

DSST® PHYSICAL GEOLOGY

EXAM INFORMATION

This exam was developed to enable schools to award credit to students for knowledge equivalent to that learned by students taking the course. This exam covers igneous, sedimentary, and metamorphic rocks; weathering, groundwater, glaciers, oceanic systems, deserts, winds, and hydrologic cycle; internal Earth processes; mineral and energy resources; and environmental geology.

The exam contains 100 questions to be answered in 2 hours.

EXAM CONTENT OUTLINE

The following is an outline of the content areas covered in the examination. The approximate percentage of the examination devoted to each content area is also noted.

I. Core Knowledge – 35%

- a. Earth materials
- b. Minerals
- c. Igneous rocks: intrusive, extrusive
- d. Sedimentary rocks: characteristics, interpretation
- e. Metamorphic rocks
- f. Rock cycle
- g. Planetary geology

II. Surface Processes – 30%

- a. Weathering
- b. Mass wasting
- c. Streams
- d. Groundwater
- e. Glaciers: alpine, continental
- f. Oceanic systems: ocean basins, coasts
- g. Deserts and wind
- h. Hydrologic cycle

III. Internal Earth Processes – 30%

- a. Geologic time: relative time, absolute time, field relations
- b. Structural geology: folding, faulting, mountain building
- c. Geophysics: earthquakes and seismology, interior of the earth, gravity and isostasy
- d. Plate tectonics: geomagnetics, plate boundaries, plate movements

IV. Applications – 5%

- a. Mineral and energy resources
- b. Environmental geography

REFERENCES

Below is a list of reference publications that were either used as a reference to create the exam, or were used as textbooks in college courses of the same or similar title at the time the test was developed. You may reference either the current edition of these titles **or** textbooks currently used at a local college or university for the same class title. It is recommended that you reference **more than one textbook** on the topics outlined in this fact sheet.

You should **begin by checking textbook content against the content outline** provided **before** selecting textbooks that cover the test content from which to study.

Sources for study material are suggested but not limited to the following:

1. Hamblin, W. Kenneth. *Earth's Dynamic Systems*. New York: MacMillan Publishing Company, current edition.
2. Judson, Sheldon and Marvin E. Kauffman. *Physical Geology*. Englewood Cliffs, NJ: Prentice-Hall, Inc., current edition.
3. Larson, Edwin E. and Peter W. Birkeland. *Putnam's Geology*. New York: Oxford University Press, current edition.
4. McGeary, David and Charles C. Plummer. *Physical Geology: Earth Revealed*. Dubuque, IA: William C. Brown Publishers, current edition.
5. Montgomery, Carla W. *Physical Geology*. Dubuque, IA: William C. Brown Publishers, current edition.
6. Plummer, Charles C. and David McGeary. *Physical Geology*. Dubuque, IA: William C. Brown Publishers, current edition.
7. Press, Frank and Raymond Siever. *Earth*. New York: W.H. Freeman, current edition.
8. Skinner, Brian J. and Stephen C. Porter. *The Dynamic Earth: An Introduction to Physical Geology*. New York: MacMillan, current edition.
9. Spencer Edgar Winston. *Physical Geology*. Reading, MA: Addison-Wesley Publishing Company, current edition.

10. Tarbuck, Edward J. and Frederick K. Lutgens.
The Earth: An Introduction to Physical Geology.
 New York: MacMillan, current edition.

SAMPLE QUESTIONS

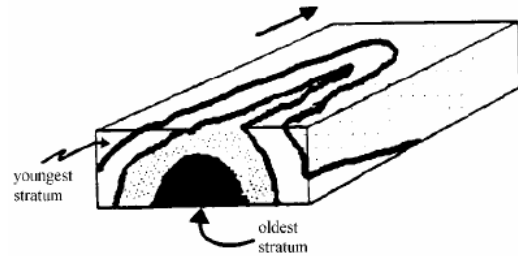
All test questions are in a multiple-choice format, with one correct answer and three incorrect options. These are samples of the types of questions that may appear on the exam. Other sample questions can be found in the form of practice exams by visiting our website at www.getcollegedcredit.com/testprep.

Questions on the test require test takers to demonstrate the following abilities. Some questions require more than one of the abilities.

- Knowledge of basic facts and terms (about 75% of the examination)
- Understanding of concepts and principles (about 25% of the examination)

- Which of the following minerals would form under the highest temperature conditions (according to the Bowen Reaction Series)?
 - Quartz
 - Olivine
 - Orthoclase feldspar
 - Biotite mica
- Which of the following is an igneous rock that cooled slowly, and which is formed primarily of orthoclase feldspar and quartz with some plagioclase feldspar?
 - Diorite
 - Basalt
 - Granite
 - Gneiss
- Which of the following is most likely to be layered and to contain marine fossils?
 - Till
 - Gneiss
 - Alluvium
 - Shale
- Which of the following steam patterns would be most likely to develop homogeneous rocks that are nearly horizontal?
 - Trellis
 - Radial
 - Concentric
 - Dendritic
- Which of the following features may be found as a result of glacial activity in both alpine and continental settings?
 - Terminal moraine
 - Drumlin
 - Cirque
 - Horn

- Which of the following would result in long shore transport?
 - Waves approaching the beach directly
 - Waves approaching the beach at an angle
 - Movement of deep ocean currents
 - Wind blowing sand
- Of the following geologic periods, which is the most recent?
 - Triassic
 - Cambrian
 - Permian
 - Tertiary



- The type of fold illustrated above is which of the following?
 - Northward plunging anticline
 - Southward plunging anticline
 - Northward plunging syncline
 - Southward plunging syncline
- The fact that secondary earthquake waves (S-wave) do not pass through the core of the Earth suggests that the
 - outer core is liquid
 - mantle is denser than the core
 - mantle is less dense than the core
 - crust is of different thickness at different locations
- The presence of fossilized ripple marks in rock indicates that the rock is
 - volcanic
 - igneous
 - sedimentary
 - metamorphic
- Which of the following physical properties of minerals can be used to distinguish easily between calcite and quartz?
 - Color
 - Luster
 - Streak
 - Hardness

CREDIT RECOMMENDATIONS

The American Council on Education's College Credit Recommendation Service (ACE CREDIT) has evaluated the DSST test development process and content of this exam. It has made the following recommendations:

Area or Course Equivalent	Physical Geology
Level	Lower-level baccalaureate
Amount of Credit	Three (3) semester hours
Minimum Score	400
Source	American Council on Education – College Credit Recommendation Service

Answers to sample questions: 1-B; 2-C; 3-D; 4-D; 5-A; 6-B; 7-D; 8-A; 9-A; 10-C; 11-D.