

Reaction-time exercises: applied practice: open practice pack

20 untimed questions across 4 authored sections.

Detail	Value
Pack	applied-practice-reaction-time
Source	applied-practice
Pack version	v1
Worksheet items	20
Authored hints	0
Worked explanations	20

This is untimed educational practice for one applied skill. It is not a clinical, diagnostic, employment, or professionally recognized assessment, it does not produce a score or credential, and for the judgement and safety families it is not a substitute for your employer's own policies, training, or legal duties.

The answer key and worked explanations in this file belong only to this public, untimed educational practice source. No active aptitude suite or Novus Reasoning Challenge answer key is ever included in any download.

Learner worksheet

Each item asks you to apply a response rule, or to reason about what a reaction-time measurement contains and what it is worth. Choose the correct answer, then read the explanation. Nothing here is timed, and nothing here produces a score. A page cannot measure milliseconds it does not control.

Choose one answer for each item. On a judgement item, more than one option is often defensible. Pick the one you would rate most effective, then check the worked explanation for why the runner-up is weaker.

Stimulus-response rules

Warm up by applying a mapping exactly as stated. This is the part of a reaction task that thinking can improve: knowing what the rule keys on, and when it says do nothing.

1. reaction-time-applied-s01-q01

Rule: press LEFT for any blue shape, press RIGHT for any red shape, and make no response to any green shape. A red circle appears. What is the correct response?

- A. Press left
- B. Make no response
- C. Press right
- D. It depends on the shape, which the rule does not cover

Your answer: _____

2. reaction-time-applied-s01-q02

Same rule: blue means LEFT, red means RIGHT, green means no response. A green square appears.

- A. Make no response

- B. Press left, since squares were used with left responses in practice
- C. Press right
- D. Press with whichever hand is nearer

Your answer: _____

3. reaction-time-applied-s01-q03

Rule: press as soon as the light turns green. Unless a tone sounds at the same moment, in which case do not press. The light turns green and a tone sounds.

- A. Press; the light is the primary signal
- B. Press, then correct yourself
- C. Press only if the tone is quiet
- D. Make no response: the tone is a stop signal that overrides the go signal

Your answer: _____

4. reaction-time-applied-s01-q04

In a go/no-go task, ninety per cent of trials require a response. Which error is most likely on the rare no-go trial?

- A. A miss: failing to respond when a response was needed
- B. A false alarm: responding when the rule required withholding, because the practised response fires before it can be inhibited
- C. A correct but unusually slow response
- D. No error type is more likely than any other

Your answer: _____

5. reaction-time-applied-s01-q05

Halfway through a block, the mapping is reversed: blue now means RIGHT and red means LEFT. What should be expected on the trials immediately afterwards?

- A. Slower and less accurate responses for several trials, because the old mapping still competes with the new one
- B. No effect, since the new rule is just as simple as the old one
- C. Improved performance, because the novelty raises alertness
- D. An effect on the very first trial only

Your answer: _____

What a reaction time is made of

A latency is a sum of several stages. Knowing which stages are in it explains most of the effects that show up in the data.

6. reaction-time-applied-s02-q01

How does simple reaction time (one signal, one response) compare with choice reaction time, where several signals map to several responses?

- A. They are essentially the same
- B. Choice reaction time is longer, and it grows further as the number of alternatives increases

- C. Choice is faster, because more alternatives keep attention higher
- D. Simple reaction time is the longer of the two

Your answer: _____

7. reaction-time-applied-s02-q02

A typical simple reaction time is around a quarter of a second. What is that time spent on?

- A. Almost entirely the decision to respond
- B. Almost entirely nerve conduction
- C. Mostly the time for the light to reach the eye
- D. Detection and transmission, then response selection, then the movement itself, each stage contributes a meaningful share

Your answer: _____

8. reaction-time-applied-s02-q03

What effect does a warning signal shortly before the stimulus have?

- A. It lengthens the reaction time, acting as a distraction
- B. It has no measurable effect
- C. It shortens the reaction time by allowing preparation, though the benefit fades if the interval is too long or too variable
- D. It shortens reaction time only for auditory stimuli

Your answer: _____

9. reaction-time-applied-s02-q04

How do simple reaction times to a sound compare with those to a light?

- A. Responses to sound are typically a little faster
- B. Responses to light are typically a little faster
- C. They are identical
- D. The difference depends only on how intense the stimulus is

Your answer: _____

10. reaction-time-applied-s02-q05

On a trial with a predictable rhythm, a participant presses a fraction before the signal actually appears.

- A. This is the fastest legitimate strategy available
- B. It is an anticipation error: the response was not caused by the stimulus, and well-designed tests discard or penalise such trials
- C. It is acceptable provided the timing really is regular
- D. It is a valid measure of the participant's expectancy

Your answer: _____

Speed, accuracy, and errors

Harder items about the trade every fast responder is making, whether or not they know it.

11. reaction-time-applied-s03-q01

What does the speed-accuracy trade-off mean in practice?

- A. Faster responders are also the more accurate ones
- B. Accuracy is fixed by ability and only speed can be trained
- C. Speed and accuracy vary independently of each other
- D. Speed can be exchanged for accuracy in either direction, so a reaction time is uninterpretable without its error rate

Your answer: _____

12. reaction-time-applied-s03-q02

Person A averages 320 ms with a 2% error rate. Person B averages 280 ms with an 18% error rate. Who is performing better?

- A. B, since the task measures speed and B is faster
- B. They are equivalent; each has chosen a different point on the trade-off
- C. A: B's 40 ms advantage is bought with nine times the error rate, which is a poor exchange on almost any task
- D. They cannot be compared at all

Your answer: _____

13. reaction-time-applied-s03-q03

In a task where an incorrect response initiates a real action (braking, switching, dispatching), which is worse: a slightly slower correct response, or a fast incorrect one?

- A. The fast incorrect response: it commits you to the wrong action and then costs a correction on top
- B. The slower correct response, because time lost cannot be recovered
- C. They are equally bad
- D. It depends only on how much time is available

Your answer: _____

14. reaction-time-applied-s03-q04

What does fatigue do to reaction-time performance?

- A. It raises the average response time and nothing else
- B. It raises the average and, more consequentially, the variability: the occasional very long lapse is what causes incidents
- C. It has no measurable effect until sleep is lost entirely
- D. It reduces accuracy without affecting timing

Your answer: _____

15. reaction-time-applied-s03-q05

What is the best way to summarise a set of reaction times from one session?

- A. The single fastest trial, as the cleanest measure of capability
- B. The arithmetic mean on its own
- C. The median together with a measure of spread and the error rate, since a few very long trials distort

the mean

- D. The slowest trial, as the worst case

Your answer: _____

Measurement, devices, and what a score means

Finish on interpretation, which is where most reaction-time claims go wrong, including claims made by software about itself.

16. reaction-time-applied-s04-q01

Why are reaction-time results reported separately from other exercises, rather than folded into a combined profile?

- A. Because the measured value includes device, browser, and display latency, which vary between machines, so scores are not comparable across setups
- B. Because reaction time is not a real ability
- C. Because the exercise is optional
- D. Because it takes longer to complete than the other exercises

Your answer: _____

17. reaction-time-applied-s04-q02

You want to compare your own performance this week against last week.

- A. Any device will do, provided the software is the same
- B. Hold the device, browser, input method, and conditions constant, and compare medians across many trials
- C. A single well-concentrated trial is enough for a comparison
- D. Compare your fastest trial from each session

Your answer: _____

18. reaction-time-applied-s04-q03

What does a 60 Hz display do to a visual reaction-time measurement?

- A. Nothing; the display is not part of the measurement
- B. It adds a fixed constant, which cancels out of any comparison
- C. It affects only how the stimulus looks, not when it appears
- D. It can add up to about 17 ms of variable delay before the stimulus is even visible. A significant share of the differences usually being measured

Your answer: _____

19. reaction-time-applied-s04-q04

What does a fast reaction time on a laboratory-style task predict about job performance?

- A. It predicts driving skill fairly directly
- B. It is a good general proxy for cognitive ability
- C. Very little on its own: it is one narrow component, and most real tasks depend far more on decision quality, knowledge, and sustained attention
- D. Nothing whatsoever, in any context

Your answer: _____

20. reaction-time-applied-s04-q05

What happens to reaction-time scores with repeated practice on the same task?

- A. Practice has no effect; the measure reflects fixed physiology
- B. Scores get worse as boredom sets in
- C. Practice improves accuracy but leaves timing unchanged
- D. Scores improve noticeably over the first few sessions, so a first attempt is not a stable estimate of anything

Your answer: _____

Authored hints

This applied practice source does not publish separate authored hints: the rationale is attached to each item as a worked explanation instead. Every item is therefore listed as missing a hint, and no hint text is generated or inferred.

20 worksheet items do not have an authored hint. No hint text was generated for them.

Answer key

The answer key and worked explanations in this file belong only to this public, untimed educational practice source. No active aptitude suite or Novus Reasoning Challenge answer key is ever included in any download.

Reaction-time exercises: applied practice: open practice pack answer key

Item	Choice	Answer
reaction-time-applied-s01-q01	C	Press right
reaction-time-applied-s01-q02	A	Make no response
reaction-time-applied-s01-q03	D	Make no response: the tone is a stop signal that overrides the go signal
reaction-time-applied-s01-q04	B	A false alarm: responding when the rule required withholding, because the practised response fires before it can be inhibited
reaction-time-applied-s01-q05	A	Slower and less accurate responses for several trials, because the old mapping still competes with the new one
reaction-time-applied-s02-q01	B	Choice reaction time is longer, and it grows further as the number of alternatives increases
reaction-time-applied-s02-q02	D	Detection and transmission, then response selection, then the movement itself, each stage contributes a meaningful share
reaction-time-applied-s02-q03	C	It shortens the reaction time by allowing preparation, though the benefit fades if the interval is too long or too variable
reaction-time-applied-s02-q04	A	Responses to sound are typically a little faster
reaction-time-applied-s02-q05	B	It is an anticipation error: the response was not caused by the stimulus, and well-designed tests discard or penalise such trials
reaction-time-applied-s03-q01	D	Speed can be exchanged for accuracy in either direction, so a reaction time is uninterpretable without its error rate

reaction-time-applied-s03-q02	C	A: B's 40 ms advantage is bought with nine times the error rate, which is a poor exchange on almost any task
reaction-time-applied-s03-q03	A	The fast incorrect response: it commits you to the wrong action and then costs a correction on top
reaction-time-applied-s03-q04	B	It raises the average and, more consequentially, the variability: the occasional very long lapse is what causes incidents
reaction-time-applied-s03-q05	C	The median together with a measure of spread and the error rate, since a few very long trials distort the mean
reaction-time-applied-s04-q01	A	Because the measured value includes device, browser, and display latency, which vary between machines, so scores are not comparable across setups
reaction-time-applied-s04-q02	B	Hold the device, browser, input method, and conditions constant, and compare medians across many trials
reaction-time-applied-s04-q03	D	It can add up to about 17 ms of variable delay before the stimulus is even visible. A significant share of the differences usually being measured
reaction-time-applied-s04-q04	C	Very little on its own: it is one narrow component, and most real tasks depend far more on decision quality, knowledge, and sustained attention
reaction-time-applied-s04-q05	D	Scores improve noticeably over the first few sessions, so a first attempt is not a stable estimate of anything

Worked explanations

reaction-time-applied-s01-q01: The mapping keys on colour and says nothing about shape, so a red circle and a red square are the same trial. The 'depends on the shape' answer is the trap the item is built around: an irrelevant feature is present and varying, and treating it as informative is the commonest source of choice-reaction errors.

reaction-time-applied-s01-q02: Green is a no-go colour whatever the shape, and withholding is a response in its own right rather than a failure to respond. The practice-association answer is the realistic distractor: incidental pairings from earlier trials genuinely do pull the hand, which is exactly what a no-go trial is testing.

reaction-time-applied-s01-q03: A stop signal exists precisely to countermand the go signal, so the correct trial outcome is no press at all. 'Press, then correct' is the most human of the wrong answers and describes what usually happens rather than what the rule requires. In a real stop-signal task, a press followed by a correction is scored as a failure to inhibit.

reaction-time-applied-s01-q04: Nine go trials in ten make the response prepotent, and inhibition has to overtake an action that is already under way. A miss is the wrong answer here for a simple structural reason: on a no-go trial there is no response to miss, so that error cannot occur.

reaction-time-applied-s01-q05: A learned mapping does not switch off on instruction; it decays over trials, and while it decays it competes. 'Just as simple, so no effect' is the tempting logic and confuses the complexity of the rule with the cost of replacing one that is already automatic.

reaction-time-applied-s02-q01: Choice adds a selection stage between detection and movement, and that stage lengthens systematically with the number of alternatives. The 'attention is higher' answer has a real premise, choice tasks are more engaging, and the selection cost is far larger than any alerting benefit.

reaction-time-applied-s02-q02: Sensory processing, selection, and the physical movement all take tens of milliseconds, which is why a reaction time responds to changes in any of them. The light's travel time is the one component that genuinely rounds to zero, and it is the answer that sounds most physical.

reaction-time-applied-s02-q03: A warning lets the response be prepared in advance, and preparation is only sustainable for a short, predictable interval. The distraction answer is plausible if you think of the warning as an extra stimulus to process, and it is not: it carries no response requirement of its own.

reaction-time-applied-s02-q04: Auditory signals reach the relevant processing stages through a shorter transduction path, and the advantage is small but consistent. Intensity does matter, a brighter or louder signal is responded to faster, but it modulates the difference rather than explaining it away.

reaction-time-applied-s02-q05: A reaction time is defined as the interval between a stimulus and a response caused by it, so a press that precedes the stimulus is not a fast reaction. It is not a reaction. Calling it a measure of expectancy is the most sophisticated wrong answer, and it would require a task designed to measure expectancy rather than one designed to measure latency.

reaction-time-applied-s03-q01: The same person can produce a wide range of speeds simply by shifting how much evidence they wait for, so a latency reported without an error rate is not a measurement of anything stable. 'Independent' is the tempting statistical framing and is precisely what the trade-off denies.

reaction-time-applied-s03-q02: Forty milliseconds is a small gain and sixteen extra errors in a hundred is a large cost, so the exchange is bad unless errors are almost free. 'Equivalent points on the trade-off' is the answer that sounds most rigorous, and it stops one step short: the trade-off says the exchange exists, not that every exchange rate is equally good.

reaction-time-applied-s03-q03: An error does not simply fail to help; it starts something that then has to be detected, stopped, and undone, and the total elapsed time exceeds the slower correct response. The 'time lost cannot be recovered' answer is intuitively forceful and only counts one side of the ledger.

reaction-time-applied-s03-q04: A tired operator's typical response is only slightly slower; what changes dramatically is how often a response is enormously slower or absent altogether. Focusing on the average is the natural way to read the data and hides exactly the trials that matter, because a mean absorbs a handful of very long lapses almost invisibly.

reaction-time-applied-s03-q05: Reaction-time distributions have a long right tail, so the median describes the typical trial while the spread and errors describe the rest of the picture. The fastest trial is the most seductive summary and is the least stable statistic available: it is a single observation, chosen because it is extreme.

reaction-time-applied-s04-q01: Anything measured in a browser includes input polling, event dispatch, and display refresh, and those add tens of milliseconds that belong to the hardware rather than to the person. Saying reaction time is not a real ability is the overcorrection: it is real and measurable, just not by software that does not control the pipeline it is timing.

reaction-time-applied-s04-q02: Holding the equipment constant makes the device latency a shared constant rather than a confound, and many trials are needed because single-trial variability dwarfs any real week-to-week change. 'Same software, any device' is the most reasonable-sounding wrong answer and misses where the latency actually comes from: the hardware and its display, not the code.

reaction-time-applied-s04-q03: The software can draw at any moment, but the screen only updates every sixteen or seventeen milliseconds, so the wait is random within that window on every trial. The 'fixed constant that cancels' answer is the appealing one, and it is wrong on the critical detail: the delay is variable, so it adds noise rather than an offset.

reaction-time-applied-s04-q04: Simple latency is a small part of almost any real performance, which is dominated by knowing what to do and staying engaged for hours. 'Nothing whatsoever' is the tempting overcorrection and goes too far (in a few narrow, genuinely time-critical tasks it matters), so the honest position is narrow relevance rather than none.

reaction-time-applied-s04-q05: Familiarity with the display, the mapping, and the timing produces real gains before performance settles, which is why a single first attempt is close to meaningless. 'Fixed physiology' is the intuitive model behind most casual reaction-time claims, and it is contradicted by the practice curve every learner produces on their own data.

This is untimed educational practice for one applied skill. It is not a clinical, diagnostic, employment, or professionally recognized assessment, it does not produce a score or credential, and for the judgement and safety families it is not a substitute for your employer's own policies, training, or legal duties.

The answer key and worked explanations in this file belong only to this public, untimed educational practice source. No active aptitude suite or Novus Reasoning Challenge answer key is ever included in any download.

Source: <https://learn.novusstreamsolutions.com/aptitude/skills/reaction-time>