

Land and Water: Goals and Assessment Strategies

Concepts	
Goals	Assessment Strategies
<p>Water has an important role in shaping the land on earth. Lessons 1–17</p>	<p>Lessons 1, 8, 10, 14–17, and Additional Assessments 1–3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class lists and charts ▪ Class discussions ▪ Student investigations ▪ Photo cards ▪ Aerial drawings
<p>Soil is a composite of weathered materials and organic matter at the earth’s surface. Soil components include sand, silt, clay, gravel, and humus. Each soil component has unique properties. Lessons 1–2, 5–7, 12, 15–17</p>	<p>Lessons 1, 12, 15–17, and Additional Assessments 1–2</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class lists and tables ▪ Class discussions ▪ Record sheets ▪ Student investigations
<p>The wearing away and moving of soil and rock is erosion; the settling of eroded materials is deposition. Lessons 1, 3–4, 7–17</p>	<p>Lessons 1, 8, 10, 14–17, and Additional Assessments 1–3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class discussions ▪ Record sheets ▪ Student investigations ▪ Photo cards
<p>The water cycle includes the processes of evaporation, condensation, and precipitation and the passage of water over and through land. These processes affect the shape of the land. Lessons 1–17</p>	<p>Lessons 1, 8, 10, 12–17, and Additional Assessments 1–3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class lists and charts ▪ Class discussions ▪ Aerial drawings ▪ Student investigations ▪ Photo cards
<p>Both the flow of water and the slope of the land affect erosion and deposition. Lessons 1, 3–4, 7, 9–11, 13–17</p>	<p>Lessons 1, 8, 10, 13–17, and Additional Assessments 1–3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class discussions ▪ Student investigations ▪ Photo cards
<p>Tributaries are branches of streams that converge to form the trunk of a larger stream, or river. Together they act as a system that drains the land. Lesson 9</p>	<p>Lessons 8–9, and Additional Assessments 1, 3</p> <ul style="list-style-type: none"> ▪ Class discussions ▪ Aerial drawings ▪ Student investigations
<p>Landforms, such as canyons and deltas, result from the action of flowing water. Lessons 1, 4, 7–8, 10–13, 15–17</p>	<p>Lessons 1, 8, 10, 15–17, and Additional Assessments 1–3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class lists and charts ▪ Class discussions ▪ Record sheets ▪ Aerial drawings ▪ Photo cards ▪ Student investigations

Goals	Assessment Strategies
Humans can affect erosion and deposition in various ways, including clearing the land, planting vegetation, and building dams. Lessons 1, 12, 14–17	Lessons 1, 12, 14–17, and Additional Assessments 1–3 <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class lists and charts ▪ Class discussions ▪ Record sheets ▪ Oral presentations ▪ Student investigations
Hills, rocks, plants, and dams may change the direction and flow of water. Lessons 1, 11–12, 14–17	Lessons 1, 12, 14–17, and Additional Assessments 1, 3 <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class discussions ▪ Record sheets ▪ Oral presentations ▪ Aerial drawings ▪ Student investigations
Aerial photographs are views of land or other surfaces as seen from above. Lessons 8–9, 11, 15–16	Lessons 14, 16 <ul style="list-style-type: none"> ▪ Class discussions ▪ Individual drawings ▪ Aerial drawings

Skills	
Goals	Assessment Strategies
Using stream table materials to investigate the interactions between water and land. Lessons 2–4, 7, 9–16	Lessons 9–10, 12–16, and Additional Assessment 2 <ul style="list-style-type: none"> ▪ Record sheets ▪ Teacher observations ▪ Oral presentations ▪ Student investigations
Analyzing the materials that make up land and describing these materials on the basis of their properties. Lessons 2, 5–7, 12, 15–16	Lessons 2, 12, 15–16 <ul style="list-style-type: none"> ▪ Class lists and tables ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Student investigations
Testing the porous and adhesive qualities of earth materials. Lessons 6, 12, 15–16	Lessons 12, 15–16, and Additional Assessment 2 <ul style="list-style-type: none"> ▪ Record sheets and student drawings ▪ Teacher observations ▪ Student investigations
Comparing the changes in land created by water flowing over and through soil in a stream table. Lessons 3–4, 7, 9–16	Lessons 10, 12, 15–16, and Additional Assessment 2 <ul style="list-style-type: none"> ▪ Class aerial drawings ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Oral presentations ▪ Student investigations

Land and Water: Goals and Assessment Strategies, Skills (continued)

Goals	Assessment Strategies
<p>Relating stream table results to natural processes. Lessons 2–4, 7–16</p>	<p>Lessons 1, 10, 12, 14–17, and Additional Assessment 2</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Photo cards ▪ Class discussions ▪ Teacher observations ▪ Oral presentations ▪ Student investigations
<p>Communicating the results of an investigation through record sheets, oral and written observations, and drawings. Lessons 2–16</p>	<p>Lessons 9–10, 12–16, and Additional Assessments 2–3</p> <ul style="list-style-type: none"> ▪ Class lists and charts ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Oral presentations ▪ Individual drawings ▪ Student investigations
<p>Investigating the effects of slope, flow, and natural land formations on erosion and deposition. Lessons 4, 7–16</p>	<p>Lessons 10, 14–16, and Additional Assessment 2</p> <ul style="list-style-type: none"> ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Student investigations
<p>Creating and labeling aerial drawings. Lessons 8–9, 11, 15–16</p>	<p>Lessons 14, 16</p> <ul style="list-style-type: none"> ▪ Record sheets ▪ Teacher observations ▪ Aerial drawings
<p>Designing and building models of dams to test the effects of dams on land and water interactions. Lessons 12, 15–16</p>	<p>Lessons 12, 15–16</p> <ul style="list-style-type: none"> ▪ Record sheets ▪ Teacher observations ▪ Student drawings ▪ Student investigations
<p>Designing and building models of landscapes, predicting how a landscape will affect the flow of water, and relating these modeled effects to land and water interactions on earth. Lessons 1, 8, 10, 15–17</p>	<p>Lessons 1, 8, 10, 15–17, and Additional Assessments 1–3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class lists and charts ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Oral presentations ▪ Photo cards ▪ Student investigations
<p>Implementing a planned investigation and making and validating predictions. Lessons 2–7, 9–16</p>	<p>Lessons 10, 12–16, and Additional Assessment 2</p> <ul style="list-style-type: none"> ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Oral presentations ▪ Student investigations
<p>Identifying evidence within a model to support observations and conclusions. Lessons 2–7, 9–16</p>	<p>Lessons 10, 12–16, and Additional Assessment 2</p> <ul style="list-style-type: none"> ▪ Class discussions ▪ Record sheets ▪ Oral presentations

Attitudes	
Goals	Assessment Strategies
<p>Recognizing the importance of models for investigating processes too large or complex to study firsthand. Lessons 1–4, 7–17</p>	<p>Lessons 1, 10, 12–17, and Additional Assessment 2</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class discussions ▪ Student investigations
<p>Developing an interest in the interactions between land and water and recognizing these interactions in the real world. Lessons 1–17</p>	<p>Lessons 1, 8, 10, 15–17, and Additional Assessment 3</p> <ul style="list-style-type: none"> ▪ Pre- and post-unit assessments ▪ Class discussions ▪ Teacher observations ▪ Oral presentations ▪ Photo cards
<p>Accepting that humans can attempt to control and affect the interactions between land and water. Lessons 12, 14–16</p>	<p>Lessons 12, 14–16, and Additional Assessment 2</p> <ul style="list-style-type: none"> ▪ Class lists and charts ▪ Class discussions ▪ Oral presentations
<p>Appreciating the role that plants play in curbing erosion and runoff. Lessons 13, 15–16</p>	<p>Lessons 13, 15–16, and Additional Assessment 3</p> <ul style="list-style-type: none"> ▪ Class discussions ▪ Record sheets ▪ Teacher observations ▪ Oral presentations
<p>Recognizing the role humans play in planning and designing landscapes that take into account the natural interactions of land and water. Lessons 15–16</p>	<p>Lessons 15–16, and Additional Assessment 3</p> <ul style="list-style-type: none"> ▪ Class discussions ▪ Record sheets ▪ Oral presentations ▪ Student investigations