

Morningstar Essentials™

Artwork and Data Presentation Guidelines U.S.



Morningstar
Risk
3 Year

Low

TM



TM

			Large
			Mid
			Small
Value	Blend	Growth	

Morningstar Essentials

Morningstar Essentials is a marketing toolkit that is designed to help you make use of the Morningstar proprietary statistics that have gained the acceptance and trust of investors and advisors. One of the key components of Essentials is the broad distribution license for key statistics such as the Morningstar Rating, Morningstar Categories, Morningstar Style Box, and Morningstar Factor Profile, plus many more.

In the following pages, you'll find important information about how to use the data and images available in your Morningstar Essentials license. This document features a section for each proprietary statistic included in your Essentials license as well as information on our review process and required disclosure language. Each section contains art guidelines, disclosure language to assist you with the FINRA review process, and other important things to know when using Morningstar proprietary statistics.

As part of your Essentials license, Morningstar provides you with access to the logos, artwork, and seals that you need to create effective marketing and advertising campaigns that utilize Morningstar statistics.

Please contact your customer success manager if you have any questions on how to use this document.

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Morningstar Essentials Guidelines

Morningstar Essentials Guidelines

All use of Morningstar data, statistics, images, and artwork must be submitted to Morningstar for review. Morningstar bases its review of fund company use in advertising and marketing material on the guidelines contained herein. These guidelines were designed in part to help you fulfill the requirements of FINRA as they relate to the use of specific Morningstar data. **The disclosure of these guidelines in no way replaces the need for fund companies to send advertisements and marketing materials to Morningstar for review of usage of Morningstar's proprietary data.**

Morningstar does not require that you obtain written approval prior to your proceeding with publication. However, to ensure that future use follows these guidelines, we may require you to revise your use of the Morningstar material at a later date. Upon notification, you must comply with any requested changes prior to publishing, producing or disseminating any future materials. Morningstar's review guidelines are subject to change at Morningstar's discretion.

Material can be submitted to your sales director or relationship manager. When submitting a piece to Morningstar for review, include a description of the piece (i.e., state the type of piece and its intended distribution). Please confirm whether the piece is being used for 3rd party advertising or is a marketing piece (e.g., website, shareholder communication, press release, flyer, brochure, etc.). If known and easy to summarize, please give the name of the newspaper, television station, or magazine and the date the advertisement will start running.

If you have any questions, please email Morningstar at **licensedproducts@morningstar.com** or call your customer success manager.

Any use of Morningstar data must be accompanied by the following language:

© [Insert year] Morningstar, Inc. All rights reserved. The information contained herein:

(1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete, or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information.

Morningstar Rating™

Guidelines for Using the Morningstar Rating

What is the proper way to refer to the Morningstar Rating?

The phrase "Morningstar Rating" should always be designated with the proper trademark identifier (e.g., Morningstar Rating™, Overall Morningstar Rating™, or 3-Year Morningstar Rating™) in all headings and titles, and at its first appearance on each page within the body text of a document. Subsequent appearances do not require use of the trademark identifier.

When depicting the number of stars in a particular Morningstar Rating, express the number of stars

A) using plain, solid, two-dimensional, undecorated stars (e.g., "★★★★★ Overall Morningstar Rating™") or

B) in an alphanumeric depiction (e.g., "5-Star Overall Morningstar Rating™").

When depicting the Morningstar Rating for your fund, if possible, please place the depiction of the number of stars in front of the time period followed by the phrase "Morningstar Rating™": [number of stars] [time period] [Morningstar Rating™].

The following examples are correct:

"5-Star Overall Morningstar Rating™"

"★★★★★ 3-Year Morningstar Rating™"

The format "XYZ Fund received a 4-Star Morningstar Rating™ for the 3-Year period" is also acceptable.

Can the Morningstar Rating™ be used to depict an endorsement of a particular fund or be depicted as a "Ranking?"

Any reference to the Morningstar Rating must use the term "*Rating*" as opposed to "*Ranking*." The Morningstar Rating is not to be confused with a "Ranking."

Language cannot be used that depicts the Morningstar Rating as an endorsement of the referenced fund.

For example:

Incorrect usage

"XYZ Fund was awarded Morningstar's highest rating—5 stars!"

The Morningstar Rating is based on an objective, mathematical calculation and is not to be construed as an endorsement of any fund(s). An acceptable phrasing would be:

Correct usage

"XYZ Fund received a 5-Star Overall Morningstar Rating™!"

Can the Morningstar Rating™ be used to imply predictive value or a forecast of future performance?

The referenced fund's Morningstar Rating should not imply a predictive value. The Morningstar Rating is an evaluation of past performance only. This is why the phrase, "Past performance is no guarantee of future results," is mandatory in the disclosure or somewhere else in the body text of the advertisement, provided the reference is prominent and clearly applies to the advertisement as a whole.

How often must the presentation of the Morningstar Rating™ be updated?

The date of the Morningstar Rating™ must be the most recent for which data are available (most recent quarter or month-end) and must be clearly labeled in the advertisement, as well as in close proximity to the rating. This date is known as the "as of" date, and is provided for you as a data point in your Essentials package.

When should I use the Overall Morningstar Rating™ versus the rating for a particular time period?

The Overall Morningstar Rating must be the featured Morningstar Rating in the materials. The Three-, Five-, and 10-year ratings may also be illustrated, but only when the Overall Morningstar Rating is also shown. “Cherry-picking” time periods when using the Morningstar Rating is not accepted.

For example, if a fund has received 5 stars for the three-year period and 3 stars for the five-year period and has an Overall Morningstar Rating of 4 stars, the 4-star Overall Morningstar Rating is required to be the featured Morningstar Rating.

In other words, the rule for featuring the Morningstar Rating is “Overall or All.” “Overall” refers to the Overall Morningstar Rating and “All” refers to every Morningstar Rating for the fund (i.e., Overall, Three-, Five- and 10-year) received to date. In addition, when illustrating the Morningstar Rating, the respective time period for the rating (i.e., 3-year, 5-year, 10-year or Overall) and the number of funds in the rating category for each illustrated time period must be in immediate proximity to the applicable rating.

If my fund has less than ten years of history, should I use the 3-Year, 5-Year or Overall Morningstar Rating™?

If your fund has only been in existence for three years, its Three-Year Morningstar Rating™ is also its Overall Morningstar Rating. If a fund has only been in existence for five years, its Overall Morningstar Rating is based on a weighted average of the performance figures associated with its three- and five-year Morningstar Rating metrics. In either case, you may refer to the rating as the Overall Morningstar Rating in your advertisement, but should also disclose that the rating is based only on three or five years. The Overall Morningstar Rating must always be the featured rating.

How should multi-class funds be treated?

Materials that focus on multi-class funds should not leave any doubt as to which class received a particular Morningstar Rating. There are some instances where two classes of a fund each have a different Morningstar Rating (due to the way fees and expenses affect returns). A clear mention of the fund’s specific class must be included.

In the event that the licensee has multi-class funds, the following language should be included:

Morningstar Rating is for the [insert class] share class only; other classes may have different performance characteristics.

Can the Morningstar Rating™ be used in conjunction with other data providers’ analyses or data?

Yes, however each data provider must be clearly labeled. The Morningstar Rating™ may not be displayed in connection with, or in close proximity to, any information or data furnished by any of Morningstar’s direct competitors in a manner in which attribution is unclear, including the following entities:

- ▶ Financial Engines Advisors, LLC
- ▶ Lipper, a Thomson Reuters company
- ▶ Standard and Poor’s, a division of The McGraw-Hill Companies, Inc.
- ▶ Value Line, Inc.

Morningstar Rating™ Artwork

With an Essentials license, you can feature your product's Morningstar Rating™ in your marketing materials, products, and communications. A Morningstar Rating allows you to promote your investment using proprietary statistics that investors and advisors recognise and value.

Morningstar rates funds from one to five stars based on how well they've performed (after adjusting for risk) in comparison to similar funds. Within each Morningstar Category, the top 10% of funds receive five stars, the

next 22.5% four stars, the middle 35% three stars, the next 22.5% two stars, and the bottom 10% receive one star. Funds are rated for up to three time periods—three-, five-, and 10 years—and these ratings are combined to produce an overall rating. Funds with less than three years of history are not rated. Ratings are objective, based entirely on a mathematical evaluation of past performance. They're a useful tool for identifying funds worthy of further research, but shouldn't be considered buy or sell recommendations.

The Morningstar Rating stars must be two-dimensional, five-pointed stars.

The font "Wingdings" contains a five-pointed star if using EPS artwork is not a viable option. The outlined star with a shadow in Wingdings is not allowed.

Morningstar Rating Artwork



Morningstar Rating solid stars



Morningstar Extended
Performance Rating hollow stars

The Extended Performance Rating requires the use of hollow stars.

Morningstar Rating in a Table

Time Period Return %	Total Return %	Morningstar Rating™
3-Year	10.26	★★★★★ ¹
5-Year	12.21	★★★★ ²
10-Year	9.05	☆☆☆☆ ³
Overall	10.68	★★★★★ ⁴

1) Out of 0,000 [name of category] funds, as of 00-00-00 2) Out of 0,000 [name of category] funds, as of 00-00-00
3) Out of 0,000 [name of category] funds, as of 00-00-00 4) Out of 0,000 [name of category] funds, as of 00-00-00

Morningstar Rating in Text

Actual Performance

Fund XYZ received a Morningstar Rating™ of ★★★★★

Fund XYZ received a 4-star Morningstar Rating™

Fund XYZ received a Morningstar Rating™ of 4 stars

Extended Performance

Fund XYZ received a Morningstar Rating™ of ☆☆☆☆

Fund XYZ received a 4-star Morningstar Rating™

Fund XYZ received a Morningstar Rating™ of 4 stars

Displaying the Morningstar Rating™ Artwork

Morningstar Rating™ Artwork

Recommended Color

Black.

Clear Space

Maintain around the rating, with measurements as shown.



Seal Options

We recommend the colors Morningstar red or black when displaying the seals.

If seals are used for multiple proprietary statistics they must all be from the same time period.

Morningstar Rating Seal



Morningstar Rating seal

**Morningstar
Rating**
3 Year



Morningstar Rating for three-, five-, and 10-year ratings

Morningstar Rating™ Seal**Recommended Color**

Morningstar red or black.

Clear Space

Maintain around the seal, with measurements as shown.

Size

The standard seal measures 3" x 3" as shown and may be reduced to 25%.



Required Morningstar Rating™ Disclosures

The following disclosure is required when using Morningstar data

Fill in appropriate information for items highlighted in red.

Morningstar Data

© [Insert year] Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Past performance is no guarantee of future results.

Fill in appropriate information for items highlighted in red.

Required Qualifying Statement

[Insert time period] rating out of [insert number of funds] [Insert name of category] funds as of [insert date].

Suggested Morningstar Rating™ Disclosures

Fill in appropriate information for items highlighted in red.

FINRA member firms should use the following paragraph with any use of the Morningstar Rating to satisfy FINRA disclosure requirements. This disclosure is based upon SEC rule 2210-3 (see Schedule 1). Use to satisfy FINRA requirements. Revisions may be made. In the event that FINRA or another regulatory agency requires revisions to the following disclaimer, you may make such changes as deemed appropriate:

Morningstar Rating

The Morningstar Rating™ for funds, or “star rating”, is calculated for managed products (including mutual funds, variable annuity and variable life subaccounts, exchange-traded funds, closed-end funds, and separate accounts) with at least a three-year history. Exchange-traded funds and open-ended mutual funds are considered a single population for comparative purposes.

It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product’s monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The Morningstar Rating does not include any adjustment for sales loads. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics. The weights are: 100% three-year rating for 36-59 months of total returns, 60% five-year rating/40% three-year rating for 60-119 months of total returns, and 50% 10-year rating/30% five-year rating/20% three-year rating for 120 or more months of total returns. While the 10-year overall star rating formula seems to give the most weight to the 10-year period, the most recent three-year period actually has the greatest impact because it is included in all three rating periods. **[Insert name of fund]** was rated against the following numbers of **[insert name of category]** funds over the following time periods: **[insert number of funds in category during prior 3-year period]** funds in the last three years, **[insert number of funds in category during the prior 5-year period]** funds in the last five years, and **[insert number of funds in category during the prior 10-year period]** funds in the last ten years. Past performance is no guarantee of future results.

Suggested Explanation Text

This text may be used as an investor-friendly description of the Morningstar Rating.

Morningstar Rating for Funds

Morningstar rates funds from one to five stars based on how well they've performed (after adjusting for risk) in comparison to similar funds. Within each Morningstar Category, the top 10% of funds receive five stars, the next 22.5% four stars, the middle 35% three stars, the next 22.5% two stars, and the bottom 10% receive one star. Funds are rated for up to three time periods—three-, five-, and 10 years—and these ratings are combined to produce an overall rating. Funds with less than three years of history are not rated. Ratings are objective, based entirely on a mathematical evaluation of past performance. They're a useful tool for identifying funds worthy of further research, but shouldn't be considered buy or sell recommendations.

Additional Morningstar Rating™ Disclosures

If Licensee uses or displays that part of the Product containing the Morningstar Rating for separate accounts, Licensee may include the following disclaimer:

Morningstar Rating™ for Separate Accounts

The Morningstar Rating™ for funds, or “star rating”, is calculated for separate accounts with at least a three-year history. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a managed product’s monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance. The top 10% of products in each product category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a managed product is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics.

Notes

Fees for separate accounts can vary widely and are negotiated between the asset manager, the separate account program sponsor or advisor, and the investor. Morningstar has chosen to present gross-of-fees performance (before fees have been taken out) to compare separate accounts. Net-of-fees calculations often deduct the highest theoretical fees that an investor may pay.

Morningstar will not calculate ratings for categories or time periods that contain fewer than five separate accounts. Each investor in the same separate account can experience slightly different total returns, because investors have different account preferences and restrictions. Therefore, to ensure that ratings are fairly assigned, Morningstar will calculate ratings for only those firms that report performance for “composites” of similarly managed portfolios according to the guidelines of the CFA Institute’s Global Investment Performance Standards (GIPS®).

Separate accounts that do not have ratings can be divided into two groups: those that do not qualify to be rated and those that did not participate. A separate account will not get a Morningstar Rating if: it is less than three years old, the firm is not GIPS-compliant, or the category contains fewer than five separate accounts that are eligible for a rating.

If Licensee uses or displays that part of the Product containing the Morningstar Rating for Models, Licensee may include the following disclaimer:

Morningstar Rating™ for Models

The Morningstar Rating™ for Models, or “star rating”, is calculated for models with at least a three-year history. It is calculated based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a product’s monthly excess performance, placing more emphasis on downward variations and rewarding consistent performance.

The Morningstar Rating for Models is calculated using an overlay against the separate account universe. This overlay maps each model's Morningstar Risk-Adjusted Return to the breakpoints of the separate account category peer-groups where the top 10% receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The Overall Morningstar Rating for a model is derived from a weighted average of the performance figures associated with its three-, five-, and 10-year (if applicable) Morningstar Rating metrics.

For more information about the Morningstar Rating, including its methodology, please go to global.morningstar.com/managerdisclosures/.

Notes

All model returns are gross of fees and purely hypothetical; meaning investors attempting to replicate or follow the model can experience different total returns. Therefore, to ensure that ratings are fairly assigned to a vetted peer group, a series of guardrails are implemented to determine ratings eligibility. Only 18-months of a model's "pre-activation" performance (i.e., performance obtained by the model prior to its activation in Morningstar's database) will be used for the Morningstar Rating calculation, however, if a model is tied to a separate account by strategy in Morningstar's database, the separate account's start date is used for ratings calculation. Additionally, the model's firm provider must either claim compliance with GIPS® standards for performance calculation or have greater than \$10 billion in assets under management of vehicles regulated under the Investment Company Act of 1940, as amended. Lastly, quarterly holdings must be submitted to Morningstar by the model firm provider for each three-, five-, and 10-year Morningstar Rating period.

Models that do not have ratings can be divided into two groups: those that do not qualify to be rated and those that did not participate. A model will not get a Morningstar Rating if it does not pass the guardrails or the category contains fewer than five separate accounts that are eligible for a rating, as this category peer group would have no breakpoints from which to assign Morningstar Ratings for models.

For use on displays with fund share classes whose ratings are based on returns prior to the inception of that particular share class.

This disclosure is based upon SEC rule 2210-3 (see Schedule 1). Use to satisfy FINRA requirements. Revisions may be made.

Morningstar Rating™ Based on Extended Performance

Some of Morningstar's proprietary calculations, including the Morningstar Rating™, are not customarily calculated based on adjusted historical returns. However, for new share classes/channels, Morningstar may calculate an extended performance Morningstar Rating that is based, in part, on adjusted historical (or "pre-inception") returns for periods prior to the inception of the share class of the fund shown herein ("Report Share Class").

The extended performance is calculated by creating a performance stream consisting of the Report Share Class and older share class(es). Morningstar adjusts the historical total returns of the older share class(es) of a fund to reflect higher expenses in the Report Share Class. We do not hypothetically adjust returns upwards for lower expenses. For more information regarding calculation of pre-inception returns, please see the Morningstar Extended Performance Methodology.

The extended performance Morningstar Risk-Adjusted Return is then calculated for three-, five-, and 10- year time periods and used to determine the extended performance Morningstar Rating. The extended performance Morningstar Rating for this fund does not affect the retail fund data published by Morningstar, as the bell curve distribution on which the ratings are based includes only funds with actual returns. The Overall Morningstar Rating for multi-share open-end funds will be either based on actual performance only or extended performance only. Once the share class turns three years old, the Overall Morningstar Rating will be based on actual ratings only. The Overall Morningstar Rating for multi-share variable annuities is based on a weighted average of any ratings that are available. For more information, please see the Morningstar Rating Methodology.

While the inclusion of pre-inception data, in the form of extended performance, can provide valuable insight into the probable long-term behavior of newer share classes of a fund, investors should be aware that an adjusted historical return can only provide an approximation of that behavior. For example, the fee structures of a retail share class will vary from that of an institutional share class, as retail shares tend to have higher operating expenses and sales charges. These adjusted historical returns are not actual returns. The underlying investments in the share classes used to calculate the pre-performance string will likely vary from the underlying investments held in the fund after inception. Calculation methodologies utilized by Morningstar may differ from those applied by other entities, including the fund itself.

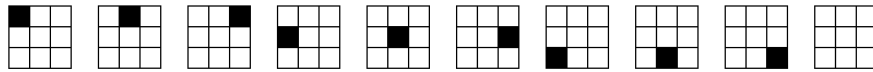
Morningstar Style Box™

Morningstar Style Box™ Artwork

The Morningstar Style Box™ was introduced in 1992 to help investors and advisors determine the investment style of a fund. The equity style box is a nine-square grid that classifies securities by size along the vertical axis and by value and growth characteristics along the horizontal axis. For fixed-

income funds, along the horizontal axis of the style box lies the average term length of a fund's bond portfolio based on average effective duration and along the vertical axis lies the average quality rating of a bond portfolio.

Morningstar Style Box Artwork Without Labels (for both equity and fixed income)



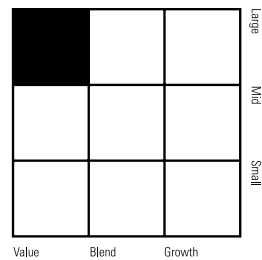
Recommended Color

Black

Font

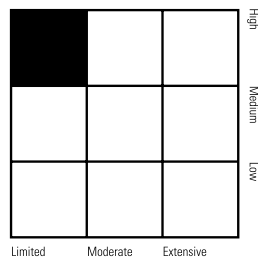
The label font may be changed to match the client's page layout.

Morningstar Style Box Artwork With Labels



Value Blend Growth

Equity version



Limited Moderate Extensive

Fixed Income version

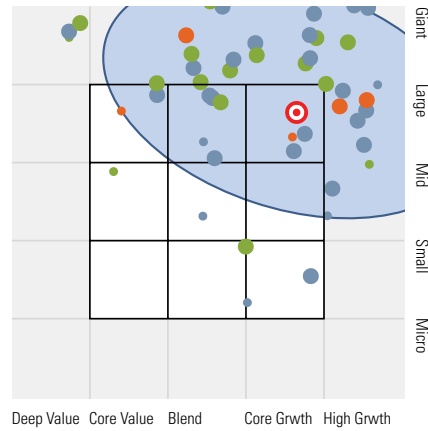
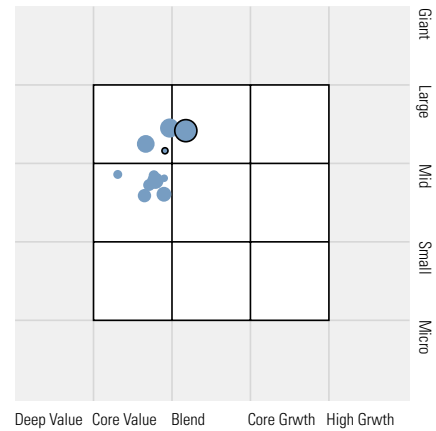
The use of a style box in a spreadsheet does not require labels. However, a label key somewhere on the page would benefit the user.

The Morningstar Style Box in a Table

Fund Name	Total Return %	Morningstar Style Box™
XYZ Values Fund	10.26	
XYZ Discovery Fund	12.21	
XYZ Opportunities Fund	9.05	
XYZ Small Growth Fund	10.68	

Font

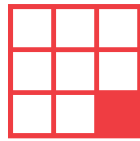
The label font may be changed to match the client's page layout.

Morningstar Ownership Zone with Holdings**Morningstar Historical Style****Recommended Color**

Morningstar red or black.

Morningstar Style Box Seal

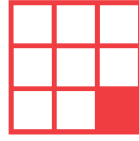
**Morningstar
Style Box**
Equity



Small
Growth

TM

**Morningstar
Style Box**
Fixed Income



Extensive
Low
Quality

TM

The Morningstar Style Box Seal

Recommended Color

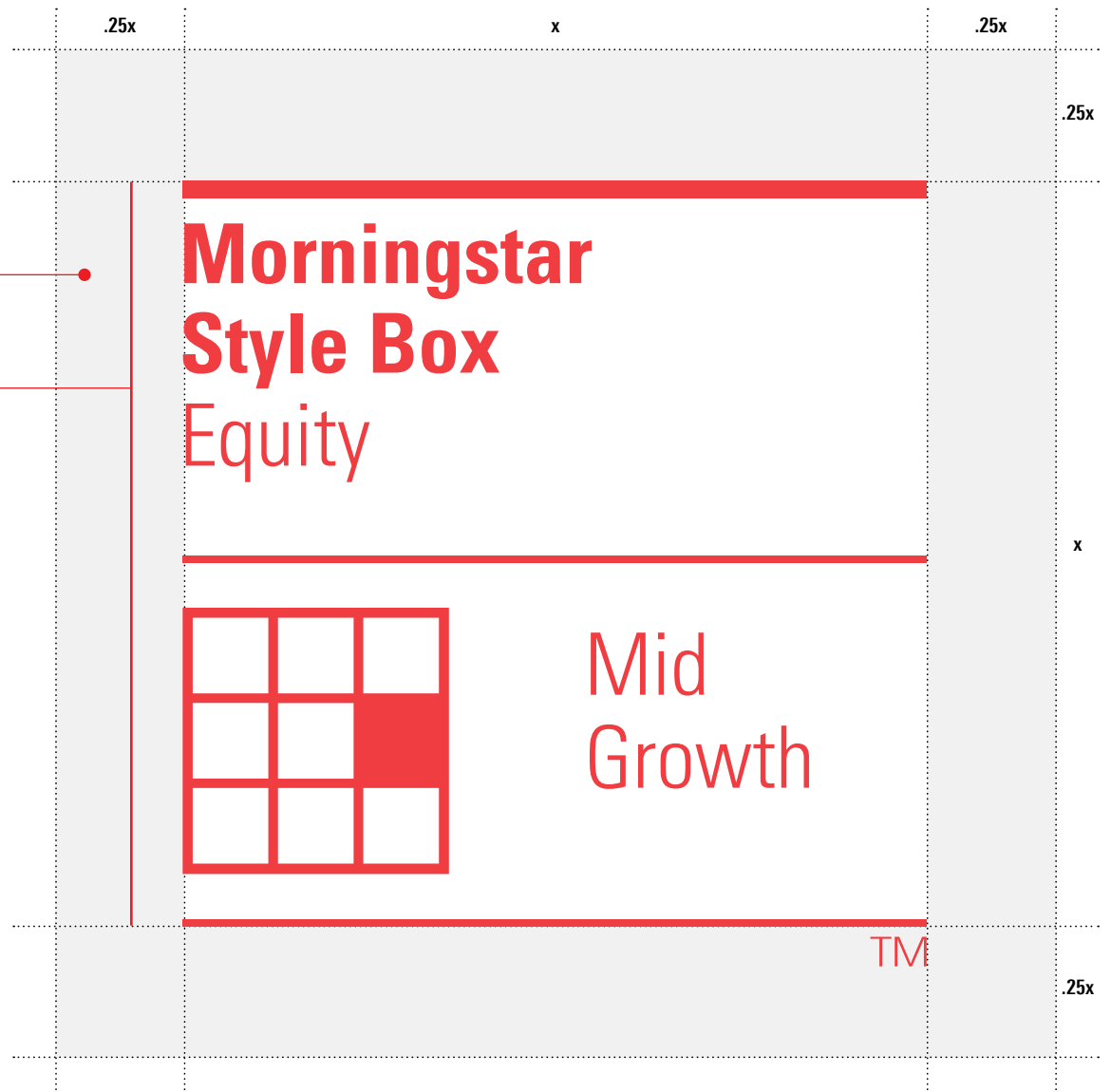
Morningstar red or black.

Clear Space

Maintain around the seal, with measurements as shown.

Size

The standard seal measures 3" x 3" as shown and may be reduced to 25%.



Required Morningstar Style Box™ Disclosures

The following disclosure is required when using Morningstar data

Fill in appropriate information for items highlighted in red.

Morningstar Data

© [Insert year] Morningstar, Inc. All rights reserved. The information contained herein: (1) is proprietary to Morningstar; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information. Past performance is no guarantee of future results.

The following Qualifying Statements are required when displaying the Morningstar Style Box.

Fill in appropriate information for items highlighted in red.

Explanatory Style Box Text

Equity

Fund XYZ appeared as a [insert market-cap size] [insert investment style] fund on the Morningstar Style Box™ at [insert date/month/year].

Fixed Income

Fund XYZ appeared as a [insert credit quality] [insert interest rate sensitivity] fund on the morningstar Style Box™ at [insert date/month/year].

Suggested Morningstar Style Box™ Disclosures

In the event Licensee uses or displays that part of the Product containing the Morningstar Style Box, Licensee may include the following disclaimer:

Morningstar Style Box Disclosure

The Morningstar Style Box™ reveals a fund's investment strategy.

For equity funds, the vertical axis shows the market capitalization of the long stocks owned, and the horizontal axis shows the investment style (value, blend, or growth). A darkened cell in the style box matrix indicates the weighted average style of the portfolio.

For portfolios holding fixed-income investments, a Fixed Income Style Box is calculated. The vertical axis shows the credit quality based on credit ratings and the horizontal axis shows interest-rate sensitivity as measured by effective duration. There are three credit categories - "High", "Medium", and "Low"; and there are three interest rate sensitivity categories - "Limited", "Moderate", and "Extensive"; resulting in nine possible combinations. As in the Equity Style Box, the combination of credit and interest rate sensitivity for a portfolio is represented by a darkened square in the matrix.

Morningstar uses credit rating information from credit rating agencies (CRAs) that have been designated Nationally Recognized Statistical Rating Organizations (NRSROs) by the Securities and Exchange Commission (SEC) in the United States. For a list of all NRSROs, please visit <https://www.sec.gov/ocr/ocr-current-nrsros.html>.

Additionally, Morningstar will use credit ratings from CRAs which have been recognized by foreign regulatory institutions that are deemed the equivalent of the NRSRO designation. To determine the rating applicable to a holding and the subsequent holding weighted value of a portfolio two methods may be employed. First is a common methodology approach where if a case exists such that two CRAs have rated a holding, the lower rating of the two should be applied; if three or more CRAs have rated a holding, the median rating should be applied; and in cases where there are more than two ratings and a median rating cannot be determined, the lower of the two middle ratings should be applied. Alternatively, if there is more than one rating available an average can be calculated from all and applied.

Please Note: Morningstar, Inc. is not an NRSRO nor does it issue a credit rating on the fund. Credit ratings for any security held in a portfolio can change over time.

Morningstar uses the credit rating information to calculate a weighted-average credit quality value for the portfolio. This value is based only upon those holdings which are considered to be classified as “fixed income”, such as government, corporate, or securitized issues. Other types of holdings such as equities and many, though not all, types of derivatives are excluded. The weighted-average credit quality value is represented by a rating symbol which corresponds to the long-term rating symbol schemas employed by most CRAs. Note that this value is not explicitly published but instead serves as an input in the Style Box calculation. This symbol is then used to map to a Style Box credit quality category of “low,” “medium,” or “high”. Funds with a “low” credit quality category are those whose weighted-average credit quality is determined to be equivalent to the commonly used High Yield classification, meaning a rating below “BBB”, portfolios assigned to the “high” credit category have either a “AAA” or “AA+” average credit quality value, while “medium” are those with an average rating of “AA–” inclusive to “BBB–”. It is expected and intended that the majority of portfolios will be assigned a credit category of “medium”.

Suggested Explanation Text

This text may be used as an investor-friendly description of the Style Box.

Morningstar Style Box™ Explanation

The Morningstar Style Box™ is a nine-square grid that, for equity funds, depicts three investment styles (value, growth, and blend) for each of three size categories (small, mid, and large). For fixed-income funds, the vertical axis shows the credit quality of the bonds owned and the horizontal axis shows interest rate sensitivity as measured by a bond's effective duration. The Style Box provides an easy-to-follow visual representation of fund characteristics and enables informed comparisons and portfolio construction based on what funds actually hold.

This text may be used as an investor-friendly description of the Ownership Zone.

Morningstar Ownership Zone™ Explanation

The Morningstar Ownership Zone™ provides detail about a portfolio's equity investment style by showing the range of stock sizes and styles. A portfolio's Ownership Zone is derived by plotting each stock in the fund's portfolio within the proprietary Morningstar Style Box™. The shaded area represents the center 75% of the fund's assets, and it provides an intuitive visual representation of the area of the market in which the fund invests. A "centroid" plot in the middle of the Ownership Zone represents the weighted average of all the fund's holdings. A fund that is concentrated will have a small ownership zone relative to the area of the style box, and a broadly diversified fund will have an ownership zone that stretches across many sizes and styles. Over a period of time, the shape and location of a fund's ownership zone may vary.

Morningstar Medalist Rating™

Morningstar Medalist Rating™ Artwork

Unlike the backward-looking Morningstar Rating™ (often referred to as the “star rating”), which assigns 1 to 5 stars based on a fund’s past risk-adjusted returns versus category peers, the Morningstar Medalist Rating™ is the summary expression of Morningstar’s forward-looking analysis of investment strategies as offered via specific vehicles using a rating scale of Gold, Silver, Bronze, Neutral, and Negative.

The Medalist Ratings indicate which investments Morningstar believes are likely to outperform a relevant index or peer group average on a risk-adjusted basis over time. Investment products are evaluated on three key pillars (People, Parent, and Process) which, when coupled with a fee assessment, determines the Medalist Rating they’re assigned. Pillars may be evaluated via an analyst’s qualitative assessment (either directly or indirectly) or using algorithmic techniques.

The Medalist Rating is not a market call, and it is not meant to replace investors’ due-diligence process. It cannot assess whether an investment product is the right fit for a particular portfolio and risk tolerance. It is intended to supplement investors’ and advisors’ own work on investment products and, along with written analysis, provide forward-looking perspective into an investment product’s abilities. It picks up where commonly watched measures of the past leave off.

The Medalist Rating involves unknown risks and uncertainties which may cause expectations not to occur or to differ from what was expected and are not guaranteed to be based on complete or accurate assumptions or models when determined algorithmically.

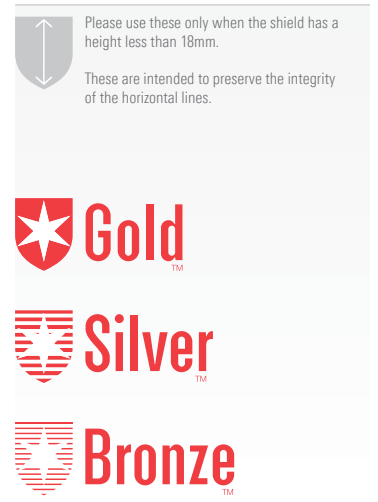
Morningstar Medalist Rating & Report Display Policy within Marketing & Advertising

- ▶ When using the rating graphic, you must also include the verbal rating (Gold, Silver, Bronze).
- ▶ When displaying the Medalist Rating, qualifying data points—Analyst-Driven % and Data Coverage %—must accompany it. (Further details below.)
- ▶ The Medalist Rating must always be included if displaying any of the pillars.
- ▶ If displaying any of the pillars, you need to include the pillar name and its associated score, denoting whether it is quantitatively derived (superscript Q).
- ▶ When displaying the report, it is required that you insert a link to the actual PDF as opposed to posting the PDF file.
- ▶ Any reference to the Medalist Rating must use the term “Rating” as opposed to “Ranking.” The Medalist Rating is not to be confused with a “Ranking.”
- ▶ Medalist Ratings may change mid-month as opposed to always being updated at a month-end. When a rating is changed for a fund or it is placed Under Review, it is expected that the new Medalist Rating and appropriate report date will be updated as quickly as possible.
- ▶ The report date of the Medalist Rating must be clearly labeled in the collateral and in close proximity to the rating. Note that the date may not always be equal to the most recent quarter or month-end.
- ▶ The phrase Morningstar Medalist Rating™ must always be designated with the proper Trademark identifier.
- ▶ If you wish to excerpt a section or quote from a Morningstar Managed Investment Report or Medalist Report, you must seek Morningstar’s approval prior to doing so.

Recommended Color

Our multi-color option,
Morningstar red, or black.

When process colors are
not available, please use the
black ratings.

With Morningstar Logo**Without Morningstar Logo**
Large Format**Without Morningstar Logo**
Small Format**Recommended Color**

Use Morningstar red when color
is needed.

When process colors are
not available, please use the
black ratings.

Words for Other Ratings

Neutral

Negative

Under Review

Not Ratable

Fill in the appropriate information for
the items highlighted in red.

Required Data Points

When displaying the Morningstar Medalist Rating, the following data points must also be displayed in close proximity to the Medalist Rating.

**Morningstar
Medalist Rating™**



Analyst-Driven %

[Insert value]

Data Coverage %

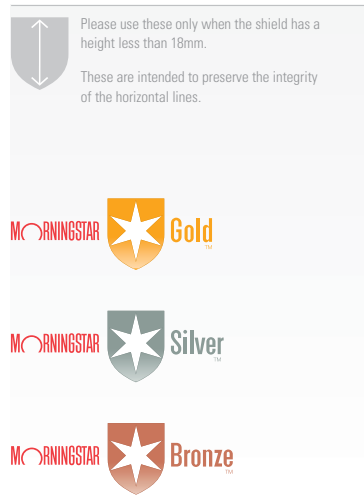
[Insert value]

Fill in appropriate information for items highlighted in red.

With Morningstar Logo Standard Format



With Morningstar Logo Small Format



Without Morningstar Logo



**Morningstar
Red**

Process 0c-91m-76y-0k
RGB 249-30-53



Gold

Process 0c-41m-99y-0k
RGB 250-164-29



Silver

Process 15c-0m-11y-42k
RGB 139-155-151



Bronze

Process 17c-62m-66y-4k
RGB 200-116-90

Displaying the Morningstar Medalist Rating™ Artwork

Morningstar Medalist Rating™ Artwork for Essentials

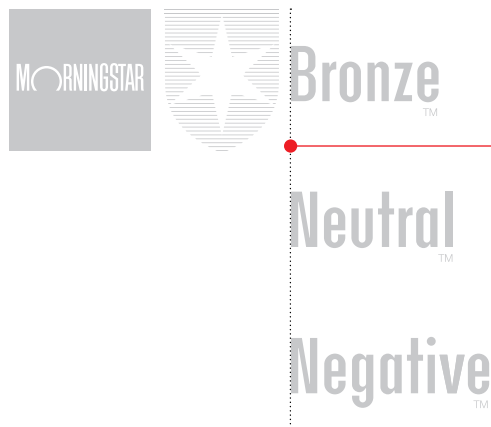
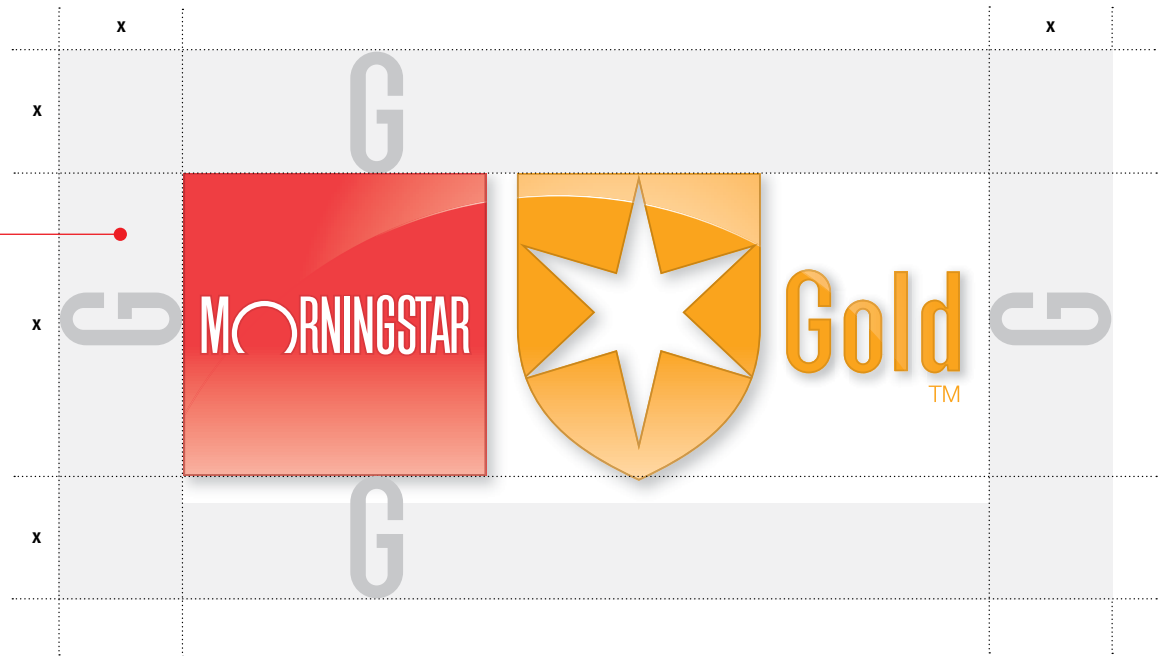
Recommended Color

Use Morningstar red when color is needed.

When process colors are not available, please use the black ratings.

Clear Space

Maintain around the rating, with measurements as shown.



Text Alignment

Align Neutral, Negative, Under Review, and Not Ratable with Gold, Silver and Bronze words if used in a list or table on the same page.

Required Morningstar Medalist Rating™ Disclosures

The following disclosure
is required when using
Morningstar data

Fill in appropriate information
for items highlighted in red.

Morningstar Medalist Rating Disclosure

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providers are responsible for any damages or losses arising from any use of this information.
Past performance is no guarantee of future results.

Suggested Morningstar Medalist Rating™ Disclosures

Morningstar Medalist Rating Disclosure

The Morningstar Medalist Rating™ is the summary expression of Morningstar's forward-looking analysis of investment strategies as offered via specific vehicles using a rating scale of Gold, Silver, Bronze, Neutral, and Negative. The Medalist Ratings indicate which investments Morningstar believes are likely to outperform a relevant index or peer group average on a risk-adjusted basis over time. Investment products are evaluated on three key pillars (People, Parent, and Process) which, when coupled with a fee assessment, forms the basis for Morningstar's conviction in those products' investment merits and determines the Medalist Rating they're assigned. Pillar ratings take the form of Low, Below Average, Average, Above Average, and High. Pillars may be evaluated via an analyst's qualitative assessment (either directly to a vehicle the analyst covers or indirectly when the pillar ratings of a covered vehicle are mapped to a related uncovered vehicle) or using algorithmic techniques. Vehicles are sorted by their expected performance into rating groups defined by their Morningstar Category and their active or passive status. When analysts directly cover a vehicle, they assign the three pillar ratings based on their qualitative assessment, subject to the oversight of the Analyst Rating Committee, and monitor and reevaluate them at least every 14 months. When the vehicles are covered either indirectly by analysts or by algorithm, the ratings are assigned monthly. For more detailed information about these ratings, including their methodology, please go to global.morningstar.com/managerdisclosures/.

The Morningstar Medalist Ratings are not statements of fact, nor are they credit or risk ratings. The Morningstar Medalist Rating (i) should not be used as the sole basis in evaluating an investment product, (ii) involves unknown risks and uncertainties which may cause expectations not to occur or to differ significantly from what was expected, (iii) are not guaranteed to be based on complete or accurate assumptions or models when determined algorithmically, (iv) involve the risk that the return target will not be met due to such things as unforeseen changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, tax rates, exchange rate changes, and/or changes in political and social conditions, and (v) should not be considered an offer or solicitation to buy or sell the investment product. A change in the fundamental factors underlying the Morningstar Medalist Rating can mean that the rating is subsequently no longer accurate.

Sustainability and Carbon

Morningstar Sustainability Rating™ Artwork

The Morningstar® Sustainability Rating™ is intended to measure how well the issuing companies or countries of the securities within a fund's portfolio are managing their financially material environmental, social and governance, or ESG, risks relative to the fund's Morningstar Global Category peers. Morningstar rates funds from High to Low by combining a portfolio's Corporate Sustainability Rating and Sovereign Sustainability Rating proportional to the relative weight of the (long only) corporate and sovereign positions. When available, the Morningstar Sustainability Rating must

be the featured sustainability rating. The individual Environmental, Social, and Governance scores may also be illustrated, but the Morningstar Sustainability Rating must be featured with them.

For example, if a fund's Environmental Risk Score vs. Category is High, but its Morningstar Sustainability Rating is Below Average, the Environmental Risk Score vs. Category cannot be shown in isolation.

Morningstar Sustainability Rating in Text

Fund XYZ received a Morningstar Sustainability Rating™ of 

Fund XYZ received an Above Average Morningstar Sustainability Rating™

Fund XYZ received a Morningstar Sustainability Rating™ of Above Average

Morningstar Sustainability Rating Artwork

Rating Icon

Descriptive Rank



High



Above Average



Average



Below Average



Low

Displaying the Morningstar Sustainability Rating Artwork

Recommended Color

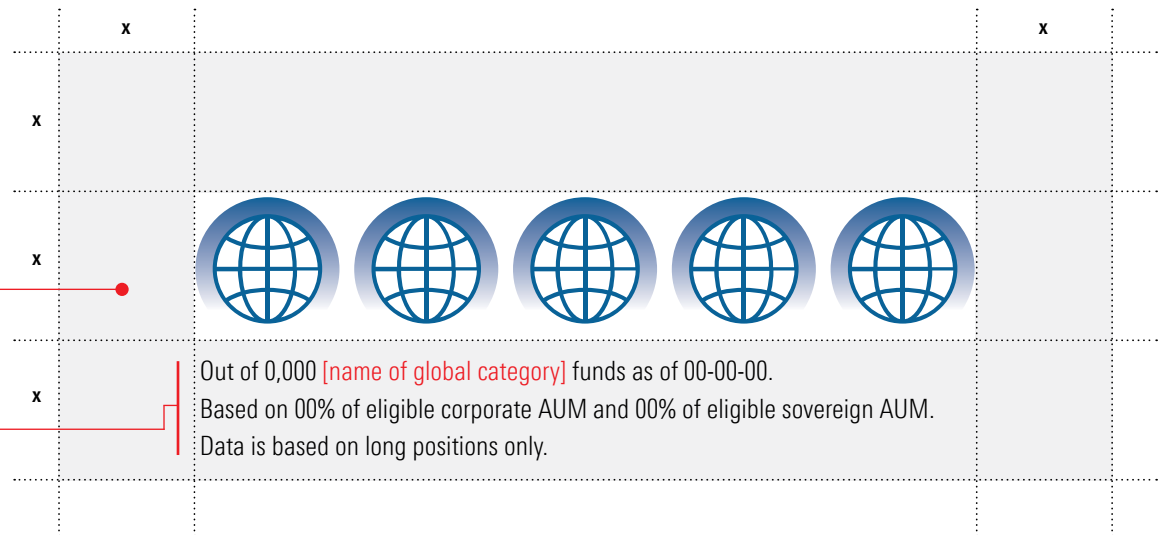
Blue.

Clear Space

Maintain around the rating, with measurements as shown.

Accompanying Statement

Always display with the rating.



Required Morningstar Sustainability Rating™ Disclosures

The following disclosure is required when using the Sustainability Rating

Fill in appropriate information for items highlighted in red.

Required Morningstar Sustainability Rating Disclosures

Sustainability Rating as of **[insert date of Sustainability Rating]**. Corporate and Sovereign Sustainability Score and Investment Style as of **[insert date of Sustainability Rating]**. Morningstar's Sustainability Score incorporates Sustainalytics' company and country-level analysis.

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Fill in appropriate information for items highlighted in red.

Required Qualifying Statement for the Morningstar Sustainability Rating™

Out of **[insert number of funds]** **[insert name of global category]** funds as of **[insert date]**. Based on **[insert percent of eligible corporate AUM]** of eligible corporate AUM and **[insert percent of eligible sovereign AUM]** of eligible sovereign AUM. Data is based on long positions only.

Suggested Morningstar Sustainability Rating™ Disclosure

This text may be used as an investor-friendly description of the Sustainability Rating.

Morningstar Sustainability Rating

The Morningstar® Sustainability Rating™ is intended to measure how well the issuing companies or countries of the securities within a fund's portfolio are managing their financially material environmental, social and governance, or ESG, risks relative to the fund's Morningstar Global Category peers. Morningstar assigns Sustainability Ratings by combining a portfolio's Corporate Sustainability Rating and Sovereign Sustainability Rating proportional to the relative weight of the (long only) corporate and sovereign positions.

1. Sustainalytics, a Morningstar company, is an independent ESG and corporate governance research, ratings, and analysis firm.

The Morningstar Sustainability Rating calculation is a five-step process. First, the Corporate Sustainability Score and Sovereign Sustainability Score are both derived. Funds require at least 67% of corporate assets be covered by a company-level ESG Risk Score from Sustainalytics to receive a Morningstar Portfolio Corporate Sustainability Score.¹ Funds require at least 67% of sovereign assets be covered by a Country Risk Score from Sustainalytics to receive a Morningstar Portfolio Sovereign Sustainability Score. The Morningstar Corporate and Sovereign Sustainability Scores are asset-weighted averages of company-level ESG Risk Scores for corporate holdings or Country Risk Scores for sovereign holdings. Both scores range between 0 to 100, with a higher score indicating that a fund has, on average, more of its assets invested in companies or countries with high ESG Risk.

Second, the Corporate and Sovereign Historical Sustainability Scores are weighted moving averages of the respective Portfolio Corporate and Sovereign Sustainability Scores over the past 12 months, to reduce volatility. The Historical Corporate and Sovereign Sustainability Scores range between 0 to 100, with a higher score indicating that a fund has, on average, more of its assets invested in companies or countries with high ESG Risk, on a consistent historical basis.

Third, the Morningstar Corporate Sustainability Rating and Sovereign Sustainability Rating are then assigned to all scored funds within Morningstar Global Categories. In order to receive a Corporate Sustainability Rating or Sovereign Sustainability Rating, at least thirty (30) funds in the Category receive a Historical Corporate Sustainability Score and a Historical Sovereign

Sustainability Score respectively. The Ratings is determined by each fund's Corporate and Sovereign Sustainability Score rank within the following distribution:

- ▶ High (highest 10%)
- ▶ Above Average (next 22.5%)
- ▶ Average (next 35%)
- ▶ Below Average (next 22.5%) and
- ▶ Low (lowest 10%)

Both the Corporate and Sovereign Ratings rely on distribution of scores within a Morningstar Global Category. In cases where there is little to no distribution for sovereign or corporate scores within a peer group, Morningstar defaults from the middle outwards, so that if there was no distribution, all portfolios in the peer group would receive an 'Average' rating assignment, and if there was very limited distribution, all portfolios may only fall under some of the five rating groups. Morningstar applies an absolute value breakpoint buffer to ensure breakpoints meet a minimum requirement of distribution. This value is assessed on an annual basis and will represent 10% of the standard deviation for all Sovereign Sustainability Scores for the Sovereign Sustainability Rating assignments, and 10% of the standard deviation for all Corporate Sustainability Scores for the Corporate Sustainability Rating assignments.

Fourth, because the distribution rules are applied within global categories, portfolios exposed to high ESG Risk could still receive favorable Sustainability Ratings. For example, portfolios within the energy category exhibit high ESG Risk levels. Therefore, as a final ratings check, we impose requirements on the level of ESG Risk.

- ▶ If Portfolio Corporate or Sovereign Sustainability score is above 40, then the fund receives a Low Corporate or Sovereign Sustainability Rating
- ▶ If Portfolio Corporate or Sovereign Sustainability score is above 35 and preliminary rating is Average or better, then the fund is downgraded to Below Average for the respective Corporate or Sovereign rating

- ▶ If Portfolio Corporate or Sovereign Sustainability score is above 30 and preliminary rating is Above Average, then the fund is downgraded to Average for the respective Corporate or Sovereign rating
- ▶ If Portfolio Corporate or Sovereign Sustainability score is below 30, then no adjustment is made

Fifth, the Portfolio Sustainability Rating is determined by combining a portfolio's Corporate Sustainability Rating and Sovereign Sustainability Rating proportional to the relative weight of the (long only) corporate and sovereign positions, rounding to the nearest whole number. In order to receive a Portfolio Sustainability Rating, a fund must have both a Corporate Sustainability Rating and Sovereign Sustainability Rating, unless one of either the Corporate or Sovereign portion of the fund is less than 5% of the fund.

The Morningstar Sustainability Rating is depicted by globe icons where High equals 5 globes and Low equals 1 globe. Since a Sustainability Rating is assigned to all funds that meet the above criteria, the rating is not limited to funds with explicit sustainable or responsible investment mandates.

Morningstar updates its Sustainability Ratings monthly. The Portfolio Corporate and Sovereign Sustainability Scores are calculated when Morningstar receives a new portfolio. Then, the Historical Corporate and Sovereign Sustainability Scores, the Corporate and Sovereign Sustainability Ratings, and the overall Sustainability Rating are calculated one month and six business days after the reported as-of date of the most recent portfolio. When deriving the Sustainability Rating, Morningstar uses the portfolio with same effective date as the rating, and if this is not available, will defer to the most recent portfolio up to nine months back. This is in order to accommodate varying disclosure requirements across different markets and managed portfolio types.

Please visit <http://corporate1.morningstar.com/SustainableInvesting/> for more detailed information about the Morningstar Sustainability Rating methodology and calculation frequency.

Surveyed Data Points

For any data points ending in "—Surveyed" such as *Sustainable Investment Overall—Surveyed* This data point is self-reported by the investment provider and is not verified by Morningstar through prospectuses, offering documents, or regulatory filings.

Morningstar Low Carbon Designation™ Artwork

The Morningstar® Low Carbon Designation™ is assigned to portfolios that have low carbon-risk scores and low levels of fossil-fuel exposure. The designation is an indicator that the companies held in a portfolio are in general alignment with the transition to a low-carbon economy.

Morningstar Low Carbon Designation Artwork



Required Morningstar Low Carbon Designation™ Disclosure

The following disclosure is required when using the Low Carbon Designation

Fill in appropriate information for items highlighted in red.

Required Morningstar Low Carbon Designation Disclosures

Carbon Metrics as of [insert Carbon Date]. Based on [insert Carbon Risk Percentage of Eligible Portfolio Covered] percent of eligible portfolio covered. Data is based on long positions only.

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Fill in appropriate information for items highlighted in red.

Required Accompanying Statement for the Morningstar Low Carbon Designation™

As of [insert Carbon Date].

Suggested Morningstar Low Carbon Designation™ Disclosure

This text may be used as an investor-friendly description of the Low Carbon Designation.

Morningstar Low Carbon Designation

The Morningstar® Low Carbon Designation™ is intended to allow investors to easily identify low-carbon funds across the global universe. The designation is an indicator that the companies held in a portfolio are in general alignment with the transition to a low-carbon economy.

1. Sustainalytics is an independent ESG and corporate governance research, ratings, and analysis firm. Morningstar, Inc. holds a non-controlling ownership interest in Sustainalytics.

The designation is given to portfolios that have low carbon-risk scores and low levels of exposure to fossil fuels. To determine carbon-risk scores and fossil fuel involvement, Morningstar uses Sustainalytics' company-level data¹. The Morningstar® Portfolio Carbon Risk Score™ measures the risk that companies in a portfolio face from the transition to a low-carbon economy. The Morningstar® Portfolio Fossil Fuel Involvement™ percentage assesses the degree to which a portfolio is exposed to thermal coal extraction and power generation as well as oil and gas production, power generation, and products & services.

To receive a Morningstar Portfolio Carbon Risk Score, at least 67% of portfolio assets must have a carbon-risk rating from Sustainalytics. The percentage of assets covered is rescaled to 100% before calculating the score.

To receive the designation, a portfolio must meet two criteria:

- ▶ A 12-month trailing average Morningstar Portfolio Carbon Risk Score below 10
- ▶ A 12-month trailing average exposure to fossil fuels less than 7% of assets, which is approximately a 33% underweighting to the global equity universe

Funds receive the Low Carbon designation based on the most recent quarterly calculations of their 12-month trailing average Morningstar Portfolio Carbon Risk Scores and Morningstar Portfolio Fossil Fuel Involvement. Funds holding the Low Carbon designation that no longer meet the criteria will not receive the designation for the subsequent quarter. All Morningstar Portfolio Carbon Metrics, including the Morningstar Portfolio Carbon Risk Score, Morningstar Portfolio Fossil Fuel Involvement, and the Morningstar Low Carbon Designation, are calculated quarterly. Portfolio carbon metric calculations will be completed on the sixth business day in February, May, August, and November.

Please visit <http://corporate1.morningstar.com/SustainableInvesting/> for more detail information about the Morningstar Low Carbon Designation and its calculation.

Additional Graphs and Ratings

Morningstar Risk, Return, and Category % Rank Artwork

Morningstar Return determines an investment's excess return over the risk-free rate. Morningstar Risk assesses the variation in an investment's monthly returns with greater penalties for downside variation. Both are measured for three, five, and 10 years against other investments in the same Morningstar Category, and then the time periods are combined to produce an overall measure.

Morningstar Category % Rank is a fund's total-return percentile rank relative to all funds in the same category. The highest (or most favorable) percentile rank is one and the lowest (or least favorable) percentile rank is 100.

Recommended Color

Morningstar red or black.

If seals are used for multiple proprietary statistics they must all be from the same time period.

Morningstar Risk Seal

**Morningstar
Risk**
3 Year

—Avg

TM

**Morningstar
Risk**
5 Year

Low

TM

**Morningstar
Risk**
10 Year

+Avg

TM

Recommended Color

Morningstar red or black.

If seals are used for multiple proprietary statistics they must all be from the same time period.

Morningstar Return Seal

**Morningstar
Return**
3 Year

High

TM

**Morningstar
Return**
5 Year

Avg

TM

**Morningstar
Return**
10 Year

—Avg

TM

Recommended Color

Morningstar red or black.

If seals are used for multiple proprietary statistics they must all be from the same time period.

Morningstar Category % Rank Seal

**Morningstar
Category % Rank**
3 Year

7 Best=1
Worst=100

TM

**Morningstar
Category % Rank**
5 Year

5 Best=1
Worst=100

TM

**Morningstar
Category % Rank**
10 Year

11 Best=1
Worst=100

TM

Required Morningstar Risk, Return, and Category % Rank Disclosure and Qualifying Statement

The following disclosure is required when using Morningstar data

Fill in appropriate information for items highlighted in red.

Morningstar Data

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Fill in appropriate information for items highlighted in red.

Required Qualifying Statement

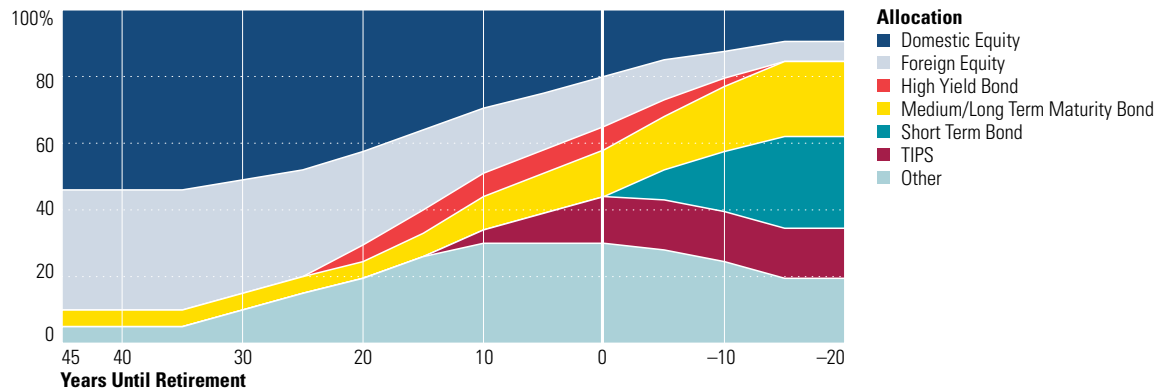
[Insert time period] [insert ranking type: absolute, percentile, quartile] ranking out of [insert number of funds] [insert name of category funds] as of [insert date].

Morningstar Glide Path

Life cycle funds are diversified investments that shift their allocation among various asset classes—such as stocks, bonds, and cash—as an investor moves toward retirement. These investments have target dates that indicate the expected retirement year, and may have additional traits such as an aggressive, moderate, or conservative investing style.

A glide path illustrates an investment's change in target asset allocation along specific time points as an investor approaches, reaches, and settles into retirement. It graphically depicts how the allocation shifts from a more aggressive investment approach to a more conservative one as the investment nears its target maturity date.

Glide Path



Required Morningstar Glide Path Disclosure

The following disclosure
is required when using
Morningstar data

Fill in appropriate information
for items highlighted in red.

Morningstar Data

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Morningstar Factor Profile™

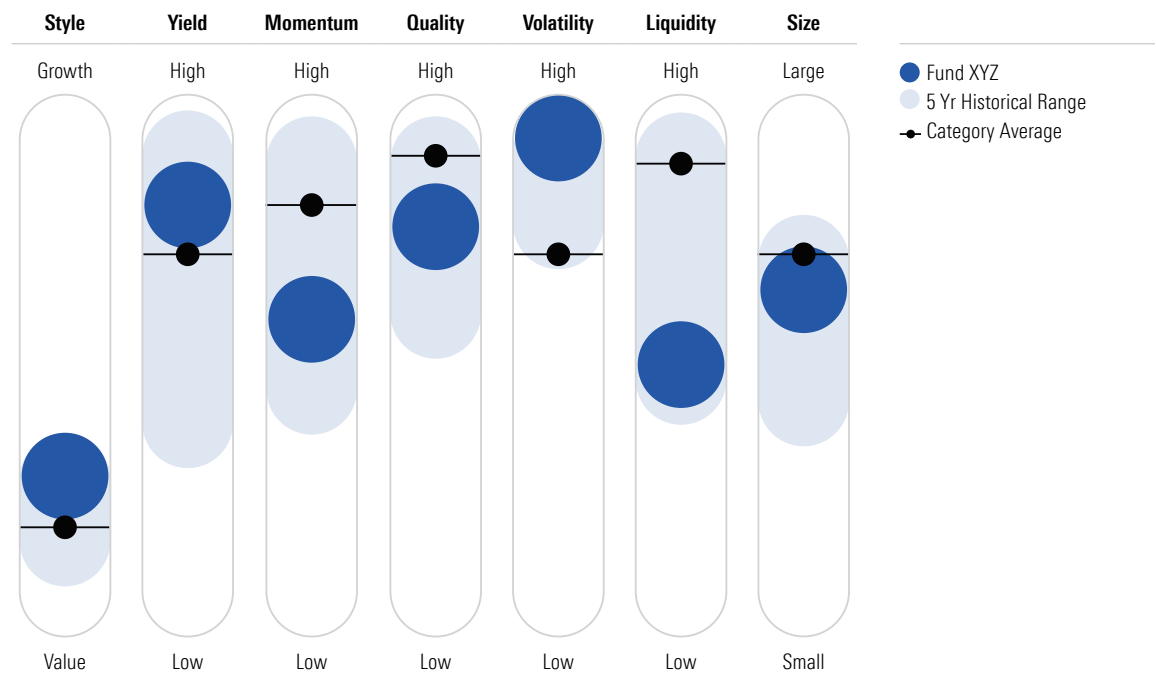
The Morningstar Factor Profile is a lens that complements the Morningstar Style Box™, incorporating additional factors that further explain funds' exposures to well-documented sources of long-term returns. The Morningstar Factor Profile provides a snapshot of funds' exposures to seven different factors. These factors are common characteristics of stocks that can help to explain their long-term returns relative to the broader market.

Each factor has been well-documented and vetted in academia, and implemented by investment practitioners. The familiar size and style factors that define the dimensions of the Morningstar Style Box™ bookend the set of seven featured in the Factor Profile. In the middle are five additional factors (yield, momentum, quality, volatility, and liquidity) that provide a deeper understanding of the drivers of stock funds' returns.

Factor Profile

Found in the Images tab of the platform, the Factor Profile images represent the fund's 1-yr, 3-yr, and 5-year historical range and benchmark against the Category Average.

The raw data behind the images can be found in the Risk Model tab under Data.



Fund as of MM/DD/YYYY | Category: Large Growth as of MM/DD/YYYY

Required Morningstar Factor Profile Disclosure

The following disclosure
is required when using
Morningstar data

Fill in appropriate information
for items highlighted in red.

Morningstar Data

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Suggested Morningstar Factor Profile Disclosures and Explanation

Morningstar suggests using this disclosure when displaying the Factor Profile.

Morningstar Factor Profile Disclosure

Morningstar Factor Profile uses a bottom-up, holdings-based approach that measures a fund's factor exposure based on the characteristics of its underlying securities:

- ▶ A standardized score of the fund's underlying stocks' factor characteristics (e.g., liquidity, value, etc.) within an asset class and region are calculated to ensure stocks are compared with local peers.
- ▶ Stock-level factor scores are aggregated to the fund level using portfolio holding weights.
- ▶ Fund-level factor scores are ranked and transformed to a scale between 1 and 100.

A fund's factor ranking is shown relative to three measures: (i) all funds in the global universe in Morningstar's database, (ii) the average ranking of funds in the fund's Morningstar Category as a benchmark, and (iii) the range (minimum and maximum) of the fund's ranking over time period to help an investor assess the stability of a fund's factor exposures.

On daily basis, for each stock in Morningstar's database, the raw factor scores are calculated as follows:

Size:	The negatively transformed raw size score from the Morningstar Style Box™ is used to calculate the size exposure of a stock, which is based on the natural logarithm of the stock's market capitalization. This gives small-cap companies a high size score, which indicates that smaller stocks have higher exposure to the size premium than larger stocks.
Style:	The raw style score from the Morningstar Style Box is used to calculate the value growth exposure of a stock. The raw style score is the difference between a stock's growth and value scores, where the value score is the weighted average of a stock's prospective earnings, book value, revenue, cash flow, and dividend, all scaled by the current price of the stock, and the growth score is the weighted average of the growth rates in a company's earnings, book value, revenue, and cash flow. A higher style score indicates a stronger growth orientation and lower exposure to the value premium.

Momentum:	The momentum factor is calculated as the difference between the log trailing 12-month return and the log trailing one-month return. A higher momentum score indicates larger and more positive momentum exposure.
Liquidity:	The average daily trading volume scaled by the number of shares outstanding over a month (assuming 21 trading days) is used to calculate the liquidity score of a stock. A higher score indicates more liquidity.
Quality:	The equally weighted z-score of a company profitability (trailing 12-month return on equity) and the z-score of its financial leverage (trailing 12-month debt to capital ratio) is used to calculate the quality factor. A higher score indicates higher quality.
Yield:	The sum of trailing 12-month buyback and dividend yields for a company are used to calculate the yield factor. Higher values indicate larger, more positive yield exposure.
Volatility:	The trailing 12-month volatility of daily returns of a stock are used to calculate the volatility factor. A higher score indicates higher volatility.

Each raw factor score is modified to reduce the impact of outliers and standardized by region so that factor scores are of the same scale and comparable to their peers. The scores are aggregated to the fund level using a fund's holdings' weights, based on the latest holdings of a fund in Morningstar's database. For funds that have at least 90% of their underlying holdings covered by Morningstar, the fund's score is converted to a percentile ranking that ranges from 1 to 100. Funds with higher exposure scores will have lower percentile rankings:

Style	Yield	Momentum	Quality	Volatility	Liquidity	Size
Growth: 1	High: 1	High: 1	High: 1	High: 1	High: 1	Large: 100
Value: 100	Low: 100	Low: 100	Low: 100	Low: 100	Low: 100	Small: 1

Risk Warning

Morningstar Factor Profile are not statements of fact. Morningstar does not guarantee the completeness or accuracy of the assumptions or models used in determining the positioning of each factor, nor the ability of a factor to drive performance for a specific fund.

Unforeseen changes in management, technology, economic development, interest rate development, operating and/or material costs, competitive pressure, supervisory law, exchange rate, and tax

rate will impact a fund's results and may cause expected results not to occur or to differ significantly from those expected. For investments in foreign or emerging markets there are further risks, generally based on exchange rate changes or changes in political and social conditions. Factor exposures will shift over time and past performance does not guarantee future results. Morningstar Factor Profile should not be used as the sole basis in evaluating a fund.

For more detailed information about Morningstar Factor Profile, including a description of how each factor is calculated, view the methodology at https://www.morningstar.com/content/dam/marketing/shared/pdfs/Research/Factor_Profile_Methodology.pdf.

This text may be used as an investor-friendly description of the Factor Profile.

Morningstar Factor Profile Explanation

Morningstar Factor Profile is a tool designed to help investors visualize the factor exposure, or “tilts” toward certain investment characteristics, of investment portfolios. Morningstar Factor Profile displays seven factors Morningstar feels are underlying drivers of market performance: size, style (or value-growth), quality, yield, liquidity, volatility, and momentum.

Morningstar Essentials FAQ's

Morningstar Essentials FAQ's

Do I need to submit every piece of content using Morningstar data to Morningstar for review?

We only ask for “new” instances of use – for example, when you are using the Style Box in your factsheets for the first time. So long as the use remains fundamentally the same (e.g., no changes to disclosures or the data displayed), you would not need to send in your factsheets to Morningstar for review for every fund, nor would you need to send in your factsheets every month or quarter upon updating them if you are following the same template.

What if Morningstar alerts me there is an issue with content I've already published?

In most cases, Morningstar will not ask you to remove or change already-published data or images, unless they are intentionally misleading or confusing to investors. Most commonly, Morningstar will ask you to alter the display of the data, images, or disclosures upon the next iteration of publication.

Must the language for Suggested Disclosures be exactly word-for-word?

Ultimately, the language you use must be approved by your own legal/compliance department, in addition to any local regulatory body. The Required Disclosures cannot be altered, however.

Are full disclosures required for digital ads?

Full Required and/or Suggested Disclosures can be linked to digital ads, as long as the Required Qualifying Statement remains in the ad itself (as-of date, category name, number of funds in category, and time period (and rank type, if applicable)). The full disclosures must be available in the ad's landing page. The same logic applies when using a Morningstar rating or statistic in the signature of email communications.

Can I change the colors of Morningstar signature icons?

It is acceptable to change the color of Morningstar icons (e.g., the stars of the Morningstar Rating, the globes of the Sustainability Rating, etc.), however, only a single color can be used, no effects can be applied (such as a 3D or gradient effect), and the star/globes must remain in a horizontal line.

What do hollow stars indicate?

Hollow stars indicate the Morningstar Rating calculation was performed using extended performance. Extended performance takes the performance string of an older share class of the same portfolio, strips away the fees and expenses of the older share to determine base performance, then adjusts for the fees and expenses of the new share.

If a fund has a mid-month change (such as a new category assignment), when will this change be reflected in the Essentials Portal website?

Essentials Portal data updates on a monthly basis, with the exception of Medalist Ratings which may update intra-month. You can expect to see updates to a fund's data reflected in the Essentials Portal the month after the change has been made.

Under the Rating Data tab, what does “Number of Funds” mean?

The data point “Number of Funds” is the unique number of share classes or investment vehicles rated and ranked in a specific category, and not actually the number of distinct funds or portfolios. For investments that are overlaid on top of open-end mutual funds and exchange-traded funds (such as insurance funds and collective investment trusts), the “number of funds” refers to the number of share classes rated in a specific category in the open-end mutual fund or exchange-traded fund universe.

Why doesn't a particular fund have an ownership zone image (or really any portfolio image)?

The majority of the images in Essentials are based on equity holdings within a portfolio. If the fund holds non-equity securities (such as bonds, cash, etc.), the fund will likely not have a portfolio image other than the Fixed Income Style Box. Most funds-of-funds will not have a portfolio image due to our inability to look through the portfolio at the level needed to identify the individual equity holdings to create the image.

How do I disclose the Morningstar Rank data points?

To properly disclose ranking data points, you should always display the following:

- ▶ As-of date of the ranking
- ▶ Category of the ranking
- ▶ Rank type (absolute, percentile, or quartile)
- ▶ Number of funds in category
- ▶ Time period of ranking

What disclosures can I use for CIT's?

You may use the following disclosure:

The Morningstar Rating™ is provided for Collective Investment Trusts (CIT's) with at least a three-year history. Ratings are based on the CIT's Morningstar Risk-Adjusted Return measure which accounts for variation in monthly performance, placing more emphasis on downward variations and rewarding consistent performance. Morningstar compares each CIT's risk-adjusted return against the breakpoints for the exchange-traded fund and open-end mutual fund universe for that category. The top 10% of exchange-traded funds and open-end mutual funds in each category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars, and the bottom 10% receive 1 star. The CIT's Morningstar Rating does not affect the retail fund data published by Morningstar.

Is historical data available?

For some data sets, historical data is available in the Essentials Portal. There is a dropdown menu in the top right corner of the **Essentials > Data** tabs where you can select a historical quarter. The dropdown menu is found next to where it says, "Date as of _____."

Whom can I reach out to if I have additional questions?

Please feel free to reach out to your relationship manager or licensedproducts@morningstar.com.



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