

# Printable Critical Thinking Cards

**24 LOGICAL FALLACIES  
24 COGNITIVE BIASES  
PLUS BONUS GAME CARDS**

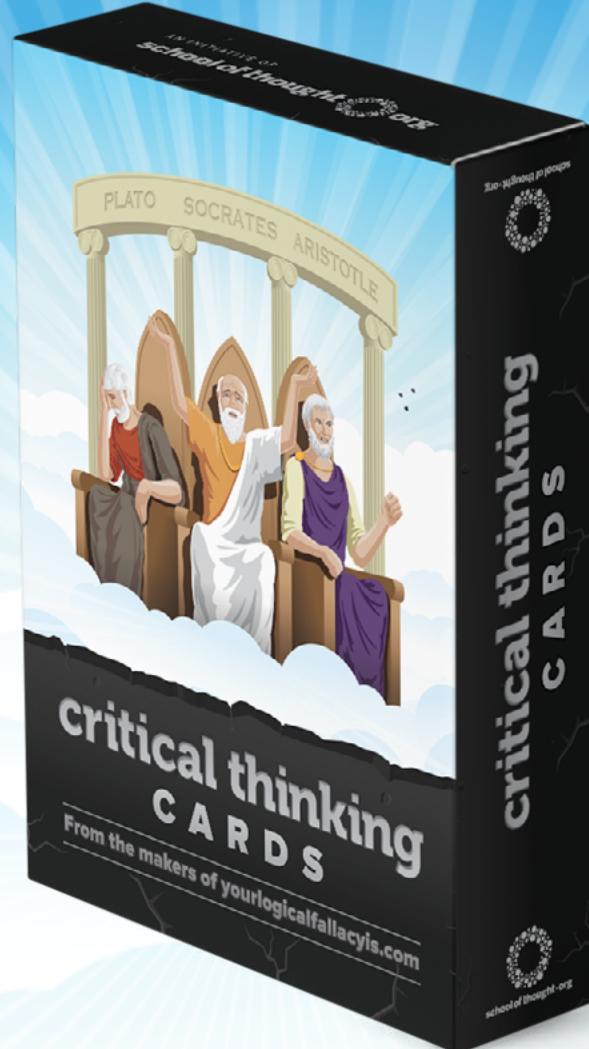
## US LETTER SIZE

8.5x11" or 215.9x279.4mm

Use quality laser printer on card stock for best results

Can be printed on A4 size paper at 100%

You can order a physical deck of cards printed on high quality 320gsm casino quality linen card stock with matte varnish at: [schoolofthought.org/shop](http://schoolofthought.org/shop)



**your fallacy is:****strawman**

**Misrepresenting someone's argument to make it easier to attack.**

After Bob said that we should be nice to kittens, Will says Bob wants to be mean to puppies!

Everyone boos Bob who is clearly a mean jerk for wanting to hurt poor, cute puppies.

[yourfallacy.is/strawman](http://yourfallacy.is/strawman)**your fallacy is:****false cause**

**Presuming that a real or perceived relationship between things means that one is the cause of the other.**

Pointing to a fancy chart, Roger shows how temperatures have been rising over the past few centuries, whilst at the same time the numbers of pirates have been decreasing; thus pirates cool the world and global warming is a hoax.

[yourfallacy.is/false-cause](http://yourfallacy.is/false-cause)**your fallacy is:****appeal to emotion**

**Manipulating an emotional response in place of a valid or compelling argument.**

Luke didn't want to eat his sheep brains with chopped liver and brussels sprouts, but his father told him to think about the poor, starving children in a third world country who weren't fortunate enough to have any food at all.

[yourfallacy.is/appeal-to-emotion](http://yourfallacy.is/appeal-to-emotion)**your fallacy is:****the fallacy fallacy**

**Presuming that because a claim has been poorly argued, or a fallacy has been made, that it is necessarily wrong.**

Recognising that Amanda had committed a fallacy in arguing that we should eat healthy food because a nutritionist said it was popular, Alyse said we should therefore eat bacon double cheeseburgers every day.

[yourfallacy.is/the-fallacy-fallacy](http://yourfallacy.is/the-fallacy-fallacy)**your fallacy is:****slippery slope**

**Asserting that if we allow A to happen, then Z will consequently happen too, therefore A should not happen.**

Colin asserts that if we allow children to play video games, then the next thing you know we'll be living in a post-apocalyptic zombie wasteland with no money for guard rails to protect people from slippery slopes.

[yourfallacy.is/slippery-slope](http://yourfallacy.is/slippery-slope)**your fallacy is:****ad hominem**

**Attacking your opponent's character or personal traits in an attempt to undermine their argument.**

After Sally presents an eloquent and compelling case for a more equitable taxation system, Sam asks the audience whether we should believe anything from a woman who isn't married and probably eats her own boogers.

[yourfallacy.is/ad-hominem](http://yourfallacy.is/ad-hominem)**your fallacy is:****tu quoque**

**Avoiding having to engage with criticism by turning it back on the accuser - answering criticism with criticism.**

The blue candidate accused the red candidate of committing the tu quoque fallacy. The red candidate responded by accusing the blue candidate of the same, after which ensued an hour of back and forth criticism with not much progress.

[yourfallacy.is/tu-quoque](http://yourfallacy.is/tu-quoque)**your fallacy is:****personal incredulity**

**Saying that because one finds something difficult to understand that it's therefore not true.**

Kirk drew a picture of a fish and a human and with effusive disdain asked Richard if he really thought we were stupid enough to believe that a fish somehow turned into a human through just, like, random things happening over time.

[yourfallacy.is/personal-incredulity](http://yourfallacy.is/personal-incredulity)

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**your fallacy is:**

## special pleading

**Moving the goalposts to create exceptions when a claim is shown to be false.**

Edward Johns claimed to be psychic, but when his 'abilities' were tested under proper scientific conditions, they magically disappeared.

Edward explained this saying that one had to have faith in his abilities for them to work.

[yourfallacy.is/special-pleading](http://yourfallacy.is/special-pleading)**your fallacy is:**

## loaded question

**Asking a question that has an assumption built into it so that it can't be answered without appearing guilty.**

Grace and Helen were both romantically interested in Brad. One day, with Brad sitting within earshot, Grace asked in an inquisitive tone whether Helen was having any problems with a fungal infection.

[yourfallacy.is/loaded-question](http://yourfallacy.is/loaded-question)**your fallacy is:**

## burden of proof

**Saying that the burden of proof lies not with the person making the claim, but with someone else to disprove.**

Bertrand declares that a teapot is, at this very moment, in orbit around the Sun between the Earth and Mars, and that because no one can prove him wrong his claim is therefore a valid one.

[yourfallacy.is/burden-of-proof](http://yourfallacy.is/burden-of-proof)**your fallacy is:**

## ambiguity

**Using double meanings or ambiguities of language to mislead or misrepresent the truth.**

When the judge asked the defendant why he hadn't paid his parking fines, he said that he shouldn't have to pay them because the sign said 'Fine for parking here' and so he naturally presumed that it would be fine to park there.

[yourfallacy.is/ambiguity](http://yourfallacy.is/ambiguity)**your fallacy is:**

## the gambler's fallacy

**Believing that 'runs' occur to statistically independent phenomena such as roulette wheel spins.**

Red had come up six times in a row on the roulette wheel, so Greg knew that it was close to certain that black would be next up. Suffering an economic form of natural selection from this thinking, he soon lost all of his savings.

[yourfallacy.is/the-gamblers-fallacy](http://yourfallacy.is/the-gamblers-fallacy)**your fallacy is:**

## bandwagon

**Appealing to popularity or the fact that many people do something as an attempted form of validation.**

Shamus pointed a finger at Sean and asked him to explain how so many people could believe in leprechauns if they're only a silly old superstition. Sean wondered how so many people could believe in things based on popularity.

[yourfallacy.is/bandwagon](http://yourfallacy.is/bandwagon)**your fallacy is:**

## appeal to authority

**Using the opinion or position of an authority figure, or institution of authority, in place of an actual argument.**

Unable to defend his argument that the Earth is flat, Bob said that his friend Terry was a qualified botanist who also believed the Earth to be flat, and had even seen it from up in a tree.

[yourfallacy.is/appeal-to-authority](http://yourfallacy.is/appeal-to-authority)**your fallacy is:**

## composition/division

**Assuming that what's true about one part of something has to be applied to all, or other, parts of it.**

Daniel was a precocious child and had a liking for logic. He reasoned that atoms are invisible, and that he was made of atoms and therefore invisible too. Unfortunately, despite his thinky skills, he lost the game of hide-and-go-seek.

[yourfallacy.is/composition-division](http://yourfallacy.is/composition-division)

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**your fallacy is:**

## no true scotsman

Making what could be called an appeal to purity as a way to dismiss relevant criticisms or flaws of an argument.

Angus declares that Scotsmen do not put sugar on their porridge, to which Lachlan points out that he is a Scotsman and puts sugar on his porridge. Furious, like a true Scot, Angus yells that no true Scotsman sugars his porridge.

[yourfallacy.is/no-true-scotsman](http://yourfallacy.is/no-true-scotsman)**your fallacy is:**

## genetic

Judging something good or bad on the basis of where it comes from, or from whom it comes.

Accused on the 6 o'clock news of corruption and taking bribes, the senator said that we should all be very wary of the things we hear in the media, because we all know how very unreliable the media can be.

[yourfallacy.is/genetic](http://yourfallacy.is/genetic)**your fallacy is:**

## black-or-white

Where two alternative states are presented as the only possibilities, when in fact more possibilities exist.

Whilst rallying support for his plan to fundamentally undermine citizens' rights, the Supreme Leader told the people they were either on his side, or on the side of the enemy.

[yourfallacy.is/black-or-white](http://yourfallacy.is/black-or-white)**your fallacy is:**

## begging the question

A circular argument in which the conclusion is included in the premise.

The word of Zorbo the Great is flawless and perfect. We know this because it says so in The Great and Infallible Book of Zorbo's Best and Most Truest Things that are Definitely True and Should Not Ever Be Questioned.

[yourfallacy.is/begging-the-question](http://yourfallacy.is/begging-the-question)**your fallacy is:**

## appeal to nature

Making the argument that because something is 'natural' it is therefore valid, justified, inevitable, good, or ideal.

The medicine man rolled into town on his bandwagon offering various natural remedies, such as very special plain water. He said that it was only natural that people should be wary of 'artificial' medicines such as antibiotics.

[yourfallacy.is/appeal-to-nature](http://yourfallacy.is/appeal-to-nature)**your fallacy is:**

## anecdotal

Using personal experience or an isolated example instead of a valid argument, especially to dismiss statistics.

Jason said that that was all cool and everything, but his grandfather smoked, like, 30 cigarettes a day and lived until 97 - so don't believe everything you read about meta-analyses of sound studies showing proven causal relationships.

[yourfallacy.is/anecdotal](http://yourfallacy.is/anecdotal)**your fallacy is:**

## the texas sharpshooter

Cherry-picking data clusters to suit an argument, or finding a pattern to fit a presumption.

The makers of Sugarette Candy Drinks point to research showing that of the five countries where Sugarette drinks sell the most units, three of them are in the top ten healthiest countries on Earth, therefore Sugarette drinks are healthy.

[yourfallacy.is/the-texas-sharpshooter](http://yourfallacy.is/the-texas-sharpshooter)**your fallacy is:**

## middle ground

Saying that a compromise, or middle point, between two extremes is the truth.

Holly said that vaccinations caused autism in children, but her scientifically well-read friend Caleb said that this claim had been debunked and proven false.

Their friend Alice offered a compromise that vaccinations cause some autism.

[yourfallacy.is/middle-ground](http://yourfallacy.is/middle-ground)

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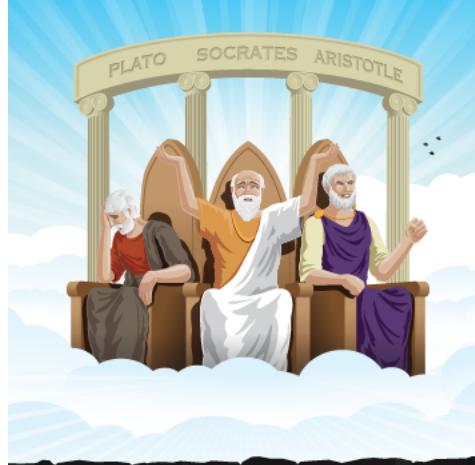


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**thou shalt not commit  
logical fallacies**

[yourfallacy.is](http://yourfallacy.is)



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**your bias is:****anchoring**

**The first thing you judge influences your judgment of all that follows.**

Human minds are associative in nature, so the order in which we receive information helps determine the course of our judgments and perceptions.

Be especially mindful of this bias during negotiations.

[yourbias.is/anchoring](http://yourbias.is/anchoring)**your bias is:****sunk cost fallacy**

**You irrationally cling to things that have already cost you something.**

When we've invested our time, money, or emotion into something, it hurts to let it go.

Ask yourself: had I not already invested something, would I still do so now?

[yourbias.is/the-sunk-cost-fallacy](http://yourbias.is/the-sunk-cost-fallacy)**your bias is:****availability heuristic**

**Your judgments are influenced by what springs most easily to mind.**

How recent, emotionally powerful, or unusual your memories are can make them seem more relevant. This, in turn, can cause you to apply them too readily. Try to gain different perspectives and source statistical information.

[yourbias.is/the-availability-heuristic](http://yourbias.is/the-availability-heuristic)**your bias is:****curse of knowledge**

**Once you understand something you presume it to be obvious to everyone.**

It can be hard to remember our own prior state of confusion when we didn't understand something.

When teaching someone something new, go slow (without being patronizing).

[yourbias.is/the-curse-of-knowledge](http://yourbias.is/the-curse-of-knowledge)**your bias is:****your bias is:****your bias is:****your bias is:****confirmation bias**

**You favor things that confirm your existing beliefs.**

We are primed to see and agree with ideas that fit our preconceptions, and to ignore and dismiss information that conflicts with them.

"The first principle is that you must not fool yourself – and you are the easiest person to fool." - Richard Feynman

[yourbias.is/confirmation-bias](http://yourbias.is/confirmation-bias)**dunning-kruger effect**

**The more you know, the less confident you're likely to be.**

Because experts know just how much they don't know, they tend to underestimate their ability; but it's easy to be overconfident when you have only a simple idea of how things are.

Be skeptical of very confident opinions that lack expert understanding.

[yourbias.is/the-dunning-kruger-effect](http://yourbias.is/the-dunning-kruger-effect)**belief bias**

**If a conclusion supports your existing beliefs, you'll rationalize anything that supports it.**

It's difficult for us to set aside our existing ideas to consider the true merits of an argument. In practice this means that our beliefs become impervious to criticism, and are perpetually reinforced.

A useful thing to ask is 'when and how did I get this belief?'

[yourbias.is/belief-bias](http://yourbias.is/belief-bias)**self-serving bias**

**You believe your failures are due to external factors, yet you're personally responsible for your successes.**

Many of us enjoy unearned privileges, luck and advantages that others don't.

It's easy to tell ourselves that we deserve these things, whilst blaming circumstance when things don't go our way.

[yourbias.is/self-serving-bias](http://yourbias.is/self-serving-bias)

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**your bias is:**

## the backfire effect

**When your core beliefs are challenged, it can cause you to believe even more strongly.**

We can experience being wrong about some ideas as an attack upon our very selves, or our tribal identity.

This can lead to motivated reasoning which causes us to reinforce a broader narrative, despite disconfirming evidence relating to a particular fact.

[yourbias.is/the-backfire-effect](http://yourbias.is/the-backfire-effect)**your bias is:**

## the barnum effect

**You see personal specifics in vague statements by filling in the gaps.**

Psychics, astrologers and others use this bias to make it seem like they're telling you something personally relevant.

Try to think critically and see how things could be interpreted to apply to anyone, not just you.

[yourbias.is/the-barnum-effect](http://yourbias.is/the-barnum-effect)**your bias is:**

## groupthink

**You let the social dynamics of a group situation override the best outcomes.**

Dissent can be uncomfortable and so often the most confident or first voice will determine group decisions.

Try to facilitate objective means of evaluation and critical thinking practices as a group activity.

[yourbias.is/groupthink](http://yourbias.is/groupthink)**your bias is:**

## negativity bias

**You allow negative things to disproportionately influence your thinking.**

The pain of loss and hurt are felt more keenly and persistently than the fleeting gratification of pleasant things.

We are primed for survival, and our aversion to pain can distort our judgment for a modern world.

[yourbias.is/negativity-bias](http://yourbias.is/negativity-bias)**your bias is:**

## declinism

**You remember the past as better than it was, and expect the future to be worse than evidence suggests it will be.**

Despite living in the most peaceful and prosperous time in history, many people believe things are getting worse.

Use metrics such as life expectancy, levels of crime and violence, and prosperity statistics.

[yourbias.is/declinism](http://yourbias.is/declinism)**your bias is:**

## framing effect

**You allow yourself to be unduly influenced by context and delivery.**

No one likes to think of themselves as easily manipulated, however it's only when we have the intellectual humility to accept the fact that we can be influenced, that we can limit how much we actually are.

Try to be mindful of how things are being framed or what's being left out.

[yourbias.is/the-framing-effect](http://yourbias.is/the-framing-effect)**your bias is:**

## fundamental attribution error

**You judge others on their character, but yourself on the situation.**

It's not only kind to view others' perspectives with charity, it's more objective too.

Try to be mindful to err on the side of taking personal responsibility rather than justifying and blaming.

[yourbias.is/fundamental-attribution-error](http://yourbias.is/fundamental-attribution-error)**your bias is:**

## the halo effect

**How much you like someone, or how attractive they are, influences your other judgments of them.**

If you notice that you're giving consistently high or low marks across the board, it's worth considering that your judgment may be suffering from the halo effect.

[yourbias.is/the-halo-effect](http://yourbias.is/the-halo-effect)

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your bias is:



## optimism bias

**You overestimate the likelihood of positive outcomes.**

There can be benefits to a positive attitude, but it's unwise to allow this to affect our ability to be realistic.

Ironically, if you're making more rational judgments you'll actually have a lot more to feel positive about.

[yourbias.is/optimism-bias](http://yourbias.is/optimism-bias)

your bias is:



## pessimism bias

**You overestimate the likelihood of negative outcomes.**

Pessimism is often a defense mechanism against disappointment.

Perhaps the worst aspect of pessimism is that even if something good happens, you'll probably feel pessimistic about it anyway.

[yourbias.is/pessimism-bias](http://yourbias.is/pessimism-bias)

your bias is:



## the just world hypothesis

**Your preference for a just world makes you presume that it exists.**

A world in which people don't always get what they deserve is an uncomfortable one that threatens our preferred narrative.

A more just world requires understanding rather than blame. Try to remember that we're all fallible, and that bad things happen to good people.

[yourbias.is/just-world-hypothesis](http://yourbias.is/just-world-hypothesis)

your bias is:



## in-group bias

**You unfairly favor those who belong to your group.**

We presume that we're fair and impartial, but the truth is that we automatically favor those who are most like us, or belong to our groups.

Try to imagine yourself in the position of those in out-groups; whilst also attempting to be dispassionate when judging those who belong to your groups.

[yourbias.is/in-group-bias](http://yourbias.is/in-group-bias)

your bias is:



## the placebo effect

**If you believe you're taking medicine it can sometimes 'work' even if it's fake.**

The placebo effect can work for stuff that our mind influences (such as pain) but not so much for things like viruses or broken bones.

Keep a healthy body and bank balance by using evidence-based medicine from a qualified doctor.

[yourbias.is/the-placebo-effect](http://yourbias.is/the-placebo-effect)

your bias is:



## the bystander effect

**You presume someone else is going to do something in an emergency situation.**

When something terrible is happening in a public setting we can experience a kind of shock and mental paralysis.

If there's an emergency situation, presume to be the one who will help.

[yourbias.is/the-bystander-effect](http://yourbias.is/the-bystander-effect)

your bias is:



## reactance

**You'd rather do the opposite of what someone is trying to make you do.**

When we feel our liberty is being constrained, our inclination is to resist; however in doing so we can overcompensate.

Wisdom springs from reflection, folly from reaction.

[yourbias.is/reactance](http://yourbias.is/reactance)

your bias is:



## spotlight effect

**You overestimate how much people notice how you look and act.**

Instead of worrying about how you're being judged, consider how you're making others feel.

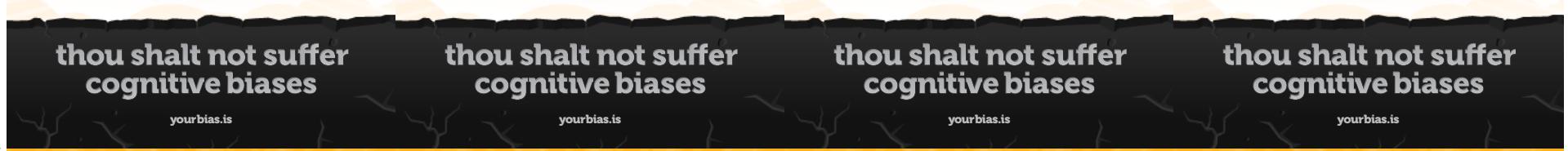
They'll notice this much more, and you'll also be making the world a better place.

[yourbias.is/the-spotlight-effect](http://yourbias.is/the-spotlight-effect)

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**thou shalt not suffer  
cognitive biases**  
[yourbias.is](http://yourbias.is)

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game card

game card

game card

call out card



## The Impaired Thinking Game

Lay all 24 blue fallacy cards out.

Watch a faux news channel, political debate, etc.

The first player to vocally identify a fallacy being committed can nominate someone to drink.

Repeat until equilibrium of idiocy with what you're watching is achieved.



## Bad Thinking Heads Up

Take a random fallacy or bias card and put it on your forehead with the front facing outwards but without looking at it. Other players can commit the fallacy or enact the bias to give you clues as to what it is e.g. if you're holding the Appeal to Nature Fallacy card someone might say 'Gwyneth' or 'Wow, this homeopathy water is totally curing my ignorance.'



## What's That Fallacy?

Read out the example at the bottom of a blue fallacy card.

If the first player to speak correctly identifies the fallacy, you must take one drink. If they get it wrong, everyone else must take one drink then the next player draws a card.

G-rated version: Drinks are replaced with points. Whoever has the most points wins a wholesome, sober sense of self-satisfaction.



## Your thinking is bad and you should feel bad.

If you've been given this card it's because the things you said were so full of fallacies and dodgy logic that it would take too long to identify all of them.

Please go to [yourfallacy.is](http://yourfallacy.is) and familiarize yourself with all the things.

call out card

call out card

call out card

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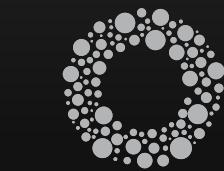
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critical thinking  
CALL OUT CARD

critical thinking  
GAME CARD

critical thinking  
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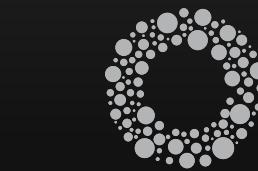


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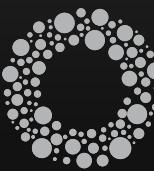
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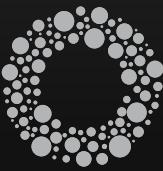
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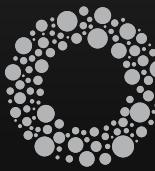
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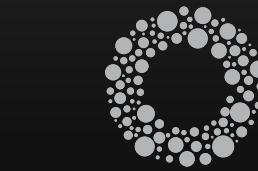
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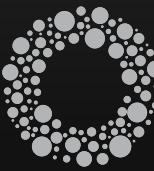
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