

An Icelandic PIQA-Style Dataset

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Abstract

We present a compact Icelandic dataset in the style of PIQA (Physical Interaction: Question Answering), consisting of 100 multiple-choice items drawn from Icelandic culture, language, and everyday physical commonsense. Each example contains a short prompt (in Icelandic) and two candidate solutions, with a binary label indicating the correct option. The dataset was created by hand by two annotators. We outline the format, annotation process, high-level statistics, and the main thematic areas observed in the questions. Our aim is to support research on Icelandic commonsense reasoning and to provide a culturally grounded companion to prior English resources such as PIQA (Bisk et al., 2020).

1 Background

The dataset is inspired by PIQA, which targets physical commonsense reasoning in natural language (Bisk et al., 2020). In the original PIQA, each instance poses a goal (e.g., how to achieve an everyday outcome) and offers two possible solutions, with the task being to select the more physically plausible and effective one. Our Icelandic dataset follows this structure while broadening the content to include Iceland-specific culture, language, and knowledge that often intersects with physical, practical, and cultural commonsense.

2 Dataset Overview

The file `data_shuffled.tsv` contains the 100 items in a tab-separated format with the following columns:

- **prompt:** an Icelandic prompt describing a goal, situation, or question.
- **sol0, sol1:** two candidate solutions in Icelandic.

- **label:** the correct option (0 for sol0, 1 for sol1).
- **categories:** one or more thematic labels (multi-label; semicolon-separated).

Key descriptive statistics (computed over the 100 items):

- **Size:** 100 examples (50 with label 0, 50 with label 1).
- **Prompt length:** mean 9.24 words (median 8.5; min 3; max 22).
- **Candidate length:** mean 15.18 words for sol0, 13.24 for sol1.

3 Creation Process

Two annotators curated the examples by hand. For inspiration and to ensure coverage of practical and factual content grounded in Icelandic context, the annotators browsed Icelandic science web¹ to get ideas for questions. Each item was authored with a concise prompt and two plausible solutions, one of which is correct. The incorrect alternative is designed to be tempting yet suboptimal, implausible, or culturally inaccurate.

4 Observed Themes

Although modeled after PIQA’s focus on physical commonsense, the Icelandic dataset spans broader cultural and linguistic knowledge areas. We summarize the most salient themes below, with representative Icelandic prompts (*not exhaustive*; categories can overlap):

Food & Cooking

Questions about Icelandic foods, preparation steps, and practical kitchen knowledge.

¹<https://www.visindavefur.is/>

- *Til að koma í veg fyrir að brauðdeig festist við yfirborð þegar það er hnoðað er venjan að...* (English: To prevent dough from sticking to the surface when kneading, it is customary to...)
- *Þegar skyr er undirbúið er algengt að...* (English: When preparing skyr, it is common to...)
- *Hvernig er venjan að sjóða vatn þegar pasta er eldað?* (English: What is the usual way to boil water when cooking pasta?)
- *Hvað er þorramatur?* (English: What is Þorramatur, the traditional midwinter fare?) / *Hvernig er jólaöl búið til?* (English: How is Christmas ale made?)

Textiles & Wool

Traditional materials and processing (reflecting Icelandic sheep and wool heritage).

- *Hvað kallast hárgerðirnar tvær sem mynda feld íslensku sauðkindarinnar?* (English: What are the two types of hair that make up the coat of the Icelandic sheep?)
- *Hvaða náttúrulega efni var safnað á bæjum og notað sem þvottaefni við ullarþvott áður fyrr?* (English: Which natural substance was collected on farms and used as detergent for washing wool in earlier times?)

Water & Utilities

Local knowledge related to water systems.

- *Hvers vegna er almennt ekki ráðlagt að nota heitt vatn beint úr krana til matargerðar á Íslandi?* (English: Why is it generally not recommended to use hot tap water directly for cooking in Iceland?)

Archaeology & History

Foundational facts about Icelandic artifacts and their classification.

- *Hver er elsti gripur sem fundist hefur við fornleifarannsókn á Íslandi?* (English: What is the oldest artifact found in an archaeological excavation in Iceland?)
- *Hvenær geta dýrabein talist til fornleifa?* (English: When can animal bones be considered archaeological artifacts?)

Idioms & Phrases

Interpretation of idiomatic expressions common in Icelandic.

- *Hvaða aðstæður lýsa best því þegar keppnislið „lætur í minni pokann“?* (English: What situation best describes when a team “lets into the smaller bag,” i.e., loses?)
- *Hvað er að „guða á glugga“?* (English: What does it mean to “god a window”?) / *Hvað þýðir það þegar einhver segir „farðu norður og niður“?* (English: What does it mean when someone says “go north and down”?)
- *Hvers konar strik er sett í reikninginn?* (English: What kind of “line” is put on a bill?)

Lexicon & Grammar

Word meaning, lexical alternatives, grammar conventions, and dictionary-oriented knowledge.

- *Hvað lýsir best merkingu orðsins „Gerpla“ eins og hún er skilgreind í orðabók?* (English: What best describes the meaning of the word “Gerpla” as defined in the dictionary?)
- *Hvaða tveir möguleikar lýsa best hvað gella er í matargerð?* (English: Which two options best describe what “gella” is in cooking?)
- *Í hvaða röð eru föll nafnorða yfirleitt tilgreind?* (English: In what order are the cases of nouns usually listed?)
- *Hvað er kennitala?* (English: What is a “kennitala” (Icelandic ID number)?) / *Hvað er Parísarhjól?* (English: What is a Ferris wheel?) / *Hvað er kýrauga?* (English: What is a “kýrauga” (bull’s eye)?)

Agriculture

Rural activities with practical/physical procedures.

- *Þegar farið er út að slá, hvað er þá verið að fara að gera?* (English: When someone goes out “to slá” (to mow), what are they going to do?)
- *Ábúendur í Hrífunesi fóru allir út til að raka... Hvað fóru ábúendurnir að gera?* (English: The tenants in Hrífunes all went out “to rake”... What did they go to do?)

Geology & Nature

Geophysical features and natural environment that are highly salient in Iceland.

- *Af hverju eru svona mörg virk eldfjöll á Íslandi?* (English: Why are there so many active volcanoes in Iceland?) / *Hvers vegna eru Þingvellir mikilvægir fyrir sögu Íslendinga?* (English: Why are Þingvellir important for the history of Icelanders?)
- *Hvers vegna eru svona margar heitar laugar og hverir á Íslandi?* (English: Why are there so many hot springs and geothermal pools in Iceland?)
- *Af hverju eru móbergssfjöll sérstök fyrir Ísland?* (English: Why are tuya (móbergssfjöll) mountains characteristic of Iceland?) / *Hvers vegna eru hraun svona áberandi á Íslandi?* (English: Why is lava so prominent in Iceland?)
- *Af hverju eru ekki moskítóflugur á Íslandi?* (English: Why are there no mosquitoes in Iceland?)
- *Þú stendur á íslenskri strönd sem valin er af handahófi. Hvernig er líklegast að sandurinn sé á litinn?* (English: You stand on a randomly chosen Icelandic beach. What color is the sand likely to be?)

Holidays & Traditions

Seasonal customs and culturally embedded practices.

- *Af hverju setja íslensk börn skó út í glugga í desember?* (English: Why do Icelandic children put a shoe in the window in December?)
- *Hvenær er venja að opna gjafirnar á jólnum á Íslandi?* (English: When is it customary to open Christmas presents in Iceland?)
- *Hvaða íslenski siður á Þorláksmessu tengist mat?* (English: What Icelandic custom on St. Þorlákur's Day is related to food?)
- *Af hverju er sumardagurinn fyrsti sérstakur á Íslandi?* (English: Why is the First Day of Summer special in Iceland?)

Civics & Culture

Institutions, history, literature, sports, and naming conventions.

- *Þegar Íslendingar öðluðust sjálfstæði frá danska kónginum árið 1944, þá...* (English: When Icelanders gained independence from the Danish king in 1944, then...)
- *Hvað er svona merkilegt við Alþingi?* (English: What is so remarkable about Alþingi, the Icelandic Parliament?) / *Hvers vegna eru Þingvellir mikilvægir?* (English: Why are Þingvellir important?)
- *Íslendingasögurnar eru einstakar í heimsögunni, hvers vegna?* (English: The Icelandic sagas are unique in world history; why?)
- *Hvernig eru ættarnöfn á Íslandi frábrugðin öðrum Evrópulöndum?* (English: How are family names in Iceland different from those in other European countries?)
- *Hvers vegna var árangur íslenska karlalandsliðsins í fótbolta á EM 2016 svona merkilegur?* (English: Why was the Icelandic men's national football team's performance at Euro 2016 so remarkable?)

Folklore

Folk beliefs, legendary creatures, and mythic narratives.

- *Hvernig verður urðarköttur til samkvæmt þjóðtrú?* (English: How does an "urðarköttur" (rock-cat) come to be, according to folklore?)
- *Hvað er moðormur skv. þjóðtrú?* (English: What is a "moðormur" according to folklore?) / *Hvernig getur maður haft samband við huldufólk skv. þjóðtrú?* (English: How can one contact the "huldufólk" (hidden people) according to folklore?)
- *Grýla gafst upp á rólunum, hvað þýðir það?* (English: Grýla "gave up on the róla" — what does that mean?)

Note on category counts. We annotate each item with one or more thematic labels (see below). Because many questions straddle multiple themes (e.g., culture and physical practice), counts overlap and should be interpreted as multi-label coverage rather than exclusive bins.

5 Label Statistics

We provide counts of how many examples bear each label in the multi-label scheme. Totals exceed the dataset size due to overlap.

Label	Count
Food & Cooking	19
Textiles & Wool	3
Water & Utilities	2
Archaeology & History	18
Idioms & Phrases	16
Lexicon & Grammar	29
Agriculture	5
Geology & Nature	16
Holidays & Traditions	13
Civics & Culture	13
Folklore	5

Table 1: Multi-label counts across the 100 examples.

6 Intended Use and Relation to PIQA

Like PIQA, the Icelandic set aims to probe practical commonsense and procedural knowledge. However, by design it also emphasizes Iceland-specific culture and language. As such, it can serve both as: (i) a sanity-check set for Icelandic commonsense QA models, and (ii) a source of culturally grounded contrastive pairs where one option is physically or culturally inappropriate.

7 Ethical Considerations

The content is culturally specific and should be interpreted in that context. While the incorrect alternatives are intended to be plausible distractors, some questions require cultural knowledge beyond strictly physical commonsense. Models trained on other languages or domains may underperform due to cultural and linguistic transfer gaps.

References

Yonatan Bisk, Rowan Zellers, Jianfeng Gao, Yejin Choi, and 1 others. 2020. Piqa: Reasoning about physical commonsense in natural language. In *Proceedings of the AAAI Conference on Artificial Intelligence*, volume 34, pages 7432–7439.