

The Time Traveller: Burj Khalifa

Level-play guide for Teachers

Each Time-Travel Tunnel contains exactly three Fact Stations with Educational content. Students must read all three to open the next portal. Once the gamer/student crosses the Fact station, next level starts.

The following is the full fact content for teacher reference:

Tunnel 1 — Before Level 1 (2002, Vision Phase)

- Fact Station 1 – The Master Plan: Planned as the centerpiece of Downtown Dubai; designed to redefine the skyline and part of a larger urban vision.
- Fact Station 2 – The Design Team: Designed by Skidmore, Owings & Merrill (SOM). Lead architect: Adrian Smith. Structural engineer: Bill Baker. Inspired by the Hymenocallis desert flower.
- Fact Station 3 – The Y-Shaped Structure: The Y-shaped footprint improves wind stability and maximizes panoramic views.

Level 1 — The Blueprint Phase (2002)

Theme: The beginning of the vision and the planning stage. Environment: A flat, barren construction site with scattered rocks, a blueprint table, giant pipes, and a crane tower.

Key #	Location	Student Task	Educational Link
1	Spawn Point	Player enters the level	Introduction to the 2002 vision
2	Kareem's Hub	Meet Kareem, receive hammer, begin mission	Role of a site foreman in project management
3	Rock Scatter Zones	Smash 5 rocks to find 5 hidden blueprint pieces	Discovery and excavation processes in planning
4	Architect NPC	Answer quiz: Who designed the Burj Khalifa? (SOM)	Skidmore, Owings & Merrill; Adrian Smith; Bill Baker
5	Giant Pipe	Move the pipe using a crane to reveal a blueprint	Crane operations; logistics of mega-construction
6	Engineer NPC	Answer safety quiz to earn a blueprint piece	Safety and planning are the foundation of engineering
7	Crane Tower Top	Complete parkour climbs to retrieve final blueprint	Vertical access and height challenges on a build site
8	Portal Zone	Return all blueprints to Kareem; portal opens	Completing a phase unlocks the next stage

Tunnel 2 — Before Level 2 (2004, Foundation Phase) +

- Fact Station 1 – Deep Foundations: Over 50 meters deep, built into desert bedrock, reinforced with steel.
- Fact Station 2 – Massive Concrete Pour: 330,000 cubic meters used; poured mostly at night because heat management was critical.
- Fact Station 3 – Engineering Scale: Thousands of workers in 24-hour work cycles, requiring precision at every stage.

Level 2 — The Foundation Phase (2004)

Theme: Building below the surface. Environment: A chaotic 50-metre-deep excavation pit with concrete mixers, cranes, scattered tools, and warehouse.

Key #	Location	Student Task	Educational Link
1	Kareem's Hub	Meet Kareem; directed to assist workers	Site orientation and task delegation
2	Ali's Station	Meet Ali (concrete worker); receive task list	Role of specialist trades on a construction site
3	Concrete Mixer	Deliver gravel; submit to mixer	Concrete mixing; 330,000 m ³ pour; heat management
4	Gravel Stockpile	Collect missing gravel; bring to mixer	Materials supply chain; forklift logistics
5	Four Valve Stations	Activate all 4 valves to begin foundation pour	Foundation engineering; the night-time pour strategy
6	Worker NPC	Receive site cleanup task	Clean sites prevent accidents; safety culture
7	Tool Scatter Zones	Find and collect 10 scattered tools	Reinforces safety and organization principles
8	Warehouse Rack	Return all tools here	Proper storage and site management
9	Crane Worker NPC	Receive voltage balancing task	Electrical systems and crane operations
10	3 Crane Control Panels	Balance voltage gauges via mini game	Precision and technical control in mega-projects
11	Portal Zone	All tasks done; portal to Level 3 appears	Completion of the foundation phase

Tunnel 3 — Before Level 3 (2007, Structure Phase)

- Fact Station 1 – Rapid Vertical Rise: Reached one floor every 3 days at peak, utilizing massive crane operations, and surpassing all height records.
- Fact Station 2 – Wind Engineering: The building moves slightly on purpose; built to bend, not break; engineered for super-strong winds.
- Fact Station 3 – Safety Systems: Mandatory safety barriers, strict inspection systems, and height-specific procedures throughout the building.

Level 3 — The Structure Phase (2007)

Theme: Reaching the sky. Environment: A high-altitude construction floor with exposed edges, a drone station, material storage, and operational elevators.

Key #	Location	Student Task	Educational Link
1	Level Entry	Spawn into Level 3; begin exploration	One floor every 3 days at peak — the vertical race
2	Construction Elevator	Use elevator to travel up and find Kareem	Material & worker transport in high-rise builds
3	Kareem's Station	Meet Kareem; directed to workers	Foreman's role in coordinating high-altitude work
4	Safety Inspector	Inspector halts all work: edges unsecured!	Height-specific safety law; no shortcuts on site
5	Safety Net Storage	Collect safety nets from warehouse	Personal protective equipment; barrier systems
6	Floor Edge Anchor Points	Install safety nets across all exposed edges	Mandatory safety barriers before work can resume
7	Materials Worker NPC	Transport paint, pipes, iron & spools via elevator	Logistics; multi-floor material management
8	Delivery Drop-off	Deliver each material to the correct floor	Supply chain accuracy and vertical logistics
9	Materials Storage	Pick up each material type for transport	Construction material inventory management
10	Drone Helipad	Place drone; calibrate for automated inspection flight	Modern technology in construction inspection
11–13	Beam Checkpoints	Drone flies through 3 inspection checkpoints	Structural beam integrity; misalignment detection

Tunnel 4 — Before Level 4 (2010, Completion Phase)

- Fact Station 1 – The Investment: Total cost approx. USD 1.5 billion; developed by Emaar Properties with Abu Dhabi support during the 2008 crisis; over 22 million man-hours.
- Fact Station 2 – From Burj Dubai to Burj Khalifa: Originally named Burj Dubai; renamed on 4 January 2010 to honor Sheikh Khalifa bin Zayed Al Nahyan; a symbol of unity between Dubai and Abu Dhabi.
- Fact Station 3 – Visionary Leadership: Championed by Sheikh Mohammed bin Rashid Al Maktoum; government backing ensured completion and redefined global skylines.

Level 4 — The Completion Phase (2010)

Theme: Celebrating a global icon. Environment: The completed 828-metre Burj Khalifa at night, with the Dubai Fountain system, crowds, and a water dock viewpoint.

Key #	Location	Student Task	Educational Link
1	Level Entry	Enter the 2010 Celebration environment	Opening day, 4 January 2010
2	Kareem's Final Station	Receive final task from Kareem	Completion of an 8-year mega-project
3	Boat Dock	Take boat across the water to the viewpoint	The Dubai Fountain; 140-metre water jets
4	Master Control Panel	Trigger fireworks, fountain & LED light show	The inauguration ceremony; national pride
5	Fountain Zone	Experience the iconic fountain system	The Dubai Fountain: one of the world's largest
6	Completed Tower	View the illuminated Burj Khalifa	Renaming; USD 1.5 billion; 22 million man-hours

NPC Characters in Gameplay

Character	Role	Educational Function
Dr. Ayaan	Timeline Expert	Guards the Time Tunnel; enforces the "No knowledge... no portal" rule; introduces each era
Kareem	Site Foreman	Appears in every level; provides orientation, assigns overarching objectives, and connects tasks to historical context
Architect	Lead Architect — 2002	Tests the player on the original design team (SOM) before handing over a blueprint piece
Engineer	Structural Engineer — 2002	Quizzes the player on the purpose of safety and planning; emphasizes that engineering is responsible design
Ali	Concrete Worker — 2004	Assigns the concrete prep tasks; contextualizes the massive pour ("it could fill 18 Olympic pools")
Safety Inspector	Inspector — 2007	Halts all Level 3 work until safety nets are installed; reinforces that safety precedes construction