and more—without needing to code. You can drag and drop your own pictures, set up actions, and when you're done, you can share your app on the App Store!

You can even make money by selling your app or adding ads using Google Ads. And for those curious, hyperPad runs on cool tech like Cocos2D, Chipmunk Physics, and keeps everything smooth at 60 frames per second.



hyper◆pad

Unleash Your Creativity

LEARN. CRATE. EXPLORE.

Make your own game,
without code!



HYPERPAD.COM

In Summary

Teachers can use hyperPad in the classroom to teach computer science and STEM skills by helping students quickly create games.

With our collection of lessons and activities, students will learn about important subjects with topics related to the United Nations' Sustainable Development Goals, especially quality education and innovation.





Duration: 4 weeks or 4 months

Keywords: Coding games, teaching code, iOS app development, game dev, iPad game dev

Materials:

- Apple iPad
- hyperPad app.

Course Description:
In this course designed for private tutors, students will explore math through hyperPad, an affordable and user-friendly tool for creating apps and games without writing code.

We aim to support math learning by encouraging tech integration, visual learning, and real-world relevance, providing a unique, engaging learning experience for K-6 students.

Objective: Introduce basic math concepts to young learners through hands-on, interactive activities that make math engaging and fun.

Lesson Plan Overview

1. Lesson Duration: 5 Lessons (30 minutes each)
2. Key Concepts Covered:
   - Counting
   - Shape Recognition
   - Addition & Subtraction
   - Patterns and Sequences
3. Learning Goals:
   - Recognize numbers and shapes
   - Understand and practice simple addition and subtraction
   - Identify and create simple patterns and sequences
4. Tools:
   - hyperPad on iPads
   - Preferred sound effects, animations, and interactive elements



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TEACHING - PRIVATE TUTORS | MATH FUN (K-6)

Module 1: Introduction to Math Concepts

- **Objective**: Introduce basic math concepts in a hands-on, interactive way.
- **Activities:**
  - **Digital Games:** Use hyperPad to create simple counting and shape-recognition games. Include sound effects and animations to enhance engagement.
  - **Interactive Storyboards:** Use storyboards to demonstrate addition, subtraction, shapes, and patterns.
  - **Digital Manipulatives:** Include interactive blocks, counters, and number lines, all accessible on iPads.

Module 2: Problem Solving with Visual Tools

- **Objective:** Develop problem-solving skills through visual and interactive tools.
- **Activities:**
  - **Math Puzzles & Quizzes:** Create a library of hyperPad mini-games featuring puzzles that require students to solve basic math equations.
  - **Interactive Worksheets:** Design digital worksheets where students use drawing and drag-and-drop features on the iPad to solve problems.
  - **Graphing & Geometry:** Use hyperPad to create geometry games where students can build shapes, explore angles, and visualize patterns.

Module 3: Collaborative Learning

- **Objective:** Foster group-based math learning through iPad-based challenges.
- **Activities:**
  - **Team Challenges:** Develop group games in hyperPad where students work together to achieve goals, such as time-bound counting or shape-recognition tasks.
  - **Math Relay Races:** Students take turns solving a math problem on hyperPad before “passing” the iPad to a teammate for the next problem.
  - **Leaderboard and Rewards:** Incorporate a point system in hyperPad to recognize team achievements, helping to build collaboration and healthy competition.

Module 4: Math in Real Life

- **Objective:** Show real-life applications of math through engaging, themed activities.
- **Activities:**
  - **Simulated Real-World Games:** Design games on hyperPad that mimic activities like shopping (addition and subtraction), building (shapes and measurement), and budgeting (introduction to numbers and value).
  - **Sustainability Math:** Incorporate math games focused on counting and comparing natural resources (like water or trees) to highlight sustainability themes. This could involve tracking resources in a simulated environment.

Summary and Learning Outcomes

By the end of this module, students should be able to:

- Confidently count numbers up to 10 and recognize common shapes.
- Understand and practice basic addition and subtraction using visual aids.
- Recognize and create simple patterns.
- Enjoy an interactive learning experience that promotes curiosity, logical thinking, and problem-solving skills through play.

Material Development

1. **Digital Worksheets:** Develop interactive worksheets with drag-and-drop activities for basic math tasks, utilizing hyperPad's visual toolset.
2. **Lesson Plans:** Integrate iPad apps with clear, simple instructions for teachers, ensuring each lesson promotes problem-solving and creativity.
3. **Game-like Math Tasks:** Use hyperPad to build simple, game-like exercises, such as interactive counting games, pattern recognition, and basic arithmetic challenges.

This structure will support math learning by encouraging tech integration, visual learning, and real-world relevance, providing a unique, engaging learning experience for K-6 students.

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Module 1

Introduction to Math Concepts



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MATH FUN (K-6) | MODULE 1.0

Objective:
Introduce basic math concepts to young learners through hands-on, interactive activities that make math engaging and fun.

1. Lesson Duration: 5 Lessons (30 minutes each)
2. Key Concepts Covered:
    - Counting
    - Shape Recognition
    - Addition & Subtraction
    - Patterns and Sequences
3. Learning Goals:
    - Recognize numbers and shapes
    - Understand and practice simple addition and subtraction
    - Identify and create simple patterns and sequences
4. Tools:
    - hyperPad on iPads
    - Preferred sound effects, animations, and interactive elements

Module 1: Summary and Learning Outcomes

By the end of this module, students should be able to:

- Confidently count numbers up to 10 and recognize common shapes.
- Understand and practice basic addition and subtraction using visual aids.
- Recognize and create simple patterns.
- Enjoy an interactive learning experience that promotes curiosity, logical thinking, and problem-solving skills through play.

Evaluation and Reflection

- Assessment: Conduct a quick assessment after each lesson to gauge comprehension. For example:
  - Counting and Shapes: Ask students to count objects or identify shapes around the classroom.
  - Addition and Subtraction: Have students apply addition and subtraction using classroom objects (like pencils or erasers).
  - Patterns: Encourage students to create patterns with physical items, like colored blocks or beads.
- Reflection:
  - Wrap up each lesson by discussing what they enjoyed and what they found challenging.
  - Encourage students to think about real-life examples of what they learned (e.g., patterns in nature, counting items at home).

Resources and Materials

- hyperPad Project Files: Prepare simple hyperPad project files for each activity that include pre-built elements (blocks, counters, animations).
- Lesson Printouts: Provide printable resources, such as pattern worksheets or number lines, for additional offline practice.
- Engagement Tips:
  - Integrate student voices by having them narrate simple tasks or give instructions to each other.
  - Use colorful visuals and sound effects to maintain enthusiasm, especially for younger students.

Lesson 1: Getting Started with Counting and Shapes

- Objective: Recognize and count numbers from 1 to 10; identify and name basic shapes (circle, square, triangle).
- Activity 1: Digital Counting Game
  - Instructions:
    i. Students open a simple counting game in hyperPad.
    ii. They interact with animated objects (e.g., apples, stars) that they can tap to count from 1 to 10.
    iii. As they tap each object, a sound effect (e.g., “ping”) confirms the count.
  - Goals: Reinforce counting skills and number recognition.
- Activity 2: Shape Match-Up
  - Instructions:
    iv. Students drag and drop various shapes onto matching outlines displayed on the screen.
    v. The game announces the shape name (e.g., "Square!" "Triangle!") as they match correctly.
    vi. Correct matches are rewarded with animations (e.g., the shapes spin or grow).
  - Goals: Recognize and differentiate between basic shapes.

Lesson 2: Interactive Storyboards – Introduction to Addition

- Objective: Understand and practice basic addition using interactive storyboards.
- Activity: Storyboard Math Adventure
  - Instructions:
    i. Students use a simple storyboard scene in hyperPad to "add" objects, like stacking blocks or putting apples in a basket.
    ii. They follow a story prompt, such as "If you add 2 more apples to your basket, how many do you have now?"
    iii. Tapping to add objects triggers the on-screen addition and an animation effect.
    iv. Students then input the total number.
  - Goals: Visualize addition in real-world scenarios, promoting both conceptual understanding and engagement.

Lesson 3: Interactive Storyboards – Introduction to Subtraction

- Objective: Develop an understanding of subtraction through interactive visuals.
- Activity: Subtraction Storyboard Scene
  - Instructions:
    i. In hyperPad, students interact with a story where they “take away” objects, like putting apples back or removing toys from a shelf.
    ii. Story prompts guide students through subtraction scenarios: “You have 5 apples, but you give 2 to a friend. How many are left?”
    iii. Each “taken” object triggers a subtraction event on-screen, followed by an animation and sound effect.
  - Goals: Build familiarity with subtraction as "taking away," with visual support to reinforce the concept.

Lesson 4: Digital Manipulatives for Counting and Basic Math

- Objective: Use digital manipulatives to reinforce counting, addition, and subtraction.
- Activity 1: Counting with Digital Blocks
  - Instructions:
    i. Students use virtual blocks on the iPad as manipulatives to explore addition and subtraction.
    ii. They drag blocks into groups to create sums or subtract blocks to see differences.
    iii. Each interaction triggers a visual counter showing the total.
  - Goals: Reinforce foundational math skills through hands-on manipulation.
- Activity 2: Number Line Practice
  - Instructions:
    iv. Students use a digital number line to count forwards and backwards.
    v. They complete prompts, such as “Count to 5 on the number line,” by tapping to move along the line.
    vi. For addition/subtraction, they can visually jump forwards or backwards on the line.
  - Goals: Strengthen counting sequences and introduce addition/subtraction using the number line.

Lesson 5: Patterns and Sequences

- Objective: Identify and create simple patterns and sequences.
- Activity: Building Patterns Game
  - Instructions:
    i. Students are introduced to patterns (e.g., ABAB or AABB) through visuals on the screen.
    ii. They use shapes or colors in hyperPad to build these patterns by dragging and arranging blocks.
    iii. Correct sequences trigger animated effects or “success” sounds, encouraging them to experiment with pattern creation.
  - Goals: Recognize repeating patterns and understand sequencing, developing logic and memory skills.

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Module 2

Problem Solving with Visual Tools



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MATH FUN (K-6) | MODULE 2.0

Objective: Help students develop problem-solving skills using interactive, visual tools that encourage exploration and critical thinking in math.

Lesson Plan Overview

1. **Lesson Duration**: 5 Lessons (30-40 minutes each)
2. **Key Concepts Covered**:
   - Problem-solving strategies
   - Basic equations and operations
   - Geometry concepts (shapes, angles)
   - Data visualization through graphs
3. **Learning Goals**:
   - Apply math concepts to solve puzzles and problems
   - Use visual tools to explore geometry and create shapes
   - Develop analytical skills by using digital worksheets and interactive exercises
4. **Tools**:
   - hyperPad on iPads for interactive exercises
   - Built-in drawing, drag-and-drop, and shape-building tools

Module 2: Summary and Learning Outcomes

By the end of this module, students should be able to:

- Approach math problems with confidence and develop a logical problem-solving mindset.
- Solve basic equations and understand math operations through hands-on activities.
- Recognize shapes, identify angles, and build patterns.
- Use graphs to organize and display simple data visually, building a foundational understanding of data analysis.

This approach integrates visual and interactive elements with math concepts, making learning math engaging and intuitive for young students.

Evaluation and Reflection

1. **Assessment**: Use short quizzes or observation-based assessments at the end of each lesson to ensure students understand concepts. For example:
   - **Math Puzzles**: Ask students to explain their thinking process when solving puzzles.
   - **Interactive Worksheets**: Review the digital worksheets to see if they solved problems accurately.
   - **Geometry and Graphing**: Have students describe shapes or present the graphs they created to the class.
2. **Reflection**:
   - Conclude each lesson with a brief discussion of what students enjoyed, what was challenging, and how they approached solving problems.
   - Encourage students to think about where they see math patterns, shapes, and graphs in daily life.

Resources and Materials

1. **Pre-made hyperPad Templates**: Provide mini-games, worksheets, and interactive geometry tools to save time.
2. **Printable Take-Home Worksheets**: Offer simple pattern-building or graphing activities that students can complete at home.
3. **Visual and Audio Support**:
   - Add background sounds or visual cues for correct answers and subtle hints for errors.
   - Use vibrant colors and animations to make each activity visually engaging.

Lesson 1: Introduction to Math Puzzles and Problem Solving

- **Objective**: Begin with simple math puzzles that encourage logical thinking and problem-solving.
- **Activity: Puzzle Challenge Mini-Game**
  - **Instructions**:
    i. Students launch a hyperPad mini-game with puzzles that involve simple math problems (e.g., "What number plus 3 equals 5?").
    ii. Each solved puzzle reveals a new part of a picture or completes a small animation, motivating students to continue.
    iii. Levels progress in difficulty, with hints available for challenging problems.
  - **Goals**: Encourage logical thinking, reinforce addition and subtraction, and build confidence in solving math equations.
- **Discussion**:
  - Briefly discuss problem-solving techniques, such as breaking down problems and checking answers.

Lesson 2: Interactive Worksheets for Math Operations

- **Objective**: Practice math operations (addition, subtraction, multiplication) through drag-and-drop and drawing exercises.
- **Activity: Digital Worksheet Lab**
  - **Instructions**:
    i. Students open interactive worksheets in hyperPad featuring math equations that need solving.
    ii. They can use the drag-and-drop tool to place numbers and symbols in the correct spots to complete equations.
    iii. For drawing-based problems, students can draw lines to connect numbers or trace answers directly on the iPad.
  - **Goals**: Reinforce math operations through hands-on activities and introduce the concept of self-checking work.
- **Reflection**:
  - Discuss how the visual approach helps in understanding where to place numbers and solve operations, building a solid foundation for mental math.

Lesson 3: Geometry Basics – Building and Exploring Shapes

- **Objective**: Introduce basic geometry concepts by building and identifying shapes.
- **Activity: Shape Builder Game**
  - **Instructions**:
    i. Students use hyperPad to drag and arrange digital blocks to form basic shapes (e.g., square, rectangle, triangle).
    ii. As they complete each shape, an on-screen prompt asks them to identify and label it.
    iii. More complex shapes (pentagons, hexagons) can be introduced for advanced students.
    iv. Each shape-building activity ends with a fun animation that reinforces the correct answer.
  - **Goals**: Help students identify different shapes and understand their properties, laying a foundation for future geometry concepts.
- **Discussion**:
  - Talk about the number of sides and angles in each shape, introducing basic terminology.

Lesson 4: Introduction to Angles and Visualizing Patterns

- **Objective**: Introduce angles and show how patterns are made up of repeated shapes.
- **Activity: Exploring Angles and Patterns**
  - **Instructions**:
    i. Students access a hyperPad game where they arrange shapes to create patterns and identify angles within the shapes.
    ii. Prompts guide them to recognize right angles and identify repeated patterns.
    iii. They can adjust angles and create symmetrical or asymmetrical patterns, experimenting with design.
    iv. The game provides feedback on correct angles and patterns through color changes or sound effects.
  - **Goals**: Build familiarity with angles, promote an understanding of symmetry, and encourage creative problem-solving through patterns.
- **Reflection**:
  - Ask students to find patterns and angles in everyday objects, encouraging real-world connections.

Lesson 5: Graphing Basics with Simple Data Visualizations

- **Objective**: Introduce graphing concepts and practice plotting points on simple graphs.
- **Activity: Graphing and Data Game**
  - **Instructions**:
    i. Students enter a hyperPad activity where they collect simple data (like counting colored blocks) and plot it on a digital bar graph or line graph.
    ii. They tap to add points, then drag to connect lines or build bars on the graph.
    iii. Each correct graph creation triggers an animation that shows the data being displayed accurately.
  - **Goals**: Introduce students to data visualization, demonstrate how to create and interpret graphs, and show how math applies to organizing information.
- **Discussion**:
  - Reflect on how graphs help us understand information better, reinforcing the concept with real-world examples (like counting toys, animals, or food items).

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Module 3

Collaborative Learning in Math with hyperPad



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MATH FUN (K-6) | MODULE 3.0

Objective:
Foster group-based math learning through iPad-based challenges.

Materials Needed:
- iPads with hyperPad installed (1 per group)
- Pre-made hyperPad templates for each activity (optional)
- Whiteboard or display for leaderboard tracking
- Small rewards (stickers, badges, etc.)

Lesson Outline

1. **Introduction (10 mins)**
    - Explain the purpose of collaborative learning and how today's math activities will focus on teamwork and problem-solving.
    - Briefly introduce hyperPad, emphasizing its drag-and-drop features and how students can use it to interact with math challenges.

Activity 1: Team Challenges (20-30 mins)

- **Setup:** Divide students into small groups (3-4 per group). Each group gets an iPad with hyperPad ready to use.
- **Challenge Design:**
  - Students open a pre-designed hyperPad game or create their own (depending on their skill level).
  - Examples of challenges:
    - **Counting Challenge:** The game prompts students to count objects displayed on the screen within a set time limit.
    - **Shape Recognition:** Students are shown different shapes and must tap the correct shape as quickly as possible.
- **Rules:**
  - Each team works together, discussing and agreeing on answers before time runs out.
  - Teams earn points for each correct answer.
  - **Goal:** Encourage students to communicate, strategize, and support each other.
- **Teacher's Role:** Monitor groups, offering hints or support as needed and encouraging positive teamwork.

Activity 2: Math Relay Races (20 mins)

- **Setup:** Each team lines up with one iPad per team. The first student solves a math problem on hyperPad, then passes the iPad to the next teammate, continuing until all team members have taken a turn.
- **Relay Game Design:**
  - Use hyperPad to create a “math relay” with consecutive problems that unlock in sequence as each one is solved.
  - Problems could range from simple arithmetic (for younger students) to fractions, multiplication, or problem-solving puzzles for older students.
- **Rules:**
  - Each student must solve one problem, then pass the iPad to the next teammate without help from others.
  - The team that finishes all problems first wins.
- **Teacher’s Role:** Observe teams to ensure smooth transitions and fair play.

Activity 3: Leaderboard and Rewards (10 mins)

- **Setup:** Track team scores on a visible leaderboard (either on a whiteboard or within hyperPad if using a points feature).
- **Point System:** Assign points for each correct answer, completed relay, and bonus points for teamwork or creative problem-solving.
- **Rewards:**
  - Recognize top teams with small rewards to celebrate achievement and teamwork.
  - For ongoing challenges, you might establish weekly or monthly awards for collaborative accomplishments.

Wrap-up and Reflection (10 mins)

- Gather students for a discussion about what they learned from working in teams.
- Encourage students to share what they enjoyed, what they found challenging, and how they solved problems together.
- Emphasize the value of collaboration in math and other subjects.

Assessment and Extensions

- **Assessment:**
- Observe each team's collaboration and problem-solving approach. Note individual participation levels and teamwork dynamics.
- **Extension Ideas:**
  - **Creative Math Games:** Encourage teams to design their own simple math games in hyperPad, focusing on specific math skills like addition, subtraction, or geometry.
  - **Monthly Challenge Board:** Set up monthly collaborative challenges where students compete to reach specific goals or create new math activities for their classmates.

This module should help teachers foster collaborative skills and enthusiasm for math through engaging, team-based challenges with hyperPad. Teachers can also adapt the activities for different skill levels or math concepts as needed.

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Module 4

Math in Real Life



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MATH FUN (K-6) | MODULE 4.0

Objective:
Demonstrate real-life applications of math through engaging, themed activities that connect math to everyday experiences and sustainability.

Materials Needed:
- iPads with hyperPad installed (1 per group)
- Optional: printed handouts for planning (shopping lists, building plans, resource trackers)

Lesson Outline

1. **Introduction (10 mins)**
    - Discuss with students how math is a part of everyday life and how today's activities will show practical uses of math.
    - Briefly introduce each activity, explaining how it mirrors real-world scenarios (like shopping, building, and budgeting).

Activity 1: Simulated Real-World Games (20-30 mins)

- **Setup:** Divide students into groups, with each group having an iPad loaded with hyperPad. Introduce each scenario: shopping, building, and budgeting.
- **Real-World Game Scenarios:**
  - **Shopping Simulation:**
    - Students create a simple shopping game on hyperPad where they "buy" items by solving addition and subtraction problems to keep within a budget.
    - Example: Each item has a cost, and students calculate totals to ensure they stay within a set amount.
  - **Building and Measurement:**
    - Students use basic shapes to "build" structures in hyperPad. They must measure lengths, widths, and areas of shapes and understand concepts of size and proportion.
  - **Budgeting Basics:**
    - Students manage a simulated budget, allocating points or currency to different items or categories (e.g., food, toys, school supplies).
    - Students must make choices based on their "budget," encouraging value assessment and prioritization.
- **Teacher's Role:** Guide students through setting up each game, encourage strategic thinking, and help students understand the math involved in each task.

Activity 2: Sustainability Math (20 mins)

- **Setup:** Discuss sustainability themes with students and explain how math can help us understand and manage natural resources.
- **Sustainability Game Design:**
  - Students create a resource-tracking game in hyperPad, where they "manage" resources like water, trees, or energy.
  - Example activities:
    - **Counting and Comparing:** Students track the number of resources (e.g., trees) and see how usage affects availability.
    - **Resource Allocation:** Students simulate a small ecosystem or community, balancing resource use with conservation efforts.
    - **Impact Over Time:** Students simulate changes over days or weeks, noticing how actions like saving or spending resources impact their availability.
- **Rules and Points:** Teams earn points based on how well they manage resources, with bonuses for maintaining resource levels or reaching sustainable targets.
- **Teacher's Role:** Discuss real-world connections (e.g., conserving water, recycling) and help students understand the importance of resource management.

Wrap-up and Reflection (10 mins)

- **Discussion:** Invite students to reflect on what they learned about math in real life. Prompt questions such as:
  - "How does math help us make good choices?"
  - "What did you learn about resources and sustainability?"
- **Connection to Everyday Life:** Encourage students to think about times they might use these skills outside the classroom (shopping with parents, building with blocks, etc.).

Assessment and Extensions

- **Assessment:**
  - Observe teamwork, problem-solving, and comprehension of real-life applications. Look for understanding of budgeting, measurement, and resource tracking.
- **Extension Ideas:**
  - **Weekly Shopping Challenges:** Set up a "shopping" game each week with different budgets and goals to encourage practice with addition and subtraction.
  - **Sustainability Project:** Have students develop a larger game or project around sustainability, where they research a real-world issue and present a solution using math-based game design in hyperPad.

This module gives students hands-on experience with real-life math applications, making math more tangible and relevant. By using hyperPad, students engage creatively while understanding practical uses for math and building awareness of sustainability.

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ASSESSMENT

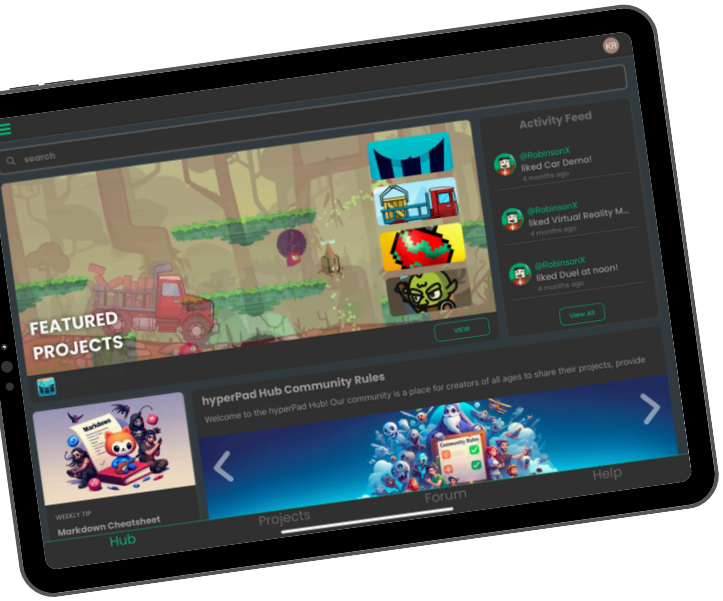
Reflection



Evaluation and Reflection

1. Assessment: Conduct a quick assessment after each lesson to gauge comprehension. For example:
   - Counting and Shapes: Ask students to count objects or identify shapes around the classroom.
   - Addition and Subtraction: Have students apply addition and subtraction using classroom objects (like pencils or erasers).
   - Patterns: Encourage students to create patterns with physical items, like colored blocks or beads.
2. Reflection:
   - Wrap up each lesson by discussing what they enjoyed and what they found challenging.
   - Encourage students to think about real-life examples of what they learned (e.g., patterns in nature, counting items at home).

What Next?

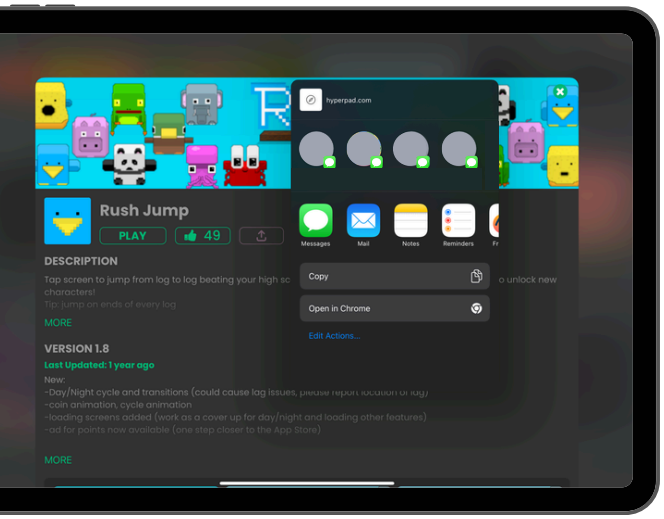


PRACTICE!

Keep creating and exploring on hyperPad with others!

SHARE YOUR WORK

Tag us on socials, use it to document your progress and discuss with fellow users.



COMMUNITY

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Want to custom a course with us? Have any questions?

CONTACT US

Marketing Coordinator
marketing@hyperpad.com