

# Indiana Academic Standard & Mathematics Pentathlon

## Kindergarten Alignment of Mathematics Pentathlon with the Indiana Academic Standards

### Standard 1

### Number Sense

K.1.1 Match sets of objects one-to-one.

Kings & Quadruphages game

Adventures in Problem Solving Book I – pp. 131-134

Investigation Exercises Book I – pp. 3-13

Star Track game

Adventures in Problem Solving Book I - p. 70

Calla game

Investigation Exercises Book I – pp. 15-17

Shape Up game

Adventures in Problem Solving Book I – pp. 14-19, 27-29

Investigation Exercises Book I – pp. 3-4

K.1.2 Compare sets of up to ten objects and identify whether one set is equal to, more than, or less than another.

Kings & Quadruphages game

Adventures in Problem Solving Book I – pp. 131-134

Investigation Exercises Book I – pp. 3-13

Star Track game

Adventures in Problem Solving Book I – pp. 66-69

Investigation Exercises Book I – pp. 9-17

K.1.3 Know that larger numbers describe sets with more objects in them than sets described by smaller numbers.

Kings & Quadruphages game

Adventures in Problem Solving Book I – pp. 131-134

Investigation Exercises Book I – pp. 3-13

Star Track game

Adventures in Problem Solving Book I – pp. 66-69

Investigation Exercises Book I – pp. 9-17

## Number Sense (continued)

K.1.4 Divide sets of ten or fewer objects into equal groups.

Adventures in Problem Solving Book I – pp. 189-193

K.1.5 Divide shapes into equal parts.

Hex-A-Gone game

Adventures in Problem Solving Book I – pp. 189-193

K.1.6 Count, recognize, represent, name, and order a number of objects (up to 10).

Calla game

Investigation Exercises Book I – pp. 5-6, 11, 14-19

Star Track game

Adventures in Problem Solving Book I – pp. 59-63, 70-72

Investigation Exercises Book I – pp. 9-17

Shape Up game

Kings & Quadruphages game

K.1.7 Find the number that is one more than or one less than any whole number up to 10.

Calla game

Star Track game

Shape Up game

K.1.8 Use correctly the words *one/many*, *none/some/all*, *more/less*, and *most/least*.

Kings & Quadruphages game

Adventures in Problem Solving Book I – pp. 131-134

Investigation Exercises Book I – pp. 3-13

Star Track game

Adventures in Problem Solving Book I – pp. 66-69

Investigation Exercises Book I – pp. 9-17

**Note:** These lessons stress more/less.

K.1.9 Record and organize information using objects and pictures.

Hex-A-Gone

Calla

Kings & Quadruphages

Star Track

Shape-Up all use objects to model concepts/problems.

Shape Up also uses pictures.

Adventures in Problem Solving Book I and Investigation Exercises Book I use a combination of objects, pictures, and symbols.

## Standard 2

### Computation

K.2.1 Model addition by joining sets of objects (for any two sets with fewer than 10 objects when joined). Star Track game

Adventures in Problem Solving Book I – pp. 73

Investigation Exercises Book I – pp. 3-17

Shape Up game

Adventures in Problem Solving Book I – pp. 30-36

Investigation Exercises Book I – pp. 5-15

Calla game

K.2.2 Model subtraction by removing objects from sets (for numbers less than 10).

Star Track game

Adventures in Problem Solving Book I – pp. 64-65

Investigation Exercises Book I – pp. 3-17

Shape Up game

Investigation Exercises Book I – pp. 5-15

K.2.3 Describe addition and subtraction situations (for numbers less than 10).

Star Track game

Adventures in Problem Solving Book I – pp. 64-65, 73

Investigation Exercises Book I – pp. 3-17

Shape Up game

Adventures in Problem Solving Book I – pp. 30-36

Investigation Exercises Book I – pp. 5-15

Calla game

## Standard 3

### Algebra and Functions

K.3.1 Identify, sort, and classify objects by size, number, and other attributes. Identify objects that do not belong to a particular group.

Shape Up game

Adventures in Problem Solving Book I – pp. 11-29

Investigation Exercises Book I – pp. 3-4

Hex-A-Gone game

Adventures in Problem Solving Book I – pp. 163-164

## **Standard 4**

### **Geometry**

K.4.1 Identify and describe common geometric objects: circle, triangle, square, rectangle, and cube.

Shape Up game

Adventures in Problem Solving Book I – pp. 11-29

Investigation Exercises Book I – pp. 3-4

Hex-A-Gone game

Adventures in Problem Solving Book I – pp 163-164

K.4.2 Compare and sort common objects by position, shape, size, roundness, and number of corners.

Shape Up game

Adventures in Problem Solving Book I – pp. 11-29

Investigation Exercises Book I – pp. 3-4

Hex-A-Gone game

Adventures in Problem Solving Book I – pp 163-164

## **Standard 5**

### **Measurement**

K.5.1 Make direct comparisons of the length, capacity, weight, and temperature of objects and recognize which object is shorter, longer, taller, lighter, heavier, warmer, cooler or holds more.

Star Track game

Adventures in Problem Solving Book I – p. 74

Hex-A-Gone game

Investigation Exercises Book I – pp. 5-8

## Standard 6

### Problem Solving

K.6.1 Choose the approach, materials, and strategies to use in solving problems.

All Division I games (Shape Up, Kings & Quadraphages, Calla, Hex-A-Gone, and Star Track)

Adventures in Problem Solving Book I - all pages that relate to each of the Division I games

Investigation Exercises Book I – all pages that relate to each of the Division I games

**Note:** See Note below this standard.

K.6.2 Use tools such as objects or drawings to model problems.

All Division I games (Shape Up, Kings & Quadraphages, Calla, Hex-A-Gone, and Star Track)

Adventures in Problem Solving Book I - all pages that relate to each of the Division I games

Investigation Exercises Book I – all pages that relate to each of the Division I games

**Note:** See Note below this standard.

K.6.3 Explain the reasoning used with concrete objects and pictures.

All Division I games (Shape Up, Kings & Quadraphages, Calla, Hex-A-Gone, and Star Track)

Adventures in Problem Solving Book I - all pages that relate to each of the Division I games

Investigation Exercises Book I – all pages that relate to each of the Division I games

**Note:** See Note below this standard.

K.6.4 Make precise calculations and check the validity of the results in the context of the problem.

All Division I games (Shape Up, Kings & Quadraphages, Calla, Hex-A-Gone, and Star Track)

Adventures in Problem Solving Book I - all pages that relate to each of the Division I games

Investigation Exercises Book I – all pages that relate to each of the Division I games

**Note:** See Note below this standard.

**Note:** All Mathematics Pentathlon games with the combined use of Adventures in Problem Solving and Investigation Exercises stress the use of a variety of strategies to solve problems as well as to explain their reasoning, justify procedures, and check the validity of results.