

DEPTH OF KNOWLEDGE IN MATHEMATICS

DOK 1

RECALLING INFORMATION

Recalling information.
Facts. Definitions.
Procedures.

Following a set
of procedures.
(like a recipe)



Applying a formula.

 Performing a clearly
defined series of steps.



Key Words:

Recognize
Use
Measure

Identify
Recall

DOK 2

SKILLS AND CONCEPTS

Requiring students to make
some decisions about how to
approach a problem or activity.

Working with problems that
have more than one step.

Collecting
Classifying
Organizing
and Comparing data.



Organizing and displaying data
in charts, graphs, and tables.



Key Words:

Classify
Organize

Make
observations
Collect
and compare

DOK 3

STRATEGIC THINKING



Requiring reasoning,
planning, and a
higher level of thinking.

Students have to explain
their thinking and justify
their responses.



Complexity comes from a
higher demand for reasoning,
not harder problems.



Key Words:

Draw
conclusions

Cite
evidence
Develop
an argument

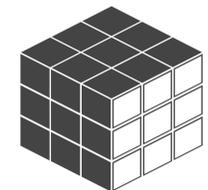
DOK 4

EXTENDED THINKING

Requiring reasoning,
planning, and thinking
over an extended
period of time.



Students have to deal with
multiple elements and make
connections between them.



Cognitive demand is high.
Work is complex.



Key Words:

Make
connections

Relate
ideas
Select
approaches

DEPTH OF KNOWLEDGE IN ENGLISH/LANGUAGE ARTS

DOK 1

USING SIMPLE SKILLS

Reciting facts.
Using simple skills.



Reading doesn't require analysis. Focus is on basic comprehension.

Understanding words and phrases.



Key Concepts:

Reference details

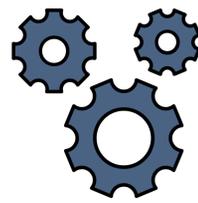
Recall from text

Find word meanings

DOK 2

MENTAL PROCESSING

Engaging beyond recall.



Requiring both comprehension and processing.

Requiring students to:

- summarize
- interpret
- infer
- classify
- organize
- collect
- compare



Key Concepts:

Predict outcomes

Use context clues

Summarize events

DOK 3

BEYOND THE TEXT

Requiring students to go beyond the text.



Explain, generalize, and connect ideas.

Students must be able to support their thinking.

Identify abstract themes.
Infer across an entire passage.
Apply prior knowledge.



Key Concepts:

Summarize from multiple sources

Determine author's purpose

Analyze /describe characteristics

DOK 4

HIGHER ORDER THINKING

Higher order thinking is essential. Knowledge is deep.



Extended activity.
Extended periods of time.

Taking information from one source and applying it in a different task.

Developing hypotheses.



Key Concepts:

Examine perspectives

Analyze information

Illustrate common themes

DEPTH OF KNOWLEDGE IN SOCIAL STUDIES

DOK 1

RECALLING INFORMATION

Recalling facts, terms, and concepts.



Asking students to know who, what, and when.

Recognizing and identifying specific information found in:

- maps
- tables
- charts
- drawings
- graphs



Key Concepts:

Identify List Define

DOK 2

BASIC REASONING

Engaging beyond recalling or reproducing.

Asking students to know how and why.



Comparing and contrasting people, places, and events.



Key Concepts:

Classify into categories Explain issues Understand relationships

DOK 3

COMPLEX REASONING

Requiring evidence, reasoning, and higher order thinking.



Justify how and why with application and evidence.

Propose solutions.
Make connections.
Recognize misconceptions.



Key Concepts:

Draw conclusions Cite evidence Apply concepts

DOK 4

EXTENDED REASONING

Plan, investigate, and develop over an extended period of time.



Apply conceptual understanding and higher level thinking.

Analyze and synthesize information from multiple sources.



Key Concepts:

Make predictions Develop arguments Plan solutions to problems

DEPTH OF KNOWLEDGE IN SCIENCE

DOK 1

RECALLING INFORMATION

Recalling facts, terms, and properties.



Following procedures and/or a series of steps.



Student either knows the answer or not; there's nothing to be figured out or solved.

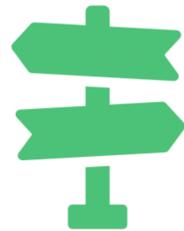


Key Concepts: Recognize
Identify Calculate
Recall Measure

DOK 2

SKILLS AND CONCEPTS

Engaging beyond recall.



Students are making decisions about how to approach and solve problems.

Collecting, classifying, and organizing data in:

- tables - charts - graphs



Key Concepts: Describe examples
Explain relationships Select procedures

DOK 3

STRATEGIC THINKING

Requiring evidence, reasoning, and higher order thinking.



Multi-step tasks that require students to justify their responses and explain their thinking.

Citing evidence.
Developing logical arguments.
Drawing conclusions from data.



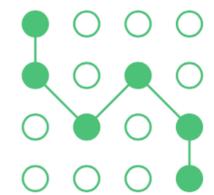
Key Concepts: Forming conclusions
Developing models Designing investigations

DOK 4

EXTENDED THINKING

Open-ended tasks requiring significant, complex thought.

Extended periods of time for scientific investigation.



Making connections and relating ideas.



Key Concepts: Deducing relationships
Conducting experiments Analyzing data