Gradient Resolution Expanded · Frontiers Tabletop Engine

This document expands upon the implementation of the Gradient Resolution System as presented in the Frontiers Overview.

It also offers a few Variants and Alternatives for those who want a different version or different resolution system entirely.

Like the core Release document for this version of Frontiers, the material presented here is modular by design. Sections may be adopted, modified, or omitted depending on the needs of the system being built.

The Gradient Resolution System separates two questions:

1. **Does the Action or Activity succeed?**
2. **How strongly does that result manifest?**

These are resolved using two different dice.

Dice

Die	Name	Function
d20	Resolution Die	Determines success or failure
d10	Gradient Die	Determines deviation from standard outcome

The Resolution Die is always rolled first.

The Gradient Die is rolled **if the situation meaningfully benefits from deviation**. If degree does not matter, no Gradient Die is rolled.

Resolution Roll Procedure

When uncertainty is present:

Step 1 — Declare Intent

The acting player describes: - What they are attempting. - Their approach.

Step 2 — Determine Governing Attribute & Skills

The GM determines which Attribute Modifier applies based on the task itself.

The Player refers to their Skill to see if they get to add a Skill Benefit on the roll (use of a benefit must be decided before rolling).

Step 3 — Establish Target

The target is either:

- **Difficulty Rating (DR)** set by the GM
  or
- **Contested Resolution (CR)** against another character, who also rolls

At this stage, determine whether Gradient Resolution applies. This decision can be made after the Resolution Die is rolled, but it is not recommended.

Step 4 — Roll Resolution Die

Roll the **1d20 Resolution Die** and add the relevant Attribute Modifier, and include any relevant Skill Benefits, to find the Modified Result (the number on the die itself is referred to as a Natural Result). The Natural Result has no inherent mechanical meaning unless a rule explicitly references it.

If the modified result is:

- **Equal to or greater than the target** → Success
- **Lower than the target** → Failure

Success or failure is determined strictly by this comparison.

Step 5 — Determine if Gradient Applies

If deviation matters, roll the **1d10 Gradient Die** and interpret the result.

If deviation does not matter, resolve normally and end the procedure.

Gradient Interpretation (Default Bands)

d10 Result	Outcome
1–2	Major Negative deviation
3–4	Minor Negative deviation
5–6	Standard outcome
7–8	Minor Positive deviation
9–10	Major Positive deviation

Gradient represents deviation from expectation, not deviation from mathematical margin of success. It does **not** reverse success or failure.

Gradient Declaration Timing

A player may declare use of a Gradient die at one of the following times:

- Before rolling the Resolution die, or
- Immediately after the Resolution die is rolled.

The latest legal moment to declare use of a Gradient die is after the Resolution result is known, but before the Gradient die is rolled.

Once the Gradient die has been rolled, the decision cannot be reversed.

Individual tables may choose to require declaration before the Resolution roll for stricter play, but this is a table-level restriction, not a core rule.

Difficulty Ratings (DR)

Most Actions or Activities are resolved against a **Difficulty Rating (DR)**, a target number representing how challenging the Action or Activity is under current circumstances.

The specific numeric range used for DRs depends on the system being built. Many Frontiers-based games use values between 5 and 25, but this is an example scale rather than a requirement. What matters is consistency within a system and clarity at the table.

Contested Resolution (CR)

When two characters directly oppose one another—such as in a race, grapple, or debate—both roll a Resolution Die and compare results.

The character with the higher modified result wins the contest. When the degree of victory or loss matters, one or both sides may also roll a Gradient Die to determine how decisive the outcome is.

Favor and Disfavor

Favor and Disfavor can modify any die roll in the game unless a rule explicitly states otherwise.

When a roll has Favor:

- Roll one additional die of the same type per stack of Favor.

- Use the highest single result among all rolled dice.

When a roll has Disfavor:

- Roll one additional die of the same type per stack of Disfavor.
- Use the lowest single result among all rolled dice.

Favor and Disfavor stack up to a maximum of 3 each.

Each stack of Favor cancels one stack of Disfavor on a 1-to-1 basis before dice are rolled.

Examples:

- 2 Favor and 1 Disfavor → 1 net Favor.
- 3 Favor and 3 Disfavor → Normal roll.
- 1 Disfavor only → Roll two dice, take the lower result.

Favor and Disfavor apply to the specific roll they modify and do not carry over to future rolls unless explicitly stated.

The following rulings clarify ambiguous situations.

Additional rulings may be added in future revisions as community edge cases are identified.

1. Natural 1 and Natural 20

By default, the Resolution Die has no automatic success or automatic failure rule.

A natural 20 does not automatically succeed.
A natural 1 does not automatically fail.

Only the final modified result compared to the target determines outcome.

2. Ties in Contested Resolution

If results are tied, the initiating action-taker wins.

The GM may alternatively: - Call for a re-roll. - Escalate tension and shift circumstances. - Apply a minor Gradient deviation to both.

The table should adopt one consistent approach.

3. When Gradient Is Rolled on Failure

Gradient may be rolled even if the Resolution Roll fails.

Failure + Positive Gradient: - The primary goal fails. - A secondary benefit or reduced consequence occurs.

Failure + Negative Gradient: - The failure worsens the situation.

Failure + Standard Gradient: - The attempt fails cleanly without additional complication.

4. When Gradient Is Rolled on Success

Success + Negative Gradient: - The goal succeeds. - A cost, delay, exposure, or complication occurs.

Success + Positive Gradient: - The goal succeeds. - An additional advantage or narrative leverage is gained.

5. Multiple Gradient Sources

If multiple systems attempt to modify Gradient bands:

Default ruling: - Only one Gradient Die is rolled. - Modifiers shift interpretation, not dice count.

If two mechanics attempt to grant separate Gradient rolls: - The GM determines which applies. - They do not stack unless a rule explicitly states otherwise.

6. Attribute Modifier Below 0

If an Attribute Modifier is negative by some means:

- It is applied normally to the Resolution Roll.
- There is no floor on modified results unless the system explicitly defines one.

A modified Resolution result may be 0 or negative.

7. Extremely High Difficulty Ratings

If the DR exceeds possible maximum Resolution totals:

- The action is effectively impossible.

- The GM should communicate this before the roll.

Frontiers assumes DRs are set within achievable bounds.

8. Partial Information

If a player lacks complete information about difficulty:

- The GM may conceal the DR.
- The roll is still resolved normally.

Hidden DR does not alter mechanics.

9. Simultaneous Resolution

If multiple participants act simultaneously outside Encounter structure:

- Resolve in narrative order.
- If mechanical conflict arises, convert to Contested Resolution.

10. Gradient Without Mechanical Effect

If a Gradient result has no clear mechanical outlet:

- Apply narrative consequence.
- Introduce fictional positioning change.
- Create future leverage rather than retroactive effect.

Gradient must always move the fiction forward.

The following Variants preserve the core structure of the Gradient Resolution System:

- The Resolution layer determines success or failure.
- A separate mechanism determines deviation.
- Deviation never reverses success or failure.

These Variants adjust implementation details while maintaining the two-question structure of the default system.

Adjustable Gradient Die

The default Gradient Die is a **d10**.

Under this Variant, the Gradient Die may be replaced with another die size (d4, d6, d8, d12, etc.) per roll or situation.

Designers determine how the die’s results map to the five default deviation bands:

- Major Negative
- Minor Negative
- Standard
- Minor Positive
- Major Positive

The five-band structure should remain intact, but distribution may vary depending on tone and probability preference.

Smaller dice tend to increase volatility.
Larger dice tend to increase stability.

Frontiers does not prescribe a required scaling model. Designers using this Variant are expected to define band distributions appropriate to their system’s pacing and tone.

Dual d10 System

Under this Variant:

- The **Resolution Die becomes 1d10** instead of 1d20.
- The **Gradient Die remains 1d10**.
- Both dice are rolled simultaneously.

One die is used for Resolution (success/failure). The other is used for Gradient (deviation).

This Variant compresses the Resolution range significantly.

Designer Considerations:

- Difficulty Ratings must be recalibrated.
- Defense values must be recalibrated.
- Attribute Modifiers become proportionally stronger.
- The overall probability curve of the engine changes.

This Variant preserves structural separation but alters mathematical expectations. It should only be adopted with intentional rebalancing of target numbers and scaling assumptions.

Natural Gradient

Under this Variant, only a single **d20** is rolled.

- The **Modified Result** determines success or failure.
- The **Natural Result** determines deviation.

The d20 is divided into five equal bands to determine Gradient:

Natural Result	Deviation
1–4	Major Negative
5–8	Minor Negative
9–12	Standard
13–16	Minor Positive
17–20	Major Positive

Success is still determined strictly by comparing the Modified Result against the target.

This Variant:

- Removes the need for a second die.
- Creates correlation between high natural rolls and positive deviation.
- Slightly reduces randomness compared to independent dice.

It preserves the two-stage structure while simplifying physical components at the table.

The following Alternatives replace or substantially restructure the Gradient Resolution System.

These approaches are not calibrated for the default mathematical assumptions of Frontiers. If adopted, Difficulty Ratings, Defenses, Attribute scaling, and Skill expectations may require adjustment.

These are conceptual pathways for designers exploring different mechanical philosophies.

Pure d20 Resolution

Remove the Gradient layer entirely.

Every Resolution Roll results in either:

- Success
- Failure

All nuance beyond binary outcome is handled narratively by the GM.

This approach:

- Speeds up play.
- Reduces mechanical structure around complication.
- Increases reliance on adjudication.

It most closely resembles traditional d20 resolution systems.

Success Bands (Margin-Based)

Use a single d20 roll.

Both success and deviation are determined by the margin between the Modified Result and the target.

Example structure:

- Beat target by 10+ → Major Success
- Beat target by 5–9 → Minor Success
- Meet target → Standard Success
- Miss by 1–4 → Minor Failure
- Miss by 5+ → Major Failure

This collapses success and deviation into a single metric.

Under this Alternative:

- High modifiers increase both reliability and quality simultaneously.
- The separation between “whether” and “how” no longer exists.

This produces a more traditional, margin-driven resolution system.

Gradient-Only Resolution

Remove binary success entirely.

Roll a single **d10** to determine outcome spectrum.

Example structure:

Result	Outcome Spectrum
1–4	Failure spectrum
5–6	Mixed / partial

Result	Outcome Spectrum
7–10	Success spectrum

Attributes may influence interpretation, but no fixed binary threshold exists.

This Alternative transforms Frontiers into a deviation-spectrum engine rather than a binary-success engine.

It significantly alters pacing, balance expectations, and the role of Difficulty Ratings.

Adopting this approach requires comprehensive recalibration of supporting systems.