

Six Degrees Could Change The World Worksheet Answers

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Worksheet Answers

UNDERSTANDING THE CORE CONCEPT: "SIX DEGREES COULD CHANGE THE WORLD"

The documentary *Six Degrees Could Change The World* (based on Mark Lynas's book *Six Degrees: Our Future on a Hotter Planet*) presents a sobering yet vital examination of climate change. It visualizes the potential impacts of a global temperature increase, degree by degree, from one to six degrees Celsius above pre-industrial levels. For educators and students alike, the **Six Degrees Could Change The World worksheet answers** serve as a critical tool for unpacking these complex scenarios. This article offers a comprehensive guide to understanding the documentary's core messages, providing detailed responses to common worksheet questions, and exploring why these lessons matter for our shared future.

When tackling any worksheet related to this documentary, it's essential to grasp the underlying science and storytelling. The film uses a "degree by degree" framework, meaning each section explains what happens as the planet warms by one degree, then two degrees, and so on. This structure makes the **Six Degrees Could Change The World worksheet answers** not just a list of facts but a narrative about cause, effect, and human responsibility.

KEY THEMES COVERED IN THE DOCUMENTARY

Before diving into specific worksheet answers, let's review the documentary's main themes that typically appear in educational materials:

- **The urgency of limiting warming to 2°C or less** – a target often cited in international climate agreements.
- **Feedback loops** – how warming triggers effects (like melting ice) that cause further warming.
- **Regional impacts** – different parts of the world experience different consequences, from droughts to floods.
- **Human and ecological tipping points** – thresholds beyond which systems change irreversibly.

Worksheets often ask students to connect these themes to specific temperature increases. Providing accurate **Six Degrees Could Change The World worksheet answers** requires synthesizing information from both the film and additional climate research.

COMPREHENSIVE WORKSHEET ANSWERS BY DEGREE INCREASE

Below, I break down typical questions from a standard worksheet, offering thorough and context-rich answers that explain the science and the narrative.

1. What changes are

expected at a 1°C increase?

The documentary explains that we are already experiencing the effects of approximately 1°C of warming. Key changes include:

- More frequent and intense heatwaves in many regions.
- Increased melting of glaciers in the Himalayas and Andes, threatening water supplies for millions.
- Shifts in agricultural growing seasons, with some crops failing in traditional zones.
- Rising sea levels of about 10–20 cm due to thermal expansion and glacial melt.

When answering this on a worksheet, emphasize that 1°C is not "safe" – it already disrupts ecosystems and human societies. This reinforces why the **Six Degrees Could Change The World worksheet answers** must highlight that even small warming carries risks.

2. What happens at a 2°C increase?

Two degrees is often called the "threshold of danger." The documentary illustrates:

- Widespread coral bleaching, leading to the collapse of many reef ecosystems.
- Arctic sea ice disappears entirely during summer months.
- Freshwater shortages become severe in southern Africa and the Mediterranean.
- Agricultural production drops by 10–20% in many developing nations.

Worksheet questions typically ask students to list three consequences. A solid answer includes these points, noting that even with strong mitigation, reaching 2°C is extremely risky. The **Six Degrees Could Change The World worksheet answers** here should stress the importance of the Paris Agreement goal to stay "well below" 2°C.

3. Describe the world at a 3°C warming.

At 3°C, the planet enters "uncharted territory." Key impacts:

- Amazon rainforest turns from carbon sink to carbon source due to drought and fire – a major feedback loop.
- Heatwaves become deadly for vulnerable populations; some cities become uninhabitable in summer.
- Sea levels rise by 0.5–1 meter, threatening coastal cities like Mumbai, Shanghai, and New York.
- Global food production faces collapse in several breadbasket regions.

This section often prompts students to consider "tipping points." Provide clear definitions: a tipping point is a threshold where a small change leads to a large, irreversible effect. The **Six Degrees Could Change The World worksheet answers** should explain that 3°C triggers multiple tipping points simultaneously.

4. What does a 4°C warmer Earth look like?

The documentary becomes increasingly stark at this level. Expected conditions:

- Large parts of southern Europe, the Middle East, and northern Africa become desert-like.
- Ocean acidification dissolves the shells of marine organisms, collapsing fisheries.
- Permafrost in Siberia and Canada thaws, releasing massive amounts of methane and CO₂.
- Millions of climate refugees flee flooded or drought-stricken areas.

Worksheet questions often ask students to discuss "global security" at 4°C. Good answers can note that conflicts over water and food become likely, and governments struggle to maintain order. The **Six Degrees Could Change The World worksheet answers** at this level should emphasize that such a world is not inevitable, but we must act quickly to avoid it.

5. The 5°C and 6°C scenarios: Is humanity at risk?

At 5°C and beyond, the Earth enters a state similar to the end-Permian extinction, when 95% of species died. The documentary shows:

- Most of the planet is uninhabitable for large mammals, including humans.
- Oceans become largely anoxic (dead zones).
- Ice sheets in Greenland and Antarctica collapse, raising sea levels by tens of meters.
- Agriculture becomes impossible except in isolated high-latitude refuges.

Worksheets often ask: "Can humans survive a 6°C world?" The honest answer is that civilization as we know it would end. However, the **Six Degrees Could Change The World worksheet answers** should also highlight that these scenarios are projections based on business-as-usual emissions – they are not predictions but warnings.

6. What feedback loops accelerate warming?

Feedback loops are central to the documentary's message. Common examples:

- **Albedo effect:** Melting ice (white) reveals darker water or land, which absorbs more heat, causing more melting.
- **Permafrost carbon release:** Thawing permafrost

releases methane, a potent greenhouse gas, warming the planet further.

- **Forest dieback:** Dying forests release stored carbon and reduce the planet's ability to absorb CO₂.

Worksheet questions often ask students to explain two feedback loops. Provide clear definitions and examples, linking them back to the degree thresholds. This reinforces why the **Six Degrees Could Change The World worksheet answers** should connect scientific concepts to real-world dangers.

HOW TO USE THESE ANSWERS IN AN EDUCATIONAL CONTEXT

The goal of any worksheet is to ensure students understand both the science and the urgency. When completing the **Six Degrees Could Change The World worksheet answers**, encourage critical thinking:

- Compare the documentary's projections with current scientific reports (e.g., IPCC reports).
- Discuss the role of human choices – policy, technology, and lifestyle changes.
- Consider the ethical dimension: wealthier nations contribute most to emissions but poorer nations suffer first and worst.

Teachers can use these answers as a discussion guide, not a rigid script. The documentary is powerful because it makes abstract numbers tangible. Effective worksheet answers should do the same.

Potential Additional Questions from Typical Worksheets

1. **What is the "carbon budget" and why does it matter?**
The carbon budget is the total amount of CO₂ we can emit to stay below a given temperature increase. At current rates, we'll exhaust the 2°C budget in 20–30 years. Answers should stress that every ton of CO₂ counts.
2. **How does the documentary use imagery to convey urgency?** It pairs alarming narrator statements with striking visuals of melting ice, raging floods, and dying forests. Students can appreciate that this is a rhetorical tool to make science memorable.
3. **What is the role of individual action versus systemic change?** While individual actions (reducing waste, using less energy) help, systemic changes in energy production, transportation, and agriculture are essential. The **Six Degrees Could Change The World worksheet answers** should balance personal responsibility with societal transformation.

CONCLUSION: EMBRACING THE LESSONS OF THE DOCUMENTARY

The documentary *Six Degrees Could Change The World* uses a simple concept – each degree of warming – to illustrate a complex, interconnected crisis. Completing the **Six Degrees Could Change The World worksheet answers** is not just about memorizing facts; it's about recognizing that the future is not fixed. The film ends with a call to action: we have the knowledge and technology to choose a lower-emissions path. The

answers we provide on worksheets can reflect that hope.

By understanding the risks at each degree threshold, students and educators alike can engage more meaningfully with climate discussions. Whether you are a teacher preparing a lesson or a student seeking to deepen your comprehension, these answers offer a framework for reflection. The keys to preventing a 4°, 5°, or 6° world are already in our hands. Let the worksheet be the first step, not the last, in a lifelong journey of climate literacy and advocacy.