UNIT 0
THE FADING AMERICAN DREAM

A Statistical Investigation

Name: _____

Class: _____

Date: _____

OUR BIG QUESTION

What can statistics tell us about the American Dream?

Today, you are going to investigate a mystery. You will start with a simple idea:

Can children earn more than their parents?

Then: **Has this changed over time?**

And finally: **Does it also depend on where people grow up?**

LET'S BEGIN

Statistics are powerful. People, organizations, and governments use statistics to make decisions. Statistics can help us see patterns that we might not notice otherwise.

But statistics can also be misleading. A number can look simple while hiding important information.

WATCH — TED-Ed: How Statistics Can Be Misleading — Mark Liddell (04:19)

What might be hidden inside a statistic?

THINK

1. BEFORE YOU WATCH Imagine two hospitals. One hospital reports a higher overall survival rate than the other.

Which hospital appears to have the better survival rate? ■ Hospital A ■ Hospital B

Why?

_____

_____

2. WATCH FOR THE HIDDEN VARIABLE What can change when we separate the data into groups?

_____

_____

What kind of variable can affect how we interpret a statistic?

_____

_____

3. THE PARADOX What is the statistical paradox that can make an overall result look different when groups are examined separately?

_____

DATA DETECTIVE

The TED-Ed lesson gives us a new habit:

> **Don't just look at the number. Look inside the number.**

WHO? Who is being measured?

_____

WHAT? What is being measured?

_____

WHICH GROUPS? Are different groups being combined?

_____

WHAT MIGHT BE MISSING? What information might change how we understand the result?

_____

DIG DEEPER

Now let's use this way of thinking to investigate a much bigger question.

THE AMERICAN DREAM

Imagine **100 children**. We want to know: **How many eventually earn more than their parents?**

92 out of 100

48 out of 100

Which group has more children earning more than their parents? ■ 92 out of 100 ■ 48 out of 100

How do you know?

_____

_____

EXHIBIT 1 — TURNING PEOPLE INTO DATA

Researchers can study the American Dream using large groups of people.

Birth cohort	Children who earned more than their parents
1940	92%
Later cohort	48%

Source: Chetty, Grusky, Hell, Hendren, Manduca, & Narang, *The Fading American Dream: Upward Mobility by Birth Cohort*.

What does **92%** mean?

_____

_____

What does **48%** mean?

_____

_____

What changed between the two groups?

_____

_____

EXHIBIT 2 — SEE THE CHANGE

92% → 48%

What do you notice?

_____

_____

_____

CALCULATE: 92% – 48% = _____ percentage points

DESCRIBE: The percentage was _____% for the 1940 cohort and _____% for the later cohort.

THINK LIKE A DATA DETECTIVE: The statistic shows us **what happened**. Does it tell us **why**? ■ Yes ■ No

What question does this data make you want to ask?

_____

_____

EXHIBIT 3 — A NEW PUZZLE: PLACE

So far, we have compared **different generations**. But what if opportunity also differs depending on **where people grow up**?

The attached Opportunity Atlas presentation gives examples of average household income at age 35 for children whose parents were at the 25th percentile of income.

Place	Average household income at age 35
Charlotte	$39K
Atlanta	$41K
New York City	$53K
San Francisco Bay Area	$56K
Dubuque	$68K

Source: Chetty, Hendren, Kline, & Saez, *Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the United States*.

1. Which place has the highest value?

_____

_____

2. Which place has the lowest value?

_____

_____

3. What is the difference? **$68K** – **$39K = $**_____

_____

4. What do you notice?

_____

_____

DISCUSS

PUT THE PIECES TOGETHER

TIME: 92% → 48%

PLACE: $39K → $68K

THE NEW QUESTION: WHY?

What might help explain differences in economic outcomes?

Education • Jobs • Transportation • Resources • Neighborhood • Community • Social connections

Other: _____

_____

_____

ONE IMPORTANT IDEA

A STATISTIC IS A STARTING POINT.

The TED-Ed video showed us that looking only at an overall statistic can sometimes hide important information. Our American Dream data show patterns, but the data shown here alone do **not** tell us exactly why. That is where research begins.

> **A good data detective does not stop at the number.**

AND FINALLY…

We began with: **Can children earn more than their parents?** Then: **Has this changed over time?** Then: **Does it differ depending on where people grow up?**

WHAT DOES A ZIP CODE TELL US?

A ZIP Code can tell us something about **place**.

WHAT DOES A ZIP CODE NOT TELL US?

What information might be missing?

_____

_____

_____

EXIT TICKET

1. One statistic I remember from today's investigation:

_____

_____

2. What does that statistic represent?

_____

_____

3. One pattern I noticed:

_____

_____

4. One question I still have:

_____

_____

5. **A ZIP Code tells us where someone lives, but it does not necessarily tell us...**

_____

NEXT UNIT — MAP

Does where you grow up matter?

Next, we will use **maps and data** to investigate where opportunity is located.

STATISTICS → PLACE → ACCESS → OPPORTUNITY

THE BEYOND THE ZIP CHALLENGE

Your ZIP Code should be an address — not your destiny.