# Finding Mistakes in Basketball Stories: Qualifying Text

In this document you will find:

* Our guidelines on pages 2-5.
* An example basketball story which we have marked up on pages 6 and 7.
* The story we would like you to mark up, on page 8. We give links to basketball-reference.com for the box score information as well as the season schedule for each team (such that you can find other games which might be mentioned in the text). We also include a link to an online calendar for the month the game was played in.
* Space for any additional comments you may have on page 9 (you can leave any optional feedback here, or on the Mechanical Turk form, whichever is easier).
* Participant Information Sheet, along with contact information for the researchers on page 10.

Please mark up the game summary on page 8 in a similar way to the example on pages 6/7 and upload the document as instructed on Mechanical Turk.

Thanks for your help!

## Mark-up guidelines

We’ve given you a basketball game story produced by a “deep learning” AI system, as well as links to box score information on basketball-reference.com about the game (the stories focus on box scores, they generally don’t talk about individual goals, penalties, etc). We have also given links for season information of each team (some of the stories say where the next game will be).

We are only interested in whether the presented statements/facts are correct, not whether they are boring and should have been replaced by more interesting statements/facts. We are not interested in spelling or grammar mistakes.

Please read through the stories and mark up cases where:

* numbers are wrong
* names (players, teams, cities, days of the week, etc) are wrong
* words are wrong
* context means people will misunderstand a sentence
* facts are not checkable
* other cases where the story says something which is not true

We give more information below about these types of mistake.

Please mark up the wrong numbers, names, etc by putting them in red. If you’re colour-blind, you can underline them instead. Also please add a note below the story for each mistake; the note should explain the mistake and say which type it is. There is an example on pages 6 and 7.

### Number mistakes

Numbers mistakes are incorrect numbers. For example

* “10-point victory” when margin of victory was 11 pts.
* “six players reached double figures” when only four players did so.

Please mark-up the wrong number by putting it in red or underlining it. It doesn’t matter whether the number is digits (such as 10) or written as a word (such as six). Ordinals (1st, 2nd, third etc.) are also number mistakes.

### Name mistakes

Name mistakes are errors in things that have names. This includes people, cities, teams, stadiums, and days of week. If a word (other than “I”) is always capitalised, it is probably a name. For example

* “on Monday” when game was played on Wednesday.
* “Talking Stick Resort Arena” when game was played in US Airways Arena.
* “Isaiah Thomas had 11 points and 3 rebounds” when he had neither of these statistics, and Gerald Green had both.

Please mark-up the wrong name by putting it in red or underlining it. Please note that days of the week, such as Wednesday, are always name mistakes, not word mistakes.

### Word mistakes

Word mistakes are incorrect or inappropriate words which are not names or numbers. For example

* “out-scored the Suns” when the Suns had a higher score in this period.
* “off the bench” for a player who was on the starting team.
* “strong first half” when team did poorly in first half.

Please mark-up the wrong word(s) by putting it in red or underlining it. We treat mistakes in fixed phrases such as “off the bench” as word mistakes (the AI systems treat fixed phrases in the same way as they treat words). Please note that days of the week (Monday, Tuesday etc.) are **not** word mistakes (they are name mistakes).

### Context mistakes

Context mistakes occur when people reading a sentence are likely to misinterpret it because of its context, even if the sentence is literally true. For example

* “The Suns had six players reach double figures in points. Mike Conley led the way with 24 points.” This is a context mistake because Conley played for the other team (not the Suns). I.e., Conley did score 24 points, but the context implies he played for the Suns, which is wrong.

For the mark-up, try to find the thing which will be misinterpreted (as above), and put it in red or underline it. Please note that if “Mike Conley” should be changed to another player, that would be a name mistake, not a context mistake.

### Facts which are not checkable

Some facts will not be practical to check. We do not expect you to look back further than 4 prior games to check a statement. Please also check each teams’ next game details. For example:

* Please do check: “It was his second double-double in a row, …”. You can find the players per-game history by clicking on their name in the box score, then selecting the appropriate season.
* Please do check: “The Suns' next game will be on the road against the Boston Celtics on Friday”.
* Please do **not** check: “The Wizards came into this game as the worst rebounding team in the NBA.”.

For the mark-up, highlight the text which cannot be checked, and put it in red or underline it. Also indicate that it is the “not checkable” category. Whilst it is possible to check some facts further back than 4 prior games, please do not do so. We need to set a consistent threshold beyond which facts are not checked.

### Other mistakes

If there is a mistake which clearly does not belong to any of the above categories, you may use this category as a last resort. Try to mark-up the wrong text by putting it in red or underlining it. We can’t give precise instructions because the “other” category is very broad.

### Repeated sentences

If a sentence or phrase is repeated, then please treat it as you would any other sentence and highlight all mistakes (even if you did so in a previous sentence). For example

* “The Sun’s next game will be on Friday, while the Sun’s next game will be on Friday” is a bizarre thing to say, but it is not in and of itself an accuracy mistake (assuming that the next game will in fact be on Friday).

You do not, however, need to indicate to us that this sentence was repeated.

### Complex mistakes

If there are multiple ways in which you can annotate a sentence for mistakes, choose the one with the fewest total mistakes. For Example, when choosing between:

* “Isaiah Thomas had 11 points and 3 rebounds.”
* “Isaiah Thomas had 11 points and 3 rebounds.”

The first annotation is preferred as the text describes the exact statistics of another player, Gerald Green. In other words, we can annotate this sentence as one name error (should be Gerald Green) or as two number errors (should be XX points and YY rebounds); we prefer the first because its fewer errors.

If there are multiple ways you can annotate something with the same number of mistakes, please choose the one with the most number mistakes first, followed by name mistakes, then word, context, not checkable and other.

For Example, when choosing between:

* “Eric Bledsoe scored 20 points for the Suns.”
* “Eric Bledsoe scored 20 points for the Suns.”

Where Bledsoe did play for the Suns but had 23 points, whilst Markieff Morris was the only player with 20 points. Please choose the second annotation (numbers before names).

Number > Name > Word > Context > Not Checkable > Other.

Another common complex mistake would be “It was his second double-double in a row”. In this case, please mark the number mistake (second) not the word mistake (*double-double)*. The correct number would be *zeroth*, which would be a strange thing to say, but is what makes the sentence correct.

It can be helpful, when you see many number mistakes in a sentence, to go back and check whether a name mistake might be more appropriate. We acknowledge that some of these sentences can be very muddled. Do not agonize over it, just try to follow the instructions as best you can.

### Number versus words mistakes

Whilst words such as "a" can be equivalent to "one", for example, "one block" vs "a block", this is not always the case. As a simple rule mark "a" or "an" as number mistakes if they are referring to something of which there could be more than one in the current context. In a single game context, these are things such as points, blocks, or steals. The following examples are number mistakes:

* "a block"
* “an assist”
* "It was his second triple-double in a row."

The following examples would **not** be number mistakes, they would be word mistakes:

* "a double-double"
* "a game-high"
* "It was his only double-double of the season."

### Using basketball-reference.com

<https://www.basketball-reference.com> provides methods for quickly viewing, and in some cases averaging, historic information. To get player average statistics over a period of time, you can click on the players name on the box score, then select the season, you will then see the players game log (<https://www.basketball-reference.com/players/t/thomais02/gamelog/2015/>). You can click on one game; the line should turn orange. Then click on a game earlier/later in the season, a box should pop up with averages for all the games you have selected.

Please note: We only ask that you check back as far as 4 prior games (as well as looking at any upcoming games for the teams). So, you would check “He has scored 30 plus points in 4 of his last 5 games” (this game plus 4 prior) but would **not** check “The Wizards came into this game as the worst rebounding team in the NBA.” (it would require checking all NBA teams to that point).

Another screen worth being aware of is the play-by-play (<https://www.basketball-reference.com/boxscores/pbp/201411050PHO.html>) which can be accessed from the box score.

### A note on field goals / three-pointers

This caused some confusion in our previous experiment. On basketball-reference.com, the box score lists field goals as FG (field goal) and FGA (field goal attempts). This is the total number of shots, from any range, except the free throw line (FT/FTA). Three-pointers are tracked in the 3P/3PA column and should be read as “the number of FGs/FGAs which were shot from beyond the three-point arc”. Each entry in this column is worth 1 point, not 3 points.

You can see this by calculating ((1\*FT)+(1\*3P)+(2\*FG)) and it should match the players points total. In our example story on the following page, we see on the linked box score that Mike Conley had 9-FGs, 3-3Ps and 3-FTs. ((1\*3)+(1\*3)+(2\*9)) = (3+3+18) = 24, which is what the site lists his points total.

Note also, that the texts will sometimes refer to 3P/3PA as FG3/FG3A.

## Example marked-up story

Game played on 5-Nov-2014, between Memphis Grizzlies and Phoenix Suns.

Main box score data

* <https://www.basketball-reference.com/boxscores/201411050PHO.html>

Other useful data

* Home team season schedule: <https://www.basketball-reference.com/teams/PHO/2015_games.html>
* Visiting team season schedule: <https://www.basketball-reference.com/teams/MEM/2015_games.html>
* Online calendar: <https://www.timeanddate.com/calendar/monthly.html?year=2014&month=11&country=1>

Story, with mistakes in underlined red

The Memphis Grizzlies (5-2) defeated the Phoenix Suns (3-2) Monday 1-2 at the Talking Stick Resort Arena in Phoenix. The Grizzlies had a strong first half where they out-scored the Suns 59-42, to coast to a 10-point victory in front of their home crowd. The Grizzlies were led by Isaiah Thomas, who scored 15 points (4-10 FG, 1-4 3Pt, 6-6 FT). He also had six rebounds and five assists in 26 minutes. Eric Bledsoe had 23 points (9-12 FG, 2-2 3Pt, 3-4 FT), five rebounds and four assists, while Bledsoe added 24 points (9-14 FG, 2-4 3Pt, 3-4 FT), five rebounds and four assists. The Suns had six players reach double figures in points. Mike Conley led the way with 24 points (9-14 FG, 3-4 3Pt ,3-5 FT) and 11 assists, while Tony Allen chipped in with nine points (4-6 FG, 1-1 FT) and a pair of assists. The Suns had six players reach double figures in points in this one. Tony Allen had nine points (4-6 FG, 1-1 FT) and a pair of assists off the bench. The Suns' next game will be on the road against the Boston Celtics on Friday, while the Suns will be at home against the Portland Trail Blazers on Friday.

LIST OF MISTAKES

5-2 - should be 5-0 [number]

Monday – Wednesday [name]

1-2 - score was 102-91 [number]

1-2 - score was 102-91 [number]

Talking Stick Resort Arena - that is the name now, but in 2014 the Stadium was called US Airways Arena [name]

strong – first half was not strong [word]

outscored – Suns outscored Grizzlies [word]

59-42 – actual score was 46-52 [number]

59-42 – actual score was 46-52 [number]

coast – they had to catch up from behind [word]

10 point – should be 11 point [number]

home – Game was in Phoenix [word]

led – Thomas did not lead the Grizzlies [word]

Isaiah Thomas – Thomas played for Suns, not Grizzlies [context]

six – one rebound [number]

five – two assists [number]

Eric Bledsoe – Bledsoe played for the Suns, not Grizzlies [context]

24, 14, 4 – correct figures for Bledsoe are in previous clause (23, 12, 2) [number]

24, 14, 4 – correct figures for Bledsoe are in previous clause (23, 12, 2) [number]

24, 14, 4 – correct figures for Bledsoe are in previous clause (23, 12, 2) [number]

six – only four Sun players reached double figures [number]

Mike Conley – Conley plays for the Grizzlies, not Suns [context]

Tony Allen – Allen plays for the Grizzlies, not Suns. [context]

Pair – one assist [number]

six – only four Grizzly players reached double figures [number]

off the bench – Allen was a starter [word]

on the road – home game [word]

Boston Celtics – next game is against Sacramento [name]

Portland Trail Blazers – next game is against Sacramento [name]

## Story to be marked-up

Please mark up the following story. Links to the statistics for the game on basketball-reference.com, as well as each team’s season are included below to assist you.

Main box score data

* <https://www.basketball-reference.com/boxscores/201512270OKC.html>

Other useful data

* Home team season schedule: <https://www.basketball-reference.com/teams/OKC/2016_games.html>
* Visiting team season schedule: <https://www.basketball-reference.com/teams/DEN/2016_games.html>
* Online calendar: <https://www.timeanddate.com/calendar/monthly.html?year=2015&month=12&country=1>

STORY

The Oklahoma City Thunder (21-10) defeated the Denver Nuggets (12-19) 122-112 on Sunday at Chesapeake Energy Arena in Oklahoma City. The Thunder got off to a quick start in this one, out-scoring the Nuggets 32-31 in the first quarter alone. The Thunder were the superior shooters in this game, going 58 percent from the field and 53 percent from the three-point line, while the Nuggets went 49 percent from the floor and a meager 36 percent from beyond the arc. The Thunder were led by Kevin Durant, who went 11-for-21 from the field and 3-for-5 from the three-point line to score a game-high of 26 points, while also adding four rebounds and a blocked shot. He's now averaging 10 points and 8 rebounds on the year. Serge Ibaka also had a strong showing as well, finishing with 19 points (9-13 FG, 0-1 3Pt, 1-1 FT), four rebounds and three blocked shots. It was his second double-double in a row, as he's combined for 10 points and 10 rebounds over his last two games. Serge Ibaka also had a solid game, posting 19 points (9-13 FG, 1-1 3Pt, 1-1 FT) and four rebounds. It marked his second double-double in a row, a stretch where he's combined for 45 points and 10 rebounds. Coming off the bench, Gary Harris finished with 16 points (6-13 FG, 2-5 3Pt, 2-4 FT), two rebounds and three steals in 31 minutes. The Thunder's next game will be at home against the Portland Trail Blazers on Friday, while the Nuggets will be at home against the Minnesota Timberwolves on Friday.

LIST OF MISTAKES

<please list mistakes here, as well as marking them up in the story>